

Federal Subsistence Board Public Meeting

April 10 - 13, 2018

William A. Egan Civic & Convention Center

Anchorage, Alaska

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Supplemental Materials

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FEDERAL SUBSISTENCE BOARD
CONSENSUS AGENDA PROPOSALS

The following proposals have been included on the consensus agenda. These are proposals for which there is agreement among Federal Subsistence Regional Advisory Councils, the Federal Interagency Staff Committee, and the Alaska Department of Fish and Game concerning Board action. Anyone may request that the Board remove a proposal from the consensus agenda and place it on the regular agenda. The Board retains final authority for removal of proposals from the consensus agenda. The Board will take final action on the consensus agenda after deliberation and decisions on all other proposals.

Proposal	Region/Unit/Species	Recommendation	Page
WP18-02 Expand C&T determination	Southeast/Units 1-5/Deer	Support	5
WP18-03 Extend hunting season end date and move trapping season date	Southeast/Units 1A, 1B/Wolves	Support	31
WP18-05 Extend hunting season end date and move trapping starting date	Southeast/Unit 3/Wolves	Support	55
WP18-06 Increase harvest limit	Southeast/Unit 2/Black Bear	Oppose	77
WP18-09 Change number of recipients a designated hunter may hunt for	Southeast/Units 1B, 3/Deer	Oppose	94
WP18-10 Change hunt areas and seasons	Southeast/Unit 5A/Moose	Support with modification	109
WP18-12 C&T determination for the community of Gustavus	Southeast/Unit 1C/Goat	Support	132
WP18-13 Remove trap marking requirement	Southeast/Units 1-5/All trapping species	Support	148
WP18-14 Change hunting and trapping season dates	Southcentral & Eastern Interior/Units 11, 13/Wolverine	Support	161
WP18-15 Changes to drawing permit process	Southcentral/Unit 6C/Moose	Oppose	192
WP18-16/50 Extend winter season	Southcentral & Eastern Interior/Unit 11/Moose	Support	207
WP18-17 Extend season	Southcentral & Eastern Interior/Unit 11/Moose	Oppose	232
WP18-24 Allow use of snowmachines to position	Bristol Bay/Unit17/Caribou, Wolf, Wolverine	Oppose	259

Proposal	Region/Unit/Species	Recommendation	Page
WP18-25/26 Establish new hunt area and a may be announced winter season	Bristol Bay & YK Delta/Unit 17C/Moose	Oppose	283
WP18-27 Establish C&T determination	YK Delta/Unit 18/Muskox	Oppose	300
WP18-29 Lengthen season by one month	YK Delta/Unit 18 remainder/Moose	Support	315
WP18-32 Align season dates	Western Interior, Seward Peninsula, Northwest Arctic, Eastern Interior, North Slope/Units 21D, 22, 23, 24, 25A (west), 26A, 26B/Caribou	Oppose	333
WP18-33/36 Align season with State	Western Interior, YK Delta/Unit 21E/Moose	Support as modified by OSM	426
WP18-35 Align State and Federal hunt boundaries for the winter season	Western Interior/Unit 24B/Moose	Support	452
WP18-39 Align State and Federal seasons and harvest limits	Seward Peninsula/Unit 22B/Brown Bear	Support	473
WP18-40 Align State and Federal seasons and harvest limits	Seward Peninsula/Unit 22C/Brown Bear	Support	490
WP18-45 Decrease harvest limit	Northwest Arctic, Seward Peninsula, Western Interior, North Slope/Unit 23/Caribou	Oppose	506
WP18-52 Extend season	Eastern Interior/Unit 25D remainder/Moose	Oppose	548
WP18-53a Establish C&T determination	Eastern Interior/Unit 25B/Moose	Support as modified by OSM	563
WP18-55 Extend winter and fall season	Eastern Interior & Southcentral/Unit 12 remainder/Moose	Oppose	581

FEDERAL SUBSISTENCE BOARD
NON-CONSENSUS AGENDA

Procedure for considering proposals:

Analysis (*Lead Author*)
Summary of public comments (*Regional Council Coordinator*)
Open floor to public testimony
Regional Advisory Council recommendation(s) (*Chair or designee*)
Tribal/Alaska Native Corporation comments (*Native Liaison*)
Alaska Department of Fish and Game comments (*State Liaison*)
Interagency Staff Committee comments (*ISC Chair*)
Board discussion with Council Chairs and State Liaison
Federal Subsistence Board action

Proposal	Region/Unit/Species	Page
WP18-01 Reduce annual harvest limit and season for non-Federally qualified users	Southeast/Unit 2/Deer	607
WP18-04 Increase annual harvest quota	Southeast/Unit 2/Wolves	632
WP18-11 Establish a Federal season	Southeast/Unit 1C Berners Bay/Moose	675 and Supplemental Section 2
WP18-18 Extend season	Southcentral & Eastern Interior/Unit 13E/Moose	700
WP18-19 Revise permitting system	Southcentral & Eastern Interior/Unit 13A and B/Caribou	736
WP18-20 Align Federal and State regulations	Kodiak-Aleutians/Unit 9D/Caribou	803
WP18-21 Change harvest limit	Bristol Bay, YK Delta, Western Interior/Units 9A, 9B, parts of 9C, portions of 17A, 17B, portion of 17C, 19A, 19B/Caribou	826
WP18-22 Rescind Federal lands closure on the Nushagak Peninsula	Bristol Bay & Western Interior/Units 17A and 17C, Nushagak Peninsula/Caribou	854
WP18-23 Change C&T determination	Bristol Bay & Western Interior/Units 17A and 17C, Nushagak Peninsula/Caribou	875
WP18-28 Add a winter season	YK Delta & Western Interior/Unit 18 Goodnews/Moose	895
WP18-30 Shorten season, decrease harvest and possession limit	YK Delta & Bristol Bay/Unit 18/Ptarmigan	911

Proposal	Region/Unit/Species	Page
WP18-31 Shorten season	YK Delta, Bristol Bay, Seward Peninsula/Unit 18 east and south of the Kuskokwim and 18 remainder/Caribou	931
WP18-34 Extend season	Western Interior & Eastern Interior/Unit 24A/Lynx	949
WP18-37 Rescind Federal lands closure	Seward Peninsula/Unit 22A remainder/Moose	963
WP18-38 Rescind Federal lands closure	Seward Peninsula/Unit 22 north of the Tagoomenik and Shaktoolik River drainages/Moose	986
WP18-41/42 Modify season dates, sex restrictions, hunt areas, establish a bull only season and an any moose winter registration hunt with a set quota	Northwest Arctic & North Slope/Unit 23/Moose	1002
WP18-43 Increase harvest limit and extend season	Northwest Arctic, Western Interior, North Slope/Unit 23/Brown Bear	1040
WP18-44 Allow the sale of skulls/hides and skulls	Northwest Arctic, Western Interior, North Slope/Unit 23/Brown Bear	1066
WP18-46/47 Closure to non-Federally qualified users	Northwest Arctic, Western Interior, Seward Peninsula, North Slope/Unit 23/Caribou	Supplemental Section 3
WP18-48/49 Establish a registration hunt	Northwest Arctic, Western Interior, Seward Peninsula, North Slope/Units 22, 23, 26A/Caribou	1103
WP18-51 Modify baiting restrictions	Statewide	1155
WP18-53b Extend season	Eastern Interior/Unit 25B/Moose	1178
WP18-54 Increase harvest limit and delegate authority to set harvest limit	Eastern Interior and Southcentral/Unit 12 remainder/Caribou	1193
WP18-56 Rescind Federal lands closure	Eastern Interior & North Slope/Unit 25A-AVSMA/Sheep	1228
WP18-57 Close to non-Federally qualified users	North Slope & Western Interior/Units 26A, 26B/Caribou	1322

WP18–02 Executive Summary	
General Description	Proposal WP18–02 requests to modify the customary and traditional use determination for deer in Southeast Alaska Units 1– 5 so that all rural residents of Units 1–5 are eligible to hunt deer under Federal regulations. *Submitted by: Southeast Alaska Subsistence Regional Advisory Council.*
Proposed Regulation	**Customary and Traditional Use Determination—Deer** ***Units 1–5 Residents of Units 1–5*** ~~*Unit 1A Residents of Units 1A and 2.*~~ ~~*Unit 1B Residents of Units 1A, 1B, 2, and 3.*~~ ~~*Unit 1C Residents of Units 1C, 1D, Hoonah, Kake, and Petersburg.*~~ ~~*Unit 1D No Federal subsistence priority.*~~ ~~*Unit 2 Residents of Units 1A, 2, and 3.*~~ ~~*Unit 3 Residents of Units 1B, 3, Port Alexander, Port Protection, Pt. Baker, and Meyers Chuck.*~~ ~~*Unit 4 Residents of Unit 4, Kake, Gustavus, Haines, Petersburg, Pt. Baker, Klukwan, Port Protection, Wrangell, and Yakutat.*~~ ~~*Unit 5 Residents of Yakutat*~~
OSM Conclusion	**Support**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	**Support**
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	

WP18–02 Executive Summary	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

WP18–02 Executive Summary	
ADF&G Comments	**Neutral**
Written Public Comments	**2 Oppose**

STAFF ANALYSIS
WP18-02

ISSUES

Proposal WP18–02, submitted by the Southeast Alaska Subsistence Regional Advisory Council (Council), requests to modify the customary and traditional use determination for deer in Southeast Alaska Units 1– 5 by including all rural residents of Units 1–5.

DISCUSSION

The proponent states that customary and traditional use determinations for deer in Units 1–5 need to be reviewed because they are restricting subsistence uses. People in Southeast Alaska travel from home to other communities for many reasons, such as, to visit family and friends, to harvest wild resources, for parties, potlatches, feasts (*ku.éex'* in Tlingit, *dáawgaay* in Haida, and *loolgit* in Tsimshian) and other cultural celebrations, to return to traditional clan and *kwaan* territories, and for other reasons (Edwards 2009, Lahler 2010, Roberts 2009). At these times, they need to be able to continue long-standing patterns of hunting. Currently, they are not able to because of a patchwork of customary and traditional use determinations, a legacy of State subsistence management in the 1980s. The proponent states this history has created an unnecessary and confusing regulatory complexity making it difficult for subsistence users to know where they can hunt deer under Federal regulations. The proponent asks for these changes to improve regulatory clarity, subsistence opportunity, and deer management efficiency.

The proponent states that the Council has been working to improve customary and traditional use determinations for its region. Under the approach it has developed, customary and traditional use determinations will be made broadly to ensure that subsistence uses are protected and will be allowed to continue. The proponent states that this proposal will align customary and traditional use determinations for deer in Units 1–5 based on current policies of the Federal Subsistence Management Program. The Council intends to submit more proposals to broaden customary and traditional use determinations in its region. It believes customary and traditional use determinations should not be used to limit or restrict subsistence uses. When there are resource shortages and all subsistence needs cannot be met, the Council believes Alaska National Interest Lands Conservation Act (ANILCA) Section 804 procedures can be used to allocate scarce resources.

It is important to know a significant factor affecting hunting effort in Southeast Alaska is the heavily populated Juneau road system (31,000 people), and Ketchikan road system (13,500 people) (ADLWD 2017). Federal regulations recognize residents of these areas as nonrural and prohibit them from participating in Federal hunting, fishing, and trapping seasons. Therefore, a description of their customary and traditional uses of deer is not included in the analysis.

Glacier Bay National Park constitutes one quarter to one third of the land mass in each of Units 1C, 1D, and 5A. Federal public lands within the Park are closed to all hunting, and wildlife management in the Park is not in the Federal Subsistence Board's (Board's) jurisdiction.

The customary and traditional uses of deer by residents of all the communities in the proposal have been recognized by the Board. Consequently, the focus of the analysis is expanding existing customary and traditional use determinations geographically to include all of Southeast Alaska Units 1–5.

Existing Federal Regulation

Customary and Traditional Use Determination—Deer

Unit 1A	*Residents of Units 1A and 2.*
Unit 1B	*Residents of Units 1A, 1B, 2, and 3.*
Unit 1C	*Residents of Units 1C, 1D, Hoonah, Kake, and Petersburg.*
Unit 1D	*No Federal subsistence priority.*
Unit 2	*Residents of Units 1A, 2, and 3.*
Unit 3	*Residents of Units 1B, 3, Port Alexander, Port Protection, Pt. Baker, and Meyers Chuck.*
Unit 4	*Residents of Unit 4, Kake, Gustavus, Haines, Petersburg, Pt. Baker, Klukwan, Port Protection, Wrangell, and Yakutat.*
Unit 5	*Residents of Yakutat*

Proposed Federal Regulation

Customary and Traditional Use Determination—Deer

Units 1–5	***Residents of Units 1–5***
~~*Unit 1A*~~	~~*Residents of Units 1A and 2.*~~
~~*Unit 1B*~~	~~*Residents of Units 1A, 1B, 2, and 3.*~~
~~*Unit 1C*~~	~~*Residents of Units 1C, 1D, Hoonah, Kake, and Petersburg.*~~
~~*Unit 1D*~~	~~*No Federal subsistence priority.*~~
~~*Unit 2*~~	~~*Residents of Units 1A, 2, and 3.*~~
~~*Unit 3*~~	~~*Residents of Units 1B, 3, Port Alexander, Port Protection, Pt. Baker, and Meyers Chuck.*~~
~~*Unit 4*~~	~~*Residents of Unit 4, Kake, Gustavus, Haines, Petersburg, Pt. Baker, Klukwan, Port Protection, Wrangell, and Yakutat.*~~
~~*Unit 5*~~	~~*Residents of Yakutat*~~

Extent of Federal Public Lands

Table 1. Federal public lands in the Southeast Alaska Region, Units 1–5.

Management unit	Percentage Federal public lands	Percentage of Federal public lands managed by each agency
1A	91.3%	91.3% U.S. Forest Service
1B	98.1%	98.1% U.S. Forest Service
1C	95.5%	62.6% U.S. Forest Service 32.9% National Park Service[a]
1D	43.8%	24.9% National Park Service[a] 18.9% U.S. Forest Service
2	74.0%	74.0% U.S. Forest Service
3	90.6%	90.6% U.S. Forest Service
4	92.2%	92.2% U.S. Forest Service
5A	94.5%	63.3% U.S. Forest Service 31.2% National Park Service[a]
5B	96.0%	93.8% National Park Service 2.1% Bureau of Land Management 0.1% U.S. Forest Service

[a] Glacier Bay National Park, closed to subsistence

Federal public lands comprise approximately 88% of Southeast Alaska Units 1–5. Details by unit are shown in **Table 1**, above. In Southeast Alaska, the Tongass National Forest comprises U.S. Forest Service lands. Glacier Bay National Park and Preserve and Wrangell-St. Elias National Park and Preserve comprise National Park Service lands. National Park Service lands in Units 1C, 1D, and most of Unit 5A are within Glacier Bay National Park that are closed to subsistence (see **Unit 1–5 Maps**).

Regulatory History

At the beginning of the Federal Subsistence Management Program in Alaska in 1992, the Board adopted the State's customary and traditional use determinations for Units 1–5 into permanent regulations (72 FR 22961; May 29, 1992). The Board adopted "no Federal subsistence priority" for deer in Unit 1D. The State did not recognize customary and traditional uses of deer in Unit 1D, and deer generally are not present in Unit 1D.

In 1996, responding to Proposals P96-004 and C171 submitted by the Council and Paul J. Trollan, the Board followed the recommendation of the Council and modified the customary and traditional use determination for deer in Unit 4, adding residents of the Yakutat Borough. The Council said "Yakutat, the only traditional community in Unit 5, has traditionally used Unit 4 for deer. This is not the case for other Unit 5 residents" (OSM 1996a:28). The Board said the term Yakutat referred to the City and Borough of

Yakutat, and the Yakutat city boundary itself did not include all of the residents of the community generally recognized as Yakutat (OSM 1996b). The Interagency Staff Committee said in its justification,

> Deer has long been an important resource to residents of Unit 5. In the past, when no deer were available in the area, Yakutat residents obtained deer by trade. After deer were introduced in Unit 5, local residents hunted them. The modest deer harvests recorded in Yakutat are more attributable to regulatory restrictions and low deer population than to lack of desire for deer. Yakutat residents have historically traveled to Unit 4 to hunt deer. Yakutat should therefore be included among those having customary and traditional use eligibility for deer in Unit 4 (OSM 1996a:20).

In 1998, responding to Proposals P98-005 and 006 submitted by the Stikine Ranger District, the Board followed the recommendation of the Council and modified the customary and traditional use determination for deer in Unit 1C adding Kake and Petersburg, but to all of Unit lC instead of the smaller area proposed. The Board stated that modifying Proposal P98-006 to include both Kake and Petersburg in the customary and traditional use determination for all of Unit 1C would meet the intent of the proposal. The Board said it included Kake because of the extension of the Kake Tlingit's traditional use area into Unit 1C and because of documented recent hunting effort for deer in the unit. Petersburg was included because of residents' historic and contemporary pattern of dependence on deer, and their reported deer harvests in the unit (OSM 1998a:75).

In 2010, the Secretary of the Interior asked the Board to review, with Regional Advisory Council input, the customary and traditional use determination process and present recommendations for regulatory changes. In April 2014, as part of its review of the process, the Council sent a letter to the Board requesting an analysis of the effects of possible changes to the customary and traditional use determination process. The Council observed that some customary and traditional use determinations have resulted in unnecessary closures to other rural residents when no concerns for the viability of a resource population have existed and that if these concerns did exist, there was already a process in regulation to restrict who can hunt. The process involves a determination of who is most customarily dependent on the resource based on three criteria found in ANILCA Section 804. The Office of Subsistence Management reported back to the Council in winter 2015 in a briefing that was presented to all 10 Regional Advisory Councils (OSM 2015). The briefing indicated that Councils have recommended, and the Board has adopted, determinations that include entire management units or entire management areas when residents of a community have demonstrated taking fish or wildlife in only a portion of a management unit or a management area. The Council has not submitted a request to the Secretary of the Interior to modify the customary and traditional use determine process in Federal regulations. Instead, its stated intent is to submit regulatory proposals to the Board requesting to broaden the patchwork of customary and traditional use determinations that currently exist in Southeast Alaska.

Background

Deer are indigenous to most of Southeast Alaska (ADF&G 2017a, Doerr and Sigman 1986, **Figure 1**). Paleontological remains from over 5,000 years ago on Prince of Wales Island include deer, indicating the

potential for very long-term human use of deer in southeast Alaska (Klein 1965). "Winter weather, predation, and removal of winter habitat through clearcut logging have the greatest effects on deer population dynamics" (Lowell 2015a:2-4).

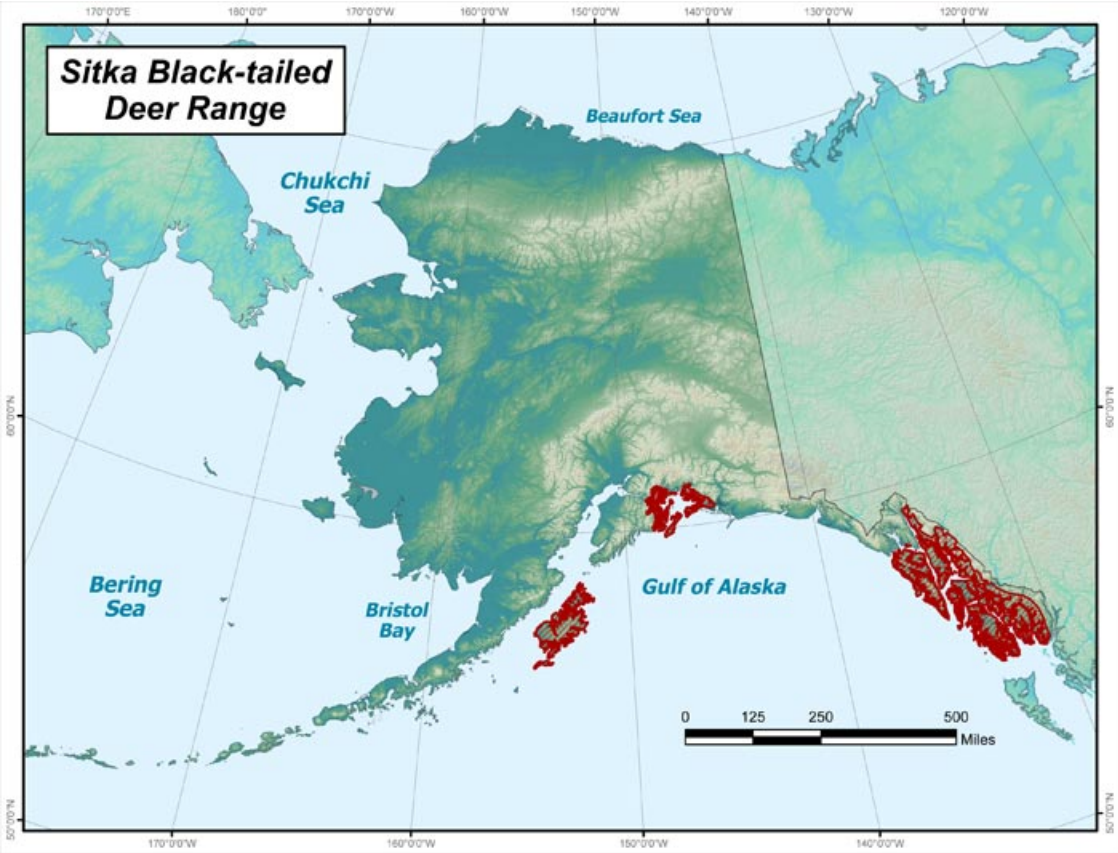


Figure 1. The range of Sitka black-tailed deer in Alaska (ADF&G 2017a)

Deer were transplanted to the Taiya Valley near Skagway, in Unit 1D between 1951 and 1956 but have not remained consistently at harvestable levels (Burris and McNight 1973, Doerr and Sigman 1986).

Deer are not indigenous to the Yakutat area. Sell explains further:

> Deer were introduced to Yakutat Bay islands in 1934, when 7 does and 5 bucks were released (Paul 2009 *in original*). These animals established a small population that persists on islands and along the eastern mainland of Yakutat Bay. Heavy snowfall and predators limit deer densities, but the population has supported small harvests over the years. Most deer are taken incidentally. There is little potential for this herd to increase because of the extreme climatic conditions and limited habitat. Due to deer declines in the 1970s and a virtual cessation of harvest, the Unit 5 season was closed in July 1980. By the end of the 1980s, deer had recovered to some degree, and public requests for an open season were

heard. In 1991 the Board of Game instituted a limited hunt in Unit 5A, with a 1-month bucks-only season. Since then, small numbers of deer have been taken in most years, including some reports of illegal harvest (Sell 2013:7-1).

Community Characteristics

The rural area of Southeast Alaska is comprised of about 33 small to medium sized communities, ranging in population from 20 or less (Point Baker, Elfin Cove, and Game Creek) to over 8,000 (Sitka) (**Table 2**). Many were established by Tlingit Indians and are situated at historical village sites or were established by Haida Indians (Hydaburg) or Tsimshian Indians (Metlakatla). Population growth in Southeast Alaska during the historical period (beginning about 1750) has been affected by several waves of in-migration, first by Russian fur traders who established Sitka as their headquarters in the late 1700s. After the sale of Alaska to the United States in 1867, new industries (such as commercial fishing, canneries, and mining) and commercial trade, were pursued with the associated influx of outsiders during every decade of the 20th century. Beginning in the 1970s, timber logging camps sprang up and some have persisted as new communities, such as Game Creek and Thorne Bay. Many rural communities in Southeast Alaska have at their core a kwaan or tribe of Alaska Natives. The kwaan territories mapped in 1947 by Goldschmidt and Haas covered all of Southeast Alaska (Goldschmidt and Haas 1998).

Since 1960 the rural population of Southeast Alaska has doubled from 13,102 people in 1960 to 26,343 people in 2010 (**Table 2**). Some of this growth has been from new communities established near logging activities, growth in the recreation industry, and natural growth.

Eight Factors for Determining Customary and Traditional

A community or area's customary and traditional use is generally exemplified through the eight factors: (1) a long-term, consistent pattern of use, excluding interruptions beyond the control of the community or area; (2) a pattern of use recurring in specific seasons for many years; (3) a pattern of use consisting of methods and means of harvest which are characterized by efficiency and economy of effort and cost, conditioned by local characteristics; (4) the consistent harvest and use of fish or wildlife as related to past methods and means of taking: near, or reasonably accessible from the community or area; (5) a means of handling, preparing, preserving, and storing fish or wildlife which has been traditionally used by past generations, including consideration of alteration of past practices due to recent technological advances, where appropriate; (6) a pattern of use which includes the handing down of knowledge of fishing and hunting skills, values, and lore from generation to generation; (7) a pattern of use in which the harvest is shared or distributed within a definable community of persons; and (8) a pattern of use which relates to reliance upon a wide diversity of fish and wildlife resources of the area and which provides substantial cultural, economic, social, and nutritional elements to the community or area.

Table 2. The number of people in Southeast Alaska communities, 1960-2010.

Unit of residence	Community	US Census						
		1960	1970	1980	1990	2000	2010	
		Number of people						Number of house-holds
1A	Hyder	32	49	77	99	97	87	47
	Metlakatla	1,135	1,245	1,333	1,464	1,375	1,405	469
	Saxman	153	135	273	369	431	411	120
1C	Gustavus	107	64	98	258	429	442	199
1D	Haines borough	*1,000*	1,504	1,680	2,117	2,392	2,508	991
	Klukwan	112	103	135	129	139	95	44
	Skagway	659	675	814	692	862	920	410
2	Coffman Cove	0	0	193	186	199	176	89
	Craig	273	272	527	1,260	1,397	1,201	523
	Edna Bay	135	112	6	86	49	42	19
	Hollis CDP	0	0	0	111	139	112	55
	Hydaburg	251	214	298	384	382	376	133
	Kasaan	36	30	25	54	39	49	17
	Klawock	251	213	318	722	854	755	313
	Naukati Bay	0	0	0	93	135	113	60
	Point Baker	0	80	90	39	35	15	8
	Port Protection	0	0	40	62	63	48	26
	Thorne Bay	0	443	377	569	557	471	214
	Whale Pass	0	0	90	75	58	31	20
3	Kake	455	448	555	700	710	557	246
	Kupreanof	26	36	47	23	23	27	15
	Petersburg borough	1,502	2,042	2,821	3,207	3,224	2,948	1,252
	Wrangell borough	2,165	2,358	2,658	2,479	2,448	2,369	1,053
4	Angoon	395	400	465	638	572	459	167
	Elfin Cove	0	49	28	57	32	20	15
	Game Creek	0	0	0	61	35	18	10
	Hoonah	686	748	680	795	860	760	300
	Pelican	135	133	180	222	163	88	70
	Port Alexander	18	36	86	119	81	52	22
	Sitka borough	3,237	6,109	7,803	8,588	8,835	8,881	3,545
	Tenakee Springs	109	86	138	94	104	131	72
	Whitestone	0	0	NA	164	116	114	30
5A	Yakutat borough	230	190	449	534	808	662	270
TOTAL		**13,102**	**17,774**	**22,284**	**26,450**	**27,643**	**26,343**	**10,824**

NA=not available

Italic=Estimated, data not available.

Source: ADLWD 2017, ADCCED 2017, and U.S. Bureau of the Census 1995.

The Board makes customary and traditional use determinations based on a holistic application of these eight factors (50 CFR 100.16(b) and 36 CFR 242.16(b)). In addition, the Board takes into consideration the reports and recommendations of any appropriate Regional Advisory Council regarding customary and traditional use of subsistence resources (50 CFR 100.16(b) and 36 CFR 242.16(b)). The Board makes customary and traditional use determinations for the sole purpose of recognizing the pool of users who generally exhibit the eight factors. The Board does not use such determinations for resource management or for restricting harvest. If a conservation concern exists for a particular population of fish or wildlife, the Board addresses that concern through the imposition of harvest limits, season restrictions or Section 804 subsistence user prioritization rather than through adjustments to customary and traditional use determinations.

Sitka black-tailed deer is the most pursued species of large land mammal in Southeast Alaska. From 2014 to 2016, an annual average of 8,960 hunters harvested 11,463 deer in Southeast Alaska, based on the Alaska Department of Fish and Game (ADF&G) harvest reporting database (ADF&G 2017b). The majority of the annual harvest occurred in Unit 4 (Admiralty, Baranof and Chichagof Islands; over 50%) and Unit 2 (Prince of Wales Island, over 25%). The majority of the reported harvest in Southeast Alaska has been by rural residents of Southeast Alaska (Bethune 2015, Porter 2015, Lowell 2015a and 2015b, Mooney 2015, Sell 2013 and 2015).

Effects of non-Federally qualified users hunting for deer are most pronounced in Units 1A, 1C, and 2. The majority of the deer harvest in Unit 1A is by Ketchikan residents because of their close proximity and easy access to hunting areas. Many Ketchikan hunters also search for deer in Unit 2 on Prince of Wales Island, and from 2002 through 2014, Ketchikan residents represented 29% of the average annual number of hunters and 32% of the annual average deer harvest in Unit 2 (Bethune 2015). The majority of the deer harvest in Unit 1C occurs on Douglas Island, which is used by many Juneau residents because of its proximity to Juneau, accessibility by road, and higher density of deer (Sell 2015).

Community-based household surveys were conducted in 31 rural Southeast Alaska communities in 1987 and 26 rural communities from 1996 to 2000 (see **Appendix Table A-1**). The harvest of deer was estimated by community and expressed as a range; adding up the midpoint of the ranges totals 11,456 deer harvested in 1987 by 31 rural Southeast Alaska communities. The number of deer harvested by community ranged from zero at Hyder and Yakutat to 3,783 deer at Sitka. The harvest of deer in pounds of edible weight per person ranged from zero at Yakutat and Hyder to 136 lb per person at Tenakee Springs. For the period 1996–2000, the midpoint of the ranges totals 11,787 deer harvested by 26 rural Southeast Alaska communities. The number of deer harvested by community ranged from 22 deer at Yakutat to 4,733 deer at Sitka. The harvest of deer in pounds of edible weight ranged from 3 lb per person at Yakutat to 94 lb per person at Port Protection.

Community deer harvest areas may extend beyond traditional kwaan and contemporary community use areas for various reasons such as availability of faster, larger boats, or in response to lack of deer or local closures by ADF&G management (Cohen 1988:47–52, Ellanna and Sherrod 1986, Firman and Bosworth 1990, Gmelch and Gmelch 1983, Sill and Koster 2017a and 2017b, Smythe 1988). Doerr and Sigman's (1986) findings of research they conducted in the 1980s stated:

> Hunter surveys have shown that when deer populations are high around a community most of the community deer harvest occurs within about 30 miles of the community. When deer populations decline in the vicinity of the community, some hunters travel to other areas where deer populations are abundant and/or seasons are more liberal (e.g., Petersburg and Wrangell hunters have increased their hunting efforts in GMU 4 since deer have declined in GMU 3) (Doerr and Sigma 1986:57).

One effect of Federal regulations in Southeast Alaska has been to implement earlier or later seasons and more liberal harvest limits than are allowed under State regulations in some areas. Extended deer hunting seasons occur in Units 1A, 2, and 4. Deer harvest limits more liberal than under State regulations occur in Units 1C, 2, and 4 (see **Table 3** and **Table 4**).

Hunters in some communities, especially where deer populations are low, travel to other areas to hunt. Deer have been generally absent from Unit 1D, although historically deer were occasionally taken when encountered. Residents of Unit 1D (including residents of the communities of Haines, Klukwan, and Skagway) have traveled to other areas to hunt deer (Doerr and Sigman 1986, Sill and Koster 2017a).

Since the introduction of deer to the Yakutat area, and possibly before that, Yakutat residents have sought to hunt and use deer. During times when deer have not been available near Yakutat, residents have traveled to other areas where the deer is available. Yakutat hunters have commonly gone to Units 2 and 4, when deer were plentiful there, and it is reasonably accessible to Yakutat (Mills and Firman 1986, Sill et al. 2017). The modest deer harvests recorded in Yakutat are more attributable to regulatory restrictions and low deer populations than to lack of desire for deer.

Contemporary hunters employ a variety of access methods such as personal boats, including commercial fishing vessels, and road vehicles. The Alaska ferry system is often used by hunters from larger communities. Alpine hunts often require overnight camping and considerable hiking. Hunting below the timberline involves tracking, as well as luring deer to clearings (including the edges of clearcuts) with various locally or commercially manufactured calls. Beach hunting commonly is done in early morning or at dusk, or during a minus tide when deer feed on beach vegetation. Hunting on beaches involves “beach combing” by boat, or hiking under cover of the fringe forest. Opportunistic harvest is also undertaken while travelling by boat along the coastline (Doerr and Sigman 1986, Ellanna and Sherrod 1987, George and Bosworth 1988, George and Kookesh 1982, and Sill and Koster 2012:405,).

Before the introduction of deer in their area, Yakutat residents were familiar with deer from travel and trade with other Alaska Native groups. For example, like other Tlingits, Yakutat Tlingits named a peace ambassador or hostage *guwakaan* (deer) because of the animals association with meekness (de Laguna 1972:40; Emmons 1991:351–358; and Swanton 1908:447, 451). In the past, although deer were not available in the vicinity, Yakutat residents were able to trade for deer meat, skins, and other products with relatives or trading partners in other locations. With the advent of deer in the Yakutat area, it became practical to hunt deer for potlatches and other ceremonies, as well as for everyday use.

Table 3. Federal deer hunting regulations in Southeast Alaska, 2016/17.

FEDERAL HUNTING REGULATIONS		
DEER		
Management Unit	**Harvest Limit**	**Season**
Unit 1A	4 antlered deer[a]	Aug. 1–Dec. 31
Unit 1B	2 antlered deer[a]	Aug. 1–Dec. 31
Unit 1C	4 deer; however, female deer may be taken only from Sept. 15–Dec. 31	Aug. 1–Dec. 31
Unit 1D		No Federal open season
Unit 2	5 deer; however, no more than one may be a female deer. Female deer may be taken only during the period Oct. 15–Jan. 31. *Federal public lands of Prince of Wales Island, excluding the southeast portion (land south of the West Arm of Cholmondeley Sound draining into Cholmondeley Sound or draining eastward into Clarence Strait), are closed to hunting of Aug. 1–15 except by Federally qualified subsistence users hunting under these regulations.*	July 24–Jan. 31
Unit 3 Mitkof Island, Woewodski, and Butterworth Islands	1 antlered deer	Oct. 15–Oct. 31
Unit 3 that portion of Kupreanof Island on the Lindenberg Peninsula east of Portage Bay-Duncan Canal Portage.	1 antlered deer	Oct. 15–Oct. 31
Unit 3 remainder	2 antlered deer	Aug. 1–Nov. 30 Dec. 1–31 season to be announced.
Unit 4	6 deer; however, female deer may be taken only from Sept. 1–Jan. 31.	Aug. 1–Jan. 31
Unit 5A	1 buck	Nov. 1–30
Unit 5B		No open season

[a] The Federal regulation book distributed to the public that describes harvest limits as any deer is incorrect.

Table 4. State of Alaska deer hunting regulations in Southeast Alaska, 2017/18.

STATE OF ALASKA HUNTING REGULATIONS		
DEER		
Management Unit	**Harvest Limit**	**Season**
Unit 1A Cleveland Peninsula south of the divide between Yes Bay and Santa Anna Inlet	2 bucks	Aug. 1–Nov. 30
Unit 1A Remainder	4 bucks	Aug. 1–Nov. 30
Unit 1B	2 bucks	Aug. 1–Dec. 31
Unit 1C Douglas, Lincoln, Shelter, and Sullivan Islands	4 bucks	Aug. 1–Sept. 14
	4 deer	Sept. 15–Dec. 31
Unit 1C Remainder	2 bucks	Aug. 1–Dec. 31
Unit 1D		No open season
Unit 2	4 bucks	Aug. 1–Dec. 31
Unit 3 Mitkof Island, Petersburg Management Area	2 bucks by bow and arrow only	Oct. 15–Dec. 15
Unit 3 Reminder of Mitkof, Woewodski, Butterworth Islands	1 buck	Oct. 15–Oct. 31
Unit 3 that portion of Kupreanof Island on the Lindenberg Peninsula east of the Portage Bay-Duncan Canal Portage.	1 buck	Residents—Oct. 15–Oct. 31
		Nonresidents—No open season
Unit 3 remainder	2 bucks	Aug. 1–Nov. 30
Unit 4 Chichagof Island east of Port Frederick and north of Tenakee Inlet including all drainages into Tenakee Inlet	3 deer total: Bucks	Aug. 1–Sept. 14
	Any deer	Sept. 15–Dec. 31
Unit 4 remainder	4 deer total: Bucks	Aug. 1–Sept. 14
	Any deer	Sept. 15–Dec. 31
Unit 5A	1 buck, youth hunt only	Sept. 15–31
	1 buck	Nov. 1–30
Unit 5B		No open season

Historical and ethnographic sources indicate harvest and use of deer (*k'áad* in Haida and *wan* in Tsimshian) by Tlingit, Haida, and Tsimshian residents of Southeast Alaska. Deer was one of many sources of rendered oil used in the diet. Deer was reportedly highly prized, very abundant and relatively easy to harvest, and comprised a large part of the traditional food supply (Emmons 1991; Goldschmidt and Haas 1998 [1946]; Kamenskii 1985 [1906]:30; Krause 1970 [1885]:160; Niblack 1970 [1890]:279, 300–301; and Oberg 1973:71). Where deer was not available, venison was obtained through trade networks (Niblack 1970 [1890]:338, and Oberg 1973:108).

Contemporary users of deer in Southeast Alaska boil, roast, fry, or barbeque fresh venison. They preserve the meat by freezing, canning, drying, or smoking it. Venison is sometimes ground and made into sausage. The liver, heart, and intestines are considered delicacies. Some people still tan and use deer hides (Jacobs and Jacobs 1982:113, 119).

Effects of the Proposal

If the proposal was adopted, all rural residents of Southeast Alaska would be eligible to harvest deer under Federal regulations in Units 1–5. There would be no effect on people's ability to hunt deer under State regulations.

If the proposal was not adopted, there would continue to be no Federal priority for rural residents to hunt deer in Unit 1D, and the Board would continue to be unable to adopt Federal deer hunting seasons in Unit 1D. Under Federal regulations, rural residents of Southeast Alaska would be restricted to hunting in only a portion of Southeast Alaska based on the current patchwork of customary and traditional use determinations.

OSM CONCLUSION

Support Proposal WP18-02.

Justification

Rural residents of Southeast Alaska Units 1–5 have demonstrated customary and traditional uses of deer in Southeast Alaska according to ethnographic descriptions and harvest documentation. At the beginning of the Federal Subsistence Management Program in Alaska in 1992, the Board adopted the State's customary and traditional use determinations for Units 1–5 into permanent regulations (72 FR 22961; May 29, 1992). The Board adopted "no Federal subsistence priority" for deer in Unit 1D because the State did not recognize customary and traditional uses of deer in Unit 1D. There has not been a considerable population of deer in Unit 1D, but deer do inhabit the area (see **Figure 1**). Additionally, the customary and traditional use determinations adopted from State regulations have constituted a patchwork of eligibility. This history has created an unnecessary and confusing regulatory complexity in which it has been difficult for subsistence users to know where they can hunt deer under Federal regulations. People in Southeast Alaska travel from home to other communities for many reasons such as to visit family and friends, to harvest wild resources, for potlatches and other cultural celebrations, and to return to traditional clan and kwaan territories. At these times, they need to be able to continue long-standing patterns of hunting. Expanding Southeast Alaska Units 1–5 customary and traditional use determinations for deer to include all rural residents of Southeast Alaska will allow these uses.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Southeast Alaska Subsistence Regional Advisory Council

Support WP18-02. The Council felt that there was not a conservation concern for this resource and that expanding the customary and traditional use determination for deer would not create a conservation concern. There is overwhelming support for customary and traditional uses throughout the region for Federally qualified subsistence users. It is evident by traditional ecological knowledge regarding travel and how families are spread out across many islands, that the Southeast is unique. Providing for sharing and cultural exchanges of fish and wildlife take is important for Southeast rural residents and extending the customary and traditional use determination to all rural residents would benefit subsistence users without adversely affecting nonsubsistence users.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-02: This proposal, submitted by the Southeast Alaska Regional Subsistence Advisory Council, would expand the customary and traditional use determinations for deer in Southeast Alaska to all Southeast Alaska communities.

Introduction: Residents of Southeast Alaska have harvested deer for centuries. Archaeological sites on Admiralty Island dating to 1,600 years ago include butchered deer bones (ADF&G 1992:2). Historically, deer were harvested for meat, grease, hides, and bone, hoof, and antler tools and implements. Deer are also incorporated into Tlingit culture through mythology, dance, and ritual (ADF&G 1992:2).

In 1992, when the new state subsistence law was adopted, the Alaska Board of Game re-affirmed that the deer populations in game management units 1–5 (except in Unit 1D and outside state nonsubsistence areas) are taken for customary and traditional uses.

Impact on Subsistence Uses: Adoption of this proposal would increase the pool of federally qualified users eligible to participate in deer hunting opportunities provided under ANILCA.

Impact on Other Uses: If this proposal were adopted, impact to other users would depend on actions taken by the Federal Subsistence Board or the Alaska Board of Game to provide opportunities to a larger pool of users eligible for hunting under ANILCA.

Opportunity Provided by State: The State of Alaska provides deer hunting opportunities throughout southeast Alaska. Please refer to the *2017-2018 Alaska Hunting Regulations* for more detail on the current seasons and bag limits in Units 1–5.

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for deer in Units 1A (outside the state nonsubsistence area around Ketchikan), 1B, 1C (outside the state nonsubsistence area around Juneau), and 2–5. There is no finding for deer (and no open hunting season) in Unit 1D.

Amounts Reasonably Necessary for Subsistence:
Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

Unit/Subunit	ANS	Estimated Average Harvest[1] by Unit or Subunit, RY2012-RY2016
1A Outside the state Ketchikan Nonsubsistence Area	5–40 deer	309
1B	40–50 deer	96
1C Outside the state Juneau Nonsubsistence Area	30–40 deer	340
2	1,500–1,600 deer	3,632
3	150–175 deer	587
4	5,200–6,000 deer	5,576
5	20–40 deer	16

[1] From harvest ticket reports.

Conservation Issues: ADF&G has not identified any conservation concerns for the deer population in southeast Alaska. A management strategy to increase the number of deer in Unit 3 has been implemented by establishing restrictive harvest regulations.

Recommendation: ADF&G is **NEUTRAL** on eligibility requirements for participation in the subsistence program provided under ANILCA.

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WRITTEN PUBLIC COMMENTS

RECEIVED
JUL 28 2017

PO Box 19233
Thorne Bay AK
July 24, 2017

Dear Subsistence Board,

Please consider my comments to your proposed Regulations for hunting in Unit#2. I have hunted POW for over 35 years as a full time Resident and Retired 64 year old. The harvest needs to be Reduced as competition from outside hunters continues to be an issue - Also the doe season does not make sense for the health of our herd. Heres my views on the following proposals: There are 2 adults in my ~~house~~ household.

- WP18-01 - yes adoption
- WP18-02 - NO "
- WP18-07 - yes "
- WP18-08 - NO "

Thank you for your consideration of my comments Have a safe day!

Barnet Freedman
PID # P133161
LOT 481 Block 10
Thorne Bay Subdivision -

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Wildlife Proposal

2 messages

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Oct 16, 2017 at 7:39 AM
To: Paul Mckee <paul_mckee@fws.gov>, Theo Matuskowitz <theo_matuskowitz@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Jeff Sperry** <jsperry17151@gmail.com>
Date: Sun, Oct 15, 2017 at 7:52 PM
Subject: Wildlife Proposal
To: subsistence@fws.gov

I would like to comment on the following wildlife proposals:famil

WP18-01 - I am opposed. Other folks need to provide for their families also. The deer population is sufficient enough to allow a harvest quantity of 2 deer per individual

WP18-02 - I am opposed. The current system is sufficient and a change is not needed.

WP18-09 - I propose amending this proposal to eliminate hunting for another individual (commonly referred to as proxy hunting) As has been mentioned - the system is abused. There is plenty of opportunity to share the game you harvest under your own harvest tag with other individuals. I have observed many abuses of the proxy hunting (and fishing) system.

WP18-10 I am opposed. there are family members that live outside of this unit that return to this unit to hunt with their family. These people would be excluded from the traditional and customary hunt if this proposal were passed. Since this is a one bull area with no antler restrictions the local residents should have no problem harvesting an animal in the allotted time.

WP18-16 I am opposed. extending the season will greatly increase the chance that the bull moose population will be decimated. This will result in a huge decrease in the overall moose population, which will in turn decrease the future opportunities to harvest a bull moose for any qualified user.

WP18-17 I am opposed. extending this season will greatly increase the chance that the bull moose population will be decimated. Once it is decimated it will take years to recover. This will greatly decrease the future opportunities for any qualified user to harvest a bull moose. Additionally, Ahtna has 3.7 million acres of their own land to hunt on, with no competition from any other individuals. They have an additional 1 million acres of federal land to hunt. They should have no problem harvesting a bull moose.

WP18-18 I am opposed. Extending the season will greatly increase the chance that the bull moose population will be decimated. Once that occurs it will take years to recover. This will greatly decrease the future opportunity for any qualified user to harvest a bull moose. Additionally, Ahtna has 3.7 million acres of their own land to hunt with no competition from any other individuals. they also have 1 million acres of federal land to hunt. They should have no problem harvesting a bull

moose under the current system.

WP18-19 I am opposed. There is no need to add the Ahtna advisory committee to the designated group that is determining what sex of animals can be harvested. That is a biologically based decision and can best be made by the Department of Fish and Game biologists.

WP18-54 I am opposed. It is extremely difficult to determine which caribou are mentasta and which are nelchina. Increasing the harvest quota significantly increases the chances that the mentasta herd will be overharvested.

wp18-56 I support this proposal. This hunt opportunity should be open to the general public as the local residents do not utilize this hunt.

w518-57 I am opposed to this proposal. the population is currently sufficient to support non federally qualified hunters the opportunity to hunt. With a bag limit of 5 caribou per day there is ample opportunity for federally qualified subsistence users to harvest caribou.

Thank you for the opportunity to comment on these proposals.
Jeff Sperry
Resident of Alaska

APPENDIX A

Appendix Table A-1. The harvest and use of deer by communities in Southeast Alaska based on household harvest surveys.

Mangement unit of residence	Community	Study year	Percentage of households:					Deer harvest		
			Use deer	Attempt harvest deer	Harvest deer	Give away deer	Receive deer	Estimated harvest of deer	95% confidence interval	Per person harvest in pounds
			%	%	%	%	%	deer	+/- %	lb
1A	Hyder	1987	12		0	0	12	0	0	0.0
	Metlakatla	1987	69		16	12	60	207	74	10.7
	Meyers Chuck	1987	80		50	0	60	8	0	21.3
	Saxman	1987	58		23	11	42	54	44	16.6
		1999	63	36	23	27	47	198	35	27.6
1C	Gustavus	1987	70		48	27	32	122	25	64.1
1D	Haines	1983	18	12	6	3	13	108	65	4.5
		1987	43		15	14	34	313	75	15.4
		1996	48	15	11	10	43	212	62	7.9
		2012	30	11	8	8	24	180	64	7.5
	Klukwan	1983	12	15	3	0	9	2	100	1.3
		1987	48		12	12	38	21	38	12.8
		1996	77	29	23	29	65	22	30	15.8
	Skagway	1987	29		6	3	26	24	66	3.3
2	Coffman Cove	1987	73		57	22	27	139	30	59.6
		1998	70	88	62	24	18	146	20	54.7
	Craig	1987	80		52	25	42	600	30	40.6
		1997	76	59	47	24	37	963	19	43.7
		1999	76	64	41	22	42	743		32.6
	Edna Bay	1987	95		85	45	60	96	8	110.3
		1998	92	92	83	8	42	57	41	86.5
	Hollis	1987	67		40	16	32	38		37.9
		1998	57	63	39	11	26	60	25	31.1
	Hydaburg	1987	78		37	27	55	203	39	42.8
		1997	69	45	33	28	49	175	39	34.7
		2012	88	63	52	54	54	283	35	68.1
	Klawock	1984	81	61	56	36	39	204	33	34.5
		1987	74		52	21	38	445	32	45.0
		1997	72	59	43	26	36	503	28	47.6
		1999	78	59	48	20	46	475		39.3
	Naukati Bay	1998	68	66	52	18	26	83	19	45.4
	Point Baker	1987	95		63	37	53	39	0	89.1
		1996	94	75	50	25	56	27	27	46.0
	Port Protection	1987	84		36	16	64	29	20	40.0
		1996	92	68	56	36	64	115	40	94.4
	Thorne Bay	1987	75		58	28	37	220	24	36.7
		1998	54	71	42	5	16	209	24	32.2
	Whale Pass	1987	78		67	6	28	32	0	50.2
		1998	67	60	47	27	40	35	43	50.7
		2012	76	76	57	19	19	50	30	72.6

(Continued on next page.)

Appendix Table A-1. The harvest and use of deer by communities in Southeast Alaska based on household harvest surveys (*continued from previous page*).

Mangement unit of residence	Community	Study year	Percentage of households:					Deer harvest		
			Use deer	Attempt harvest deer	Harvest deer	Give away deer	Receive deer	Estimated harvest of deer	95% confidence interval	Per person harvest in pounds
			%	%	%	%	%	deer	+/- %	lb
3	Beecher Pass	1987	100		80	40	40	41	70	73.9
	Kake	1985	70	44	39	21	39	208	29	26.6
		1987	78		42	22	57	310	44	38.6
		1996	80	52	49	23	37	464	32	49.7
	Kasaan	1987	86		43	21	64	20	0	40.0
		1998	86	64	57	43	29	37	35	68.2
	Petersburg	1987	70		39	30	40	2,053	40	43.9
		2000	40	34	19	8	22	505	44	13.7
	Wrangell	1987	63		28	13	46	725	51	20.4
		2000	48	38	24	18	29	694	48	28.3
4	Angoon	1984	90	63	61	50	45	454	37	58.4
		1987	100		75	40	46	474	30	72.8
		1996	74	50	50	26	49	370	24	50.9
		2012	84	49	45	38	51	218	33	51.0
	Elfin Cove	1987	92		69	46	69	54	35	72.3
	Game Creek	1996	100	50	33	33	100	32	49	40.8
	Hoonah	1985	86	59	52	38	54	584	27	52.2
		1987	94		65	46	48	786	27	89.8
		1996	74	60	56	39	31	829	32	74.5
		2012	77	59	48	40	45	470	22	51.3
	Pelican	1987	91		63	45	59	316		105.5
	Port Alexander	1987	94		66	60	64	144	9	107.8
	Sitka	1987	38		38	0	0	3,783	19	37.5
		1996	62	43	35	22	31	4,733	32	44.4
		2013	56	37	26	21	36	2,501	35	25.4
	Tenakee Springs	1984	83	50	50	42	58	76	57	65.0
		1987	87		55	39	45	160	47	135.5
	Whitestone	1996	83	71	71	4	13	101	33	56.9
5A	Yakutat	1984	20	6	6	8	16	18	100	2.7
		1987	0		0	0	0	0	0	0.0
		2000	23	9	5	7	21	22	51	2.8
		2015	45	35	9	14	37	33	59	2.4

Blank cell=question not asked or information not available.
Source: ADF&G 2017c.

WP18–03 Executive Summary	
General Description	Proposal WP18–03 requests modifying the Federal hunting and trapping seasons in Unit 1 for wolves to match those currently under State regulations. *Submitted by: Southeast Alaska Subsistence Regional Advisory Council.*
Proposed Regulation	**Unit 1A, 1B south of Bradfield Canal and the east fork of the Bradfield River – Wolf (hunting)** *5 wolves* — *Aug. 1 ~~Apr. 30~~**May 31*** **Unit 1B remainder, 1C, 1D – Wolf (hunting)** *5 wolves* — *Aug. 1 – Apr. 30* **Unit 1 – Wolf (trapping)** *No limit.* — *Nov. **1~~10~~** Apr. 30*
OSM Conclusion	**Support**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	**Support**
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	

WP18–03 Executive Summary	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	

WP18–03 Executive Summary	
Interagency Staff Committee Comments	The Interagency Staff Committee (ISC) found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal. The Federal Subsistence Board (Board) is charged by ANILCA to provide rural residents of Alaska the priority opportunity for non-wasteful subsistence uses on Federal public lands. When evaluating proposed changes to federal subsistence regulations, the Secretaries of Interior and Agriculture give deference to recommendations made by the Regional Advisory Councils. The Board may choose not to follow any recommendation which the Board determines is not supported by substantial evidence, violates recognized principles of fish and wildlife conservation or would be detrimental to the satisfaction of subsistence needs. The ISC has identified several proposals submitted in this wildlife cycle that request changes to seasons and harvest limits for wolves, bears and wolverines with the primary justification of aligning Federal regulations with State regulations or at times misalignment with State regulations in order to align with other unit or species specific Federal regulations. These proposals generally cite the need for alignment as being necessary to reduce regulatory confusion among subsistence users. The OSM analyses usually conclude that the season alignments will have little impact on harvest as the State has already established the harvest parameters and a federal subsistence user could already hunt under State regulations if they chose to. While aligning seasons may be desirable in some cases, it is not appropriate for all. For example, in the case of wolves, extending seasons to June 1 provides increased opportunity, but this opportunity coincides with a vulnerable time when wolves are bearing and raising their young, and pelts are of poor quality. In general, extensions of seasons into important life cycle periods (denning, rearing, breeding etc.) may reduce populations to unhealthy levels, especially when data regarding the status of such populations is limited. What is known about most species is their general biological life cycle and this information should be used to inform and establish seasons and harvest limits that are aligned with sound wildlife conservation practices.

WP18–03 Executive Summary	
	Often little, if any, population dynamics information is available on species like wolves, bears or wolverines. Given the difficulty and expense of determining population estimates for predator species, harvest seasons and rates may only be based on sporadic or incidental surveys or harvest records that may be incomplete All three species, especially bears and wolverines, have been recognized by wildlife managers as being susceptible to overharvest due to their low rates of reproduction. A more conservative approach to management of species that have low reproductive potential and are slow to recover from overharvest, may be warranted. Regulatory alignment shouldn't be the driving factor or primary justification for changing seasons and harvest limits. The Federal Subsistence Program should weigh the need of providing additional opportunity with potential impacts to wildlife populations; and the requirement by ANILCA to manage for sustainable and healthy wildlife populations using sound wildlife conservation practices.
ADF&G Comments	**Support**
Written Public Comments	**4 Oppose**

STAFF ANALYSIS
WP18-03

ISSUES

Proposal WP18-03, submitted by the Southeast Alaska Subsistence Regional Advisory Council (Council), requests modifying the Federal hunting and trapping seasons in Unit 1 for wolves to match those currently under State regulations.

DISCUSSION

The proponent seeks to bring Federal subsistence hunting and trapping seasons for wolves in Unit 1 into alignment with current State seasons which are currently longer. The proposal provides for consistent regulations with the State by creating a new Federal regulation specific to Unit 1A and a small portion of Unit 1B. The new regulation would extend the hunting season closing date in Units 1A and the portion of 1B south of the Bradfield Canal and the east fork of the Bradfield River to May 31. The remainder of the Unit 1 hunting regulations would not be changed. To align the Federal trapping season, the starting date of the season for Unit 1 is proposed to be moved from November 10 to November 1.

Existing Federal Regulation

Unit 1 – Wolf (hunting)

5 wolves	*Aug. 1 – Apr. 30*

Unit 1 – Wolf (trapping)

No limit.	*Nov. 10 – Apr. 30*

Proposed Federal Regulation

Unit 1A, 1B south of Bradfield Canal and the east fork of the Bradfield River – Wolf (hunting)

5 wolves	*Aug. 1~~-Apr. 30~~**May 31***

Unit 1B remainder, 1C, 1D – Wolf (hunting)

5 wolves	*Aug. 1 – Apr. 30*

Unit 1 – Wolf (trapping)

No limit.	*Nov. ~~1~~**1**~~0~~-Apr. 30*

Existing State Regulation

Unit 1A, 1B south of Bradfield Canal and the east fork of the Bradfield River – Wolf (hunting)

5 wolves. Hides must be sealed within 30 days of kill	*Aug. 1-May. 31*

Unit 1 remainder, 1C, 1D – Wolf (hunting)

5 wolves. Hides must be sealed within 30 days of kill. Wolves taken on Douglas Island must be reported within 48 hours and sealed within 5 days.	*Aug. 1 – Apr. 30*

Unit 1 – Wolf (trapping)

No limit. Wolves must be sealed within 30 days after the close of the season. Unit 1C, Gustavus: all trappers must register with ADF&G prior to trapping wolves. Unit 1C, Douglas Island: all trappers must register with ADF&G prior to trapping wolves; a trapper who takes a wolf in the management area must report the harvest to ADF&G Division of Wildlife Conservation in Douglas within 48 hours of taking the wolf and present the hide for sealing within 5 days.	*Nov. 1-Apr. 30*

Extent of Federal Public Lands

Federal public lands comprise approximately 86% of Unit 1 and consist of 69% U.S. Forest Service (USFS) managed lands, 17% National Park Service (NPS) managed lands and less than 1% Bureau of Land Management (BLM) managed lands (see **Unit 1 Map**).

Customary and Traditional Use Determinations

The Federal Subsistence Board (Board) has not made a customary and traditional use determination for hunting or trapping of wolves in Unit 1. Therefore, all Federally qualified subsistence users may harvest this species in this unit.

Regulatory History

From 1915 through the early 1970s, a cash bounty was paid for wolves in Southeast Alaska (ADF&G 1997). Biological and harvest information has been collected on harvested wolves since the early 1960s. Records from 1961–62 and from 1970–71 are from bounty payments. A mandatory sealing program

under State regulation has been in effect since that time (ADF&G 1989).

The Board adopted existing State hunting and trapping regulations for Unit 3 in 1990. In 2010, the Board rejected proposals WP10-23 and WP10-24 which would have shortened both the Federal hunting and trapping seasons for wolves in this unit.

Following action during the November 2008 Alaska Board of Game (BOG) meeting, the State regulated trapping season for the entirety of Unit 1 was extended from November 10 to November 1. During its 2010 meeting, the BOG extended the hunting season end date from April 30 to May 31 in Unit 1A and a defined portion of Unit 1B. This regulation was developed to increase opportunity for spring bear hunters to harvest wolves (Porter 2012).

Biological Background

Wolves likely moved into Southeast Alaska following postglacial northward expansion and establishment of Sitka black-tailed deer populations (Lowell 2006). Wolves occur throughout the Southeast Alaska mainland and on all of the major islands except Admiralty, Baranof and Chichagof Islands in Unit 4. Wolves are well adapted to the island and mainland environment of Southeast Alaska, although densities on the mainland are generally lower than on maritime-influenced islands. Wolves are proficient swimmers and regularly travel between adjacent islands in search of prey (Porter 2006). Wolves live throughout the islands and mainland of Unit 1, although densities on the mainland are generally lower than on maritime-influenced islands (Porter 2012).

Deer are the primary food source of wolves in Southeast Alaska (Lowell 2006), with wolf predation studies estimating that one wolf takes an average of 26 deer per year where there are no other available food sources (Person et al. 1996). Other prey species include mountain goat, moose, small mammals, beaver, salmon and waterfowl (Szepanski et al. 1999).

Recent population indices

In Southeast Alaska, minimum home ranges for wolf packs on Revillagigedo Island (located in Unit 1A) averaged 279 km^2 (108 mi^2) and ranged from 79-447 km^2 (30-170 mi^2). Wolf pack sizes on Revillagigedo Island during this study averaged 5.4 wolves and packs varied in size from 2-12 wolves (Smith et al. 1987). No accurate population estimates are currently available for Unit 1A wolves. However, based on reported harvests, staff observations, and reports from trappers, the Unit 1A wolf population appears to be stable (Porter 2012).

Wolf densities in Unit 1B are believed to be higher than those in the interior regions of Alaska, but the dense forest cover makes viewing opportunities very difficult. Sealing records for Unit 1B provide insufficient data to make any meaningful estimates of the wolf population. Currently, population estimates are based on estimates of average territory and pack sizes from research on Prince of Wales Island (Person et al. 1996). Current estimates for the sub-unit are thought to be 8 packs reflecting in a total population of 45-85 animals (Lowell 2012).

Wolves are distributed throughout Unit 1C, but anecdotal evidence suggests they primarily inhabit the

major mainland river drainages such as the Taku River and Berners Bay. Exceptions include the Chilkat Mountains and Gustavus forelands where wolves appear to be uniformly distributed, most likely due to the presence of moose. The presence of wolves on Douglas Island has been in question since the wolf harvest that occurred during the 2001/2002 season. There is no formal data collection protocol to make any meaningful estimates of wolves in the subunit. Although no quantitative data are available, trappers have reported that wolves are common in Unit 1C and seem to be increasing. Anecdotal reports from local hunters, trappers and pilots suggest wolves continue to reside in all of the traditional areas which seems to be validated by harvest data (Scott 2012).

No population studies have been conducted for Unit 1D, so all population information is based on anecdotal information, sightings made during aerial moose and mountain goat surveys, discussions with hunters and trappers from the area and from interpretation of sealing data. Wolf numbers and distribution seem to be consistent with previous years (Sell 2012).

Harvest History

Wolves can be harvested either with a firearm under hunting regulations or by trap, snare or firearm under trapping regulations. Wolf harvest is affected by local weather conditions and wolf abundance. Persistent freezing results in icing of traps and snares often making sets inoperative, and deep snow can bury snares and trail sets rendering them useless. Deep and persistent snow can also block vehicle access roads in Unit 1. Harvests by subunit can be found in **Table 1**, and by method of harvest in **Table 2**.

Table 1. Unit 1 wolf harvest by subunit, 2004-2016 (Schumacher 2017, pers. comm.).

Unit	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
1A	26	28	49	37	42	24	15	26	26	31	6
1B	12	5	4	4	5	10	14	9	21	10	24
1C	14	10	6	11	21	5	15	18	14	13	21
1D	3		6	7	11	2	17	5	2	2	10
Totals	55	43	65	59	79	41	61	58	63	56	61

*2016 data is preliminary

Table 2. Unit 1 wolf harvest by harvest method, 2006-2016 (Schumacher 2017, pers. comm.).

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
Firearm	20	15	21	21	14	16	18	17	13	12	7
Snare	27	24	36	26	38	21	31	23	26	30	30
Trap	7	4	8	11	27	4	12	18	24	13	24
Other	1			1						1	
Totals	55	43	65	59	79	41	61	58	63	56	61

*2016 data is preliminary

Most wolves have been harvested by hunters and trappers working from boats with the majority of the trapping harvest typically occurring on State managed tidelands (below mean high tide line). Harvests by month can be found in **Table 3** and by method of transportation used in **Table 4**. Harvests in May have been very low, which is most likely related to pelt quality being degraded this late into the season. Of the eight wolves harvested by firearm in Unit 1 since 2010, only one was harvested by a Federally qualified subsistence user (Schumacher 2017, pers. comm).

Table 3. Unit 1 wolf harvest by month, 2006-2016 (Schumacher 2017, pers. comm).

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
July	1					1					
Aug		2		2	2		2	2			
Sept	8	10	7	2	4	4	3	1	5		1
Oct	4		2	1	1	1	3	4	2	3	1
Nov	1	1	4	4	1	6	4	4	1	5	1
Dec	7	2	5	10	14	3	6	5	5	9	13
Jan	5	2	9	11	24	10	11	18	12	9	11
Feb	14	9	12	7	8	5	15	6	19	15	14
Mar	11	10	17	13	13	8	15	14	15	4	12
Apr	4	7	9	9	11	2		4	2	9	8
May					1	1	2		2	2	
Totals	55	43	65	59	79	41	61	58	63	56	61

*2016 data is preliminary

Table 4. Transportation used to harvest Unit 1 wolf, 2006-2016 (Schumacher 2017).

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
Vehicle	4	3	4	5	3	3	2	8	3	4	7
Boat	45	34	52	40	62	33	43	40	49	44	47
4 wheeler	1	1	2	1	3	2		6	4	2	
Other ATV				1			1		2	1	1
Snowmobile		2	2	5	6		5			1	6
Foot	2		1	5	5	2	8	4	3	3	
Airplane	2	3	3				2		2		
Other								1			
Unknown	1		1			1				1	
Totals	55	43	65	59	79	41	61	58	63	56	61

*2016 data is preliminary

Effects of the Proposal

If adopted, this proposal would provide increased harvest opportunity under Federal regulations on Federal public lands in Unit 1. The proposal is unlikely to substantially increase the harvest of wolves taken in Unit 1 because Federally qualified subsistence users can already harvest on the same lands during the same time period and with the same total State and Federal combined trapping and hunting limits that are currently allowed under State regulations.

Federal regulations allow for the customary trade of products crafted from animals harvested during Federal seasons. Customary trade is not allowed under State regulation. Adoption of the proposal would allow for customary trade to occur from wolves harvested during the extended Federal hunting and trapping seasons. Despite increased opportunity for customary trade, this proposal would not be likely to substantially increase the harvest of wolves over present levels as pelt quality is reduced during these periods. However, if increased trade opportunity increases the value and interest of wolf harvest during the proposed season extensions, then slight increases in harvest could result from this proposal.

Harvest during May when wolves are denning (Person and Russell 2009) could result in mortality of breeders or helpers influential of pack persistence, denning and recruitment rates, and population growth, especially when pack sizes are less than six wolves (Brainerd et al. 2008; Borg et al. 2015). While this proposal would not be expected to result in substantially increased harvest in May, slight increases in harvest could occur if the value of increased trading opportunity increases harvest interest for Federally qualified users. A slight harvest increase during the denning period could result in further impacts if breeders or helpers are harvested from small packs. Though current pack sizes in Unit 1 are not known, pack sizes on Revillagigedo Island during the 1980s averaged 5.4 wolves and ranged in size from 2-12 wolves. Therefore, extension of the Federal season into May, with a State season already encompassing May, could affect wolf numbers.

OSM CONCLUSION

Support Proposal WP18-03.

Justification

Adopting this proposal will align Federal hunting and trapping seasons for Unit 1 with State regulations that currently offer longer seasons. Federally qualified subsistence users can already harvest wolf during the longer State seasons. Adoption of this proposal would allow subsistence users to engage in customary trade if they desire from any wolves harvested from Federal lands within the expanded seasons. With pelt quality being of a less than prime during the proposed season extensions, it is unlikely that harvests would increase specifically for engaging in customary trade.

Wolf harvest in Unit 1 is currently believed to be occurring at a sustainable level based on anecdotal accounts and harvest rates. Harvests in both November and May are currently very low in comparison to other months. Alignment of Federal regulations with the State regulations should not dramatically increase harvest beyond current levels as the majority of the May harvest is not being taken by Federally qualified subsistence users.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Southeast Alaska Subsistence Regional Advisory Council

Support WP18-03. The Council found that this proposal would align Federal and State hunting and trapping regulations for the harvest of wolves in Unit 1. Federally qualified hunters/trappers are already authorized to take wolves in Unit 1 during the proposed season dates under State regulations. The Council found there was no conservation concern and the record of take supports the proposal. The proposal would benefit some subsistence users and not restrict other users.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee (ISC) found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

The Federal Subsistence Board (Board) is charged by ANILCA to provide rural residents of Alaska the priority opportunity for non-wasteful subsistence uses on Federal public lands. When evaluating proposed changes to federal subsistence regulations, the Secretaries of Interior and Agriculture give deference to recommendations made by the Regional Advisory Councils. The Board may choose not to follow any recommendation which the Board determines is not supported by substantial evidence, violates recognized principles of fish and wildlife conservation or would be detrimental to the satisfaction of subsistence needs.

The ISC has identified several proposals submitted in this wildlife cycle that request changes to seasons and harvest limits for wolves, bears and wolverines with the primary justification of aligning Federal regulations with State regulations or at times misalignment with State regulations in order to align with other unit or species specific Federal regulations. These proposals generally cite the need for alignment as being necessary to reduce regulatory confusion among subsistence users. The OSM analyses usually conclude that the season alignments will have little impact on harvest as the State has already established the harvest parameters and a federal subsistence user could already hunt under State regulations if they chose to.

While aligning seasons may be desirable in some cases, it is not appropriate for all. For example, in the case of wolves, extending seasons to June 1 provides increased opportunity, but this opportunity coincides with a vulnerable time when wolves are bearing and raising their young, and pelts are of poor quality.

In general, extensions of seasons into important life cycle periods (denning, rearing, breeding etc.) may reduce populations to unhealthy levels, especially when data regarding the status of such populations is limited. What is known about most species is their general biological life cycle and this information should be used to inform and establish seasons and harvest limits that are aligned with sound wildlife

conservation practices. Often little, if any, population dynamics information is available on species like wolves, bears or wolverines. Given the difficulty and expense of determining population estimates for predator species, harvest seasons and rates may only be based on sporadic or incidental surveys or harvest records that may be incomplete All three species, especially bears and wolverines, have been recognized by wildlife managers as being susceptible to overharvest due to their low rates of reproduction. A more conservative approach to management of species that have low reproductive potential and are slow to recover from overharvest, may be warranted.

Regulatory alignment shouldn't be the driving factor or primary justification for changing seasons and harvest limits. The Federal Subsistence Program should weigh the need of providing additional opportunity with potential impacts to wildlife populations; and the requirement by ANILCA to manage for sustainable and healthy wildlife populations using sound wildlife conservation practices.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-03: This proposal, submitted by the Southeast Alaska Regional Subsistence Advisory Council, would align federal and state wolf hunting and trapping regulations in Unit 1.

Introduction: Prior to RY2009 state and federal wolf hunting and trapping seasons were consistent for Unit 1(Southeast Alaska mainland). In RY2009 the state's wolf trapping season was liberalized from November 10–April 30 to November 1–April 30; however, the federal season dates remained unchanged. In RY2010, the state's wolf hunting seasons in Units 1A and 1B were also liberalized with a new closure date of May 31 in areas with predator-prey concerns. This proposal will once again align state and federal wolf hunting and trapping seasons by adjusting the federal season dates to match the current state seasons.

Impact on Subsistence Uses: Adoption of this proposal will provide additional opportunity for federally qualified hunters and trappers to take wolves on federally managed public lands.

Impact on Other Uses: There will be no impact on other uses if this proposal is adopted. Hunters and trappers currently have opportunity to take wolves under either state or federal regulations, and this proposal will have little to no effect on the total wolf harvest.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for wolves in all of Unit 1.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

For wolves in all Southeast Alaska units with a harvestable portion, the ANS is 90% of the harvestable surplus.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
Hunting			
1A	5 wolves	August 1-May 31	August 1-May 31
1B	5 wolves	August 1-May 31	August 1-May 31
1C	5 wolves	August 1-May 31	August 1-May 31
Open Season (Permit/Hunt #)			
Unit/Area	Bag Limit	Resident	Nonresident
Hunting, continued			
1D	5 wolves	August 1-May 31 (General Season)	August 1-April 30 (General Season)
Trapping			
1A	No limit	November 1-April 30	November 1-April 30
1B	No limit	November 1-April 30	November 1-April 30
1C	No limit	November 1-April 30	November 1-April 30
1D	No limit	November 1-April 30 (General Season)	November 1-April 30 (General Season)

Special instructions: None for these hunts.

Conservation Issues: There are no conservation concerns for wolves in Unit 1 even though there are little empirical data available to monitor the status of the wolf population. Harvest information and anecdotal observations suggest that wolves are common and the population is stable. The majority of wolves are taken by trappers, even though harvest opportunity is also provided through hunting regulations. Harvests vary annually and are affected by trapping interest, weather, fur prices, and logistical costs (e.g., boat and vehicle fuel). Annual harvests ranged from 41–79 wolves between RY2007–RY2016 with a mean of 59 wolves. Alignment of state and federal wolf hunting and trapping seasons is not anticipated to result in a conservation concern.

A portion of Unit 1A (Gravina Island) is part of an Intensive Management (IM) area designated by the Board of Game (Porter 2017); however the IM program is currently inactive. Unit 1A wolf harvest is currently moderate compared to the long-term average. After reaching a harvest of 10 wolves in 2007 the annual harvest has continued to decline to no wolves being taken in 2015 and 2016. Based on remote

camera data wolves persist on Gravina Island in low numbers. Based on the current population and harvest objectives, current management is sustainable.

Enforcement Issues: Alignment of state and federal seasons will benefit hunters, trappers and law enforcement personnel by negating the need to know specific boundaries for state and federal wolf hunting and trapping regulations.

Recommendation: The department's recommendation is to **SUPPORT** this proposal because it aligns state and federal seasons. As noted above, federally qualified hunters and trappers are authorized to take wolves during the proposed seasons under state regulations. Adoption of this proposal is expected to result in little to no change in wolf harvest.

WRITTEN PUBLIC COMMENTS

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Comments on Proposals to the Federal Subsistence Board Attn. Theo Matuskowitz

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:51 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Francis Mauer** <fmauer@mosquitonet.com>
Date: Thu, Aug 3, 2017 at 9:02 PM
Subject: Comments on Proposals to the Federal Subsistence Board Attn. Theo Matuskowitz
To: subsistence@fws.gov

Comments Regarding Federal Subsistence Proposals: WP 18-03, 18-04, 1805, 18-24, and 18-51

Submitted to the Federal Subsistence Board by Fran Mauer, P.O. Box 80464, Fairbanks, AK 99708. August 3, 2017.

WP 18-03 I am opposed to extending the wolf hunting and trapping seasons in Unit 1. Wolves are highly vulnerable to harvest as it is, further extending of seasons is not justified, and would likely lead to excessive harvest of wolves as occurred on Prince of Wales Island last year which was supposed to be regulated by a quota, but even with quota rules in place the actual harvest exceeded the quota by 2.6 times. This proposal should be denied.

WP 18-04 This proposal would allow 30% of the wolf population on Prince of Wales Island to be harvested when existing harvest is 20%. As noted above, wolves are highly vulnerable to harvest, and last year's harvest exceeded the quota by 2.6 times! The extensive network of roads and trails on Prince of Wales render wolves exceptionally vulnerable. Expanding the harvest to 30% of the population following excessive harvest last year can not be justified given the failed management of this quota system last year. This proposal would lead to excessive harvest of an already depleted population and should be denied to conserve wolves on the Island.

WP 18-24 This proposal will open the door to harassment of wildlife by snow machines and violate a basic premise of hunting: respect for animals and fair chase principles. It would also result in excessive impacts to other animals that are not harvested due to disturbance associated with this "practice." Furthermore, it will exacerbate difficulty in enforcement of harassment rules. Approval of this proposal would give a black eye to subsistence in general, and certainly the Federal Subsistence Board, specifically for condoning such an inappropriate practice on the Federal public lands of Alaska. Deny this proposal.

WP 18-51 This proposal would lower Federal standards for baiting to the lowest common denominator: State requirements. By allowing the use of human food items such as syrup, old dough nuts and other human refuse will habituate bears to humans and contribute to human – bear conflicts, and expose innocent people to risks from bears that no longer fear humans. Every spring the Alaska Dept of Fish and Game sponsors public service announcements advising folks to keep their garbage and bird feeder refuse secure from bears, clearly stating the danger to humans from habituated bears. There is absolutely no justification to also allow the use of human foods and scent to bait bears. I urge the Board to reject this proposal (18-51).

Thank you for the opportunity to comment.

Fran Mauer

August 1, 2017

TO: Federal Subsistence Board 4 pages
Attention Theo Matuskowitz
FR: Alaskans FOR Wildlife, Jim Kowalsky, Chair
RE: Comments of proposals 18-03; 18-04; 18-05
4 pages

Alaskans for Wildlife is a statewide member Alaska organization promoting naturally occurring wildlife through education and advocacy and is headquartered in Fairbanks.
We wish to offer comments on proposals 18-03; 18-04; 18-05 and 18-14.

18-04 - to increase the wolf quota take from 20% to 30% of the estimated population in GMU 2.
We ask that this change be rejected. The population of wolves is very low and efforts to enforce past quotas have been very poorly managed. An article detailing a management failure for this population of wolves in the March 14, 2017 of the Ketchikan Daily News reveals 26 wolves were harvested VS. the quota of 11, exceeding 2.6 times the quota. The quota has also been exceeded prior years. In 2016 an ADFG decision to close was made on 12/16 through a press release announcing an Emergency Closure issued 3 days later, giving trappers another 14 days to retrieve traps and have hides sealed.

The final take is 28 plus illegal and unreported beyond that. Illegal past takes are reported to be as high as half of legal take. ADFG Regional Supervisor Ryan Scott is quoted in the article thus: "There's delay in reporting…it's part of the process…it's a difficult process." We note the ADFG responsibility of the management of this hunt is essentially out of control and an abject failure. This hunt should in fact be closed completely given the admitted inability to manage it and the need for this population to recover to a normal historic level.

18-03 To extend the wolf season in Units 1A and 1B. We note the inability to manage as a matter of record outlined in the above explanation as a principle violated that very likely extends to these units and should not be repeated here made worse by poor management. We urge this proposal to extend the season be denied.

18-05 No limit for trapping wolves GMU 1. This is excessive and also is subjected to noted generally failed management as a matter of record and should be denied.

18-24 Use of snowmachines to "position" wolverines, wolves and caribou is vigorously opposed. The proposal would allow, nay, encourage, chasing ...not "positioning"....wildlife to exhaustion and amounts to nothing more than extreme gross harassment. That can not be identified as a tradition. To permit what's proposed here will earn subsistence a deserved very poor reputation in very high negatives and quickly. It must not be enacted. It is a virtual kiss-of-death for subsistence proposal.

In closing we have a word of advice. Upon reading the 125 or so pages of the transcript of the March 2017 Southeast Regional Council meeting, it is especially disturbing that no recognition or even a hint of acknowledgement of the fact that these are public lands belonging to all Americans was anywhere to be found. As you deliberate these proposals, we, Alaskans FOR Wildlife , wish to emphasize that there is a very broad interest in Alaska's federal public lands and its wildlife. Do not treat wildlife on these lands as a sole possession.

Not even a hint of the broader pubic interest and values is present in the regional council discussion including by state ADFG and federal agency personnel participating. Wr see none in the proposal justifications either. We have real fear that this insular attitude prevails throughout, and if we are correct, this is wrong and eventually will cause troublew for the subsistence populations involved, promise.

We urge all involved including agency managers and regional council leadership and members that you all please must consider the big picture if you are to survive and flourish in the public eye. Be assured that the proposed actions and implementation and failures are being carefully watched. Social media for one will capture yoiur actions and make life very difficult over a short time. Please act with wisdom and a genuine recognition that, federal subsistence law notwithstanding, you are all obligated to share public lands and the riches that dwell there.

Thank you for considering our participation.

Jim Kowalsky
Chair
Alaskans FOR Wildlife
PO Box 81957
Fairbanks, AK 99708
907 488 2434



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: comments on proposal WP 18-51, 18-03,18-04, 18-05, 18-24

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 1:55 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Sharon Alden** <fwxsca@yahoo.com>
Date: Fri, Aug 4, 2017 at 1:52 PM
Subject: comments on proposal WP 18-51, 18-03,18-04, 18-05, 18-24
To: "subsistence@fws.gov" <subsistence@fws.gov>

To: Office of Subsistence Management
Attention: Theo Matuskowitz
From: Sean McGuire
Re: comments on proposal WP 18-51, 18-03, 18-4, 18-5, 18-24

I am opposing proposal WP 18-51 There should be no human food or any human substance to bait any animals. This is so basic. The last thing we want is to habituate bears or any wild animal to human food. This is an ethical as well as a safety issue. The last thing we want to see is the federal baiting regulations aligned with the state of Alaska's. The State baiting regulations are painfully out dated and present a glaring safety issue.

I am opposing proposal WP 18-03 the extended hunting and trapping season in game unit one. Over kill.

I am really opposed to proposal WP 18-04. Why in the world would you want to put more pressure on a wolf population that's already in trouble this appears to be contrary to the basic concept of wildlife management?

I am also opposing proposal WP 18-05 relates to my opposition to WP18-04.

I am also opposing in the strongest possible terms proposal WP 18-24
To heard wildlife with snow machines is one of the most unethical things I can imagine and the backlash would be harsh.

Thank you for your attention
Sean McGuire
159 Kniffen Rd
Fairbanks, Ak.
ph 907-888-0124
email fwxsca@yahoo.com

Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: WP18- 01 – WP18-13 pertain to Southeast Alaska

1 message

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 17, 2017 at 10:39 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, George Pappas <george_pappas@fws.gov>

---------- Forwarded message ----------
From: **Curtis Donald Thomas** <seafun@kpunet.net>
Date: Fri, Jul 14, 2017 at 8:01 AM
Subject: WP18- 01 – WP18-13 pertain to Southeast Alaska
To: subsistence@fws.gov

Dear sirs,

Please stop this craziness of creating new classes of citizens with special rights. I was born in Ketchikan and lived on Prince of Whales for 20 years. Someone in your organization is promoting restricting Sitka Black-tail harvest for some residents (only two deer instead of 4) and granting others more rights (5 deer, one doe, multiple permits, extended season, etc).

Recent action has already restricted access to our hunting grounds. Since I currently live in Ketchikan (a huge metropolis of 7,000 people), I cannot start hunting on POW until Aug 16th. The season starts August 1st and ends December 31st, unless you live on POW of course, then you can start in July and continue hunting into January (even people who just moved to the island from New York City).

Your continued segmentation our population is destructive. Please stop this nonsense. The constitution says we are **all equal under the law**. What gives you the right to change this and grant some Americans more rights than others.

Another crazy policy that your group implemented (maybe another group... there are so many Federal groups in Washing trying to determine what is best for us rural residents that one can not keep track). That policy is allowing someone who lives just down the road the ability to harvest 20 halibut per day. These fish average 30-40 pounds. That means some Alaskans can harvest over 500 pounds of halibut every day if they choose while others are limited to 2 fish (which is plenty). 20 fish per day is COMMERCIAL FISHING not sport or subsistence!!!!

I guess I will have to "Self Identify" as a POW resident... if it is good enough for sexual orientation in our military, it must be acceptable for residents that actually spent half of their life in the area you now say some relocated New Yorker has more rights to than I.

Crazy, Crazy, Crazy! You are attempting to fix a problem that does not exist. Please STOP this.

Curtis Thomas
8046 N. Tongass Hwy
Ketchikan, AK 99901

WP18–05 Executive Summary	
General Description	Proposal WP18–05 requests lengthening the Federal hunting and trapping seasons for wolves in Unit 3 to match those currently under State regulations. *Submitted by: Southeast Alaska Subsistence Regional Advisory Council.*
Proposed Regulation	**Unit 3 – Wolf (hunting)** *5 wolves* *Aug. 1 – ~~Apr. 30~~**May 31*** **Unit 3 – Wolf (trapping)** *No limit.* *Nov. 1~~0~~ – Apr. 30*
OSM Conclusion	**Support**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	**Support**
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	

WP18–05 Executive Summary	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	

WP18–05 Executive Summary	
Interagency Staff Committee Comments	The Interagency Staff Committee (ISC) found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal. The Federal Subsistence Board (Board) is charged by ANILCA to provide rural residents of Alaska the priority opportunity for non-wasteful subsistence uses on Federal public lands. When evaluating proposed changes to federal subsistence regulations, the Secretaries of Interior and Agriculture give deference to recommendations made by the Regional Advisory Councils. The Board may choose not to follow any recommendation which the Board determines is not supported by substantial evidence, violates recognized principles of fish and wildlife conservation or would be detrimental to the satisfaction of subsistence needs. The ISC has identified several proposals submitted in this wildlife cycle that request changes to seasons and harvest limits for wolves, bears and wolverines with the primary justification of aligning Federal regulations with State regulations or at times misalignment with State regulations in order to align with other unit or species specific Federal regulations. These proposals generally cite the need for alignment as being necessary to reduce regulatory confusion among subsistence users. The OSM analyses usually conclude that the season alignments will have little impact on harvest as the State has already established the harvest parameters and a federal subsistence user could already hunt under State regulations if they chose to. While aligning seasons may be desirable in some cases, it is not appropriate for all. For example, in the case of wolves, extending seasons to June 1 provides increased opportunity, but this opportunity coincides with a vulnerable time when wolves are bearing and raising their young, and pelts are of poor quality. In general, extensions of seasons into important life cycle periods (denning, rearing, breeding etc.) may reduce populations to unhealthy levels, especially when data regarding the status of such populations is limited. What is known about most species is their general biological life cycle and this information should be used to inform and establish seasons and harvest limits that are aligned with sound wildlife conservation practices.

WP18–05 Executive Summary	
	Often little, if any, population dynamics information is available on species like wolves, bears or wolverines. Given the difficulty and expense of determining population estimates for predator species, harvest seasons and rates may only be based on sporadic or incidental surveys or harvest records that may be incomplete All three species, especially bears and wolverines, have been recognized by wildlife managers as being susceptible to overharvest due to their low rates of reproduction. A more conservative approach to management of species that have low reproductive potential and are slow to recover from overharvest, may be warranted. Regulatory alignment shouldn't be the driving factor or primary justification for changing seasons and harvest limits. The Federal Subsistence Program should weigh the need of providing additional opportunity with potential impacts to wildlife populations; and the requirement by ANILCA to manage for sustainable and healthy wildlife populations using sound wildlife conservation practices.
ADF&G Comments	**Support**
Written Public Comments	**4 Oppose**

STAFF ANALYSIS
WP18-05

ISSUES

Proposal WP18-05, submitted by Southeast Alaska Subsistence Regional Advisory Council (Council), requests lengthening the Federal hunting and trapping seasons for wolves in Unit 3 to match those currently under State regulations.

DISCUSSION

The proponent seeks to bring the Federal subsistence hunting and trapping seasons for wolves in Unit 3 into alignment with current State seasons which are longer than Federal seasons. The proponent states that this proposal will allow for more harvest opportunity for Federally qualified subsistence users. The proposal provides for consistent regulations with the State by extending the Federal hunting season by one month and moving the start date of the Federal trapping season forward to November 1.

Existing Federal Regulation

Unit 3 – Wolf (hunting)

5 wolves	*Aug. 1 – Apr. 30*

Unit 3 – Wolf (trapping)

No limit.	*Nov. 10 – Apr. 30*

Proposed Federal Regulation

Unit 3 – Wolf (hunting)

5 wolves	*Aug. 1 – ~~Apr. 30~~**May 31***

Unit 3 – Wolf (trapping)

No limit.	*Nov. 1~~0~~ – Apr. 30*

Existing State Regulation

Unit 3 – Wolf (hunting)

5 wolves. Hides must be sealed within 30 days of kill.	*Aug. 1-May 31*

Unit 3 – Wolf (trapping)

No limit. Wolves must be sealed within 30 days after the close of the season.	*Nov. 1-Apr. 30*

Extent of Federal Public Lands

Federal public lands comprise approximately 90% of Unit 3 and consist of 90% U.S. Forest Service (USFS) managed lands (see **Unit 3 Map**).

Customary and Traditional Use Determinations

The Federal Subsistence Board (Board) has not made a customary and traditional use determination for wolves in Unit 3. Therefore, all Federally qualified subsistence users may harvest this species in this unit**.**

Regulatory History

From 1915 through the early 1970s, a cash bounty was paid for wolves in Southeast Alaska (ADF&G 1997). Biological and harvest information has been collected on harvested wolves since the early 1960s. Harvest records from 1961–62 and from 1970–71 are derived from bounty payments. A mandatory sealing program under State regulation has been in effect since that time (ADF&G 1989).

The Board adopted existing State hunting and trapping regulations for Unit 3 in 1990. In 2010, the Board rejected proposals WP10-23 and WP10-24 which would have shortened both the Federal hunting and trapping seasons for wolves in this unit.

In 1994, the Alaska State Legislature enacted the "Intensive Management Law." The law requires that the Alaska Board of Game (BOG) designate intensive management populations, for which human consumptive use is the highest priority use and to set population and harvest objectives in those areas. When deer populations or harvest objectives for deer in a unit fail to meet management objectives, the BOG must consider and evaluate intensive management actions (including predator control) as a means of attaining the objectives. In 2000, the BOG designated Unit 3 deer as an intensive management population. While the intensive management plan for a portion of Unit 3 was authorized by the BOG in March 2013, predator control has remained inactive pending refinement of techniques for accurately measuring changes in deer and wolf abundance (Lowell 2012). Although Unit 3 deer populations are believed to be below carrying capacity (Lowell, 2015) no harvest restrictions are deemed necessary. Unit 3 experienced above average snowfall during winters from 2006-2009 and those harsh winter conditions caused a decline in the deer population. While deer populations remain relatively low in the Unit, there are currently no conservation concerns for deer in Unit 3.

Biological Background

Wolves likely moved into Southeast Alaska following postglacial immigration and establishment of Sitka black-tailed deer populations (Lowell 2006). Wolves occur throughout the Southeast Alaska mainland and on all of the major islands except Admiralty, Baranof and Chichagof Islands in Unit 4. Wolves are proficient swimmers and regularly travel between adjacent islands in search of prey (Porter 2006). Wolves live throughout the islands and mainland of Southeast Alaska, although densities on the mainland are generally lower than on maritime-influenced islands (Porter 2012).

Deer are the primary food source of wolves in Southeast Alaska (Lowell 2006), with wolf predation studies estimating that one wolf takes an average of 26 deer per year (Person et al. 1996). Other prey species include mountain goat, moose, small mammals, beaver, salmon and waterfowl (Szepanski et al. 1999).

Habitat

Most of Unit 3 is Federal public land and has experienced a significant amount of logging activity over the years. Sitka black-tailed deer inhabit most Unit 3 islands, and this habitat is important for wolves. Deer populations on these islands have historically fluctuated with high and low extremes, however habitat removal greatly reduces winter carrying capacity in some areas. Population declines for both deer and wolves can result from severe winter weather and may be exacerbated by reduced deer winter habitat capability (Lowell 2012).

Recent population indices

Wolf populations are difficult to assess in Southeast Alaska due to the dense forest cover and their mobility. Current estimates of the Unit 3 wolf population are based on average territory and pack size derived from extensive wolf research conducted in similar habitat on Prince of Wales Island (Person et al. 1996). Based on the amount of suitable habitat below 1,800 feet in elevation, it has been estimated that approximately 23 packs of wolves may represent a population of 125-385 animals. Past conversations with trappers, hunters, pilots and other biologists, along with information obtained through trapper questionnaires, suggests wolf numbers increased during the 1990s in response to an increase in deer numbers. More recently, increases in moose abundance and distribution are believed to have helped to sustain high wolf numbers in Unit 3 (Lowell 2012).

Harvest History

Wolves can be harvested either with a firearm under hunting regulations or by trap, snare or firearm under trapping regulations (**Table 1**). Wolf harvest is affected by local weather conditions, wolf abundance and local fuel prices. Persistent freezing results in icing of traps and snares often making sets inoperative, and deep snow can bury snares and trail sets rendering them useless. Deep and persistent snow can also block vehicle access to many of the logging roads. In most years, trapping is the primary method of taking wolves in Unit 3, with access to harvest locations being by boat (**Table 2**). During some years, however, the number taken with the use of a firearm has exceeded those taken by conventional trapping methods. Most of the wolves taken by hunters are harvested opportunistically during hunts for other species.

Harvest has been reported in all months (**Table 3**), with the majority of the May harvest (94%) being taken by nonresidents (Schumacher 2017, pers. comm.). Pelt quality in May is reduced which most likely explains the low harvest levels by Federally qualified subsistence users.

Table 1. Unit 3 wolf harvest by method, 2006-2016 (Schumacher 2017, pers. comm.).

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
Firearm	11	15	24	17	25	28	24	22	11	10	4
Snare	10		11	9	11	31	8	10	14	25	20
Trap	23	6	19	16	18	37	41	60	37	28	19
Totals	44	21	54	42	54	96	73	92	62	63	43

*2016 data is preliminary

Table 2. Transportation used to harvest wolves in unit 3, 2006-2016 (Schumacher 2017, pers. comm).

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
Vehicle	2	1	6	4	6	13	9	9	19	12	3
Boat	41	18	39	32	30	62	57	72	42	48	34
4 wheeler	1	2	2	1	1	16	4	5		2	
Other ATV				1				2			1
Snowmobile					1	1		1			5
Foot		1	6	3	12	4	1	1	1		
Airplane				1	4		1	2		1	
Other		1	1				1				
Totals	44	21	54	42	54	96	73	92	62	63	43

*2016 data is preliminary

Table 3. Unit 3 wolf harvest by month, 2006-2016 (Schumacher 2017, pers. comm.).

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
Aug	2	1		1	2		1		1		
Sept	5	3	5	5	4	11	5	2	1	2	
Oct	1	3	5	3	2	2	2	6	4	3	1
Nov		1	3	1	7	3	5	4	2	2	2
Dec	2	1	11	9	7	2	8	6	7	2	7
Jan	9	3	1	4	9	14	11	13	12	4	5
Feb	10	1	10	10	8	16	5	9	8	11	19
Mar	13	3	6	6	6	33	16	21	9	30	8
Apr	2	5	13	3	7	6	9	24	15	8	17
May					2	9	11	7	3	1	
Totals	44	21	54	42	54	96	73	92	62	63	43

*2016 data is preliminary

Although much of Unit 3 is not hunted or trapped, it is believed that most wolf hunting and trapping occurring in the unit is recreational and viewed as a means of controlling wolves in order to improve deer and moose populations (Lowell 2012).

Effects of the Proposal

If adopted, this proposal would provide increased harvest opportunity for Federally qualified subsistence users in Unit 3. The proposal is unlikely to substantially increase the harvest of wolves taken in Unit 3 because Federally qualified subsistence users can already harvest on the same lands during the same time period and with the same total State and Federal combined trapping and hunting limits that are currently allowed under State regulations.

Federal regulations allow for the customary trade of products crafted from animals harvested during Federal seasons. Customary trade is not allowed under State regulation. Adoption of the proposal would allow for customary trade to occur from wolves harvested during the extended Federal hunting and trapping seasons. Despite increased opportunity for customary trade, this proposal would not be likely to substantially increase the harvest of wolves over present levels as pelt quality is reduced during these periods. However, if increased trade opportunity increases the value and interest of wolf harvest during the proposed season extensions, then slight increases in harvest could result from this proposal.

Harvest during May when wolves are denning (Person and Russell 2009) could result in mortality of breeders or helpers influential of pack persistence, denning and recruitment rates, and population growth, especially when pack sizes are less than six wolves (Brainerd et al. 2008; Borg et al. 2015). While this proposal would not be expected to result in substantially increased harvest in May, slight increases in harvest could occur if the value of increased trading opportunity increases harvest interest for Federally qualified users. A slight harvest increase during the denning period could result in further impacts if breeders or helpers are harvested from small packs. Though current pack sizes in Unit 3 are not known, pack sizes on Revillagigedo Island during the 1980s averaged 5.4 wolves and ranged in size from 2-12 wolves (Smith et al. 1987), on Prince of Wales and Kosciusko Islands averaged 5.6 wolves (standard deviation (sd) 3) in the spring of 1995 (Person et al. 1996) and on northcentral Prince of Wales Island averaged 3.9 wolves (sd=1.6) from 2012-2015 (Roffler et al. 2016). Therefore, extension of the Federal season into May with a State season already encompassing May could affect wolf numbers.

OSM CONCLUSION

Support Proposal WP18-05.

Justification

Adopting this proposal will bring Federal hunting and trapping seasons for Unit 3 into alignment with State regulations that are currently longer than Federal seasons. Federally qualified subsistence users can already harvest wolf during the longer State seasons. Adoption of this proposal would allow subsistence users to engage in customary trade if they desire from any wolves harvested from Federal lands within the expanded seasons. With pelt quality being of a less than prime during the proposed season extensions, it is unlikely that harvests would increase specifically for engaging in customary trade.

Wolf harvest in Unit 3 is currently believed to be occurring at a sustainable level based on anecdotal accounts and harvest rates. Harvests in both November and May are currently very low in comparison to

other months. Alignment of Federal regulations with the State regulations should not dramatically increase harvests beyond current levels as the majority of the May harvest is not being taken by Federally qualified subsistence users.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Southeast Alaska Subsistence Regional Advisory Council

Support WP18-05. The Council decided this was a "housekeeping" proposal in that it would align federal and state wolf hunting/trapping regulations in Unit 3, as Federally qualified hunters/trappers are already authorized to take wolves during the proposed season dates under State regulations.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee (ISC) found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

The Federal Subsistence Board (Board) is charged by ANILCA to provide rural residents of Alaska the priority opportunity for non-wasteful subsistence uses on Federal public lands. When evaluating proposed changes to federal subsistence regulations, the Secretaries of Interior and Agriculture give deference to recommendations made by the Regional Advisory Councils. The Board may choose not to follow any recommendation which the Board determines is not supported by substantial evidence, violates recognized principles of fish and wildlife conservation or would be detrimental to the satisfaction of subsistence needs.

The ISC has identified several proposals submitted in this wildlife cycle that request changes to seasons and harvest limits for wolves, bears and wolverines with the primary justification of aligning Federal regulations with State regulations or at times misalignment with State regulations in order to align with other unit or species specific Federal regulations. These proposals generally cite the need for alignment as being necessary to reduce regulatory confusion among subsistence users. The OSM analyses usually conclude that the season alignments will have little impact on harvest as the State has already established the harvest parameters and a federal subsistence user could already hunt under State regulations if they chose to.

While aligning seasons may be desirable in some cases, it is not appropriate for all. For example, in the case of wolves, extending seasons to June 1 provides increased opportunity, but this opportunity coincides with a vulnerable time when wolves are bearing and raising their young, and pelts are of poor quality.

In general, extensions of seasons into important life cycle periods (denning, rearing, breeding etc.) may reduce populations to unhealthy levels, especially when data regarding the status of such populations is limited. What is known about most species is their general biological life cycle and this information should be used to inform and establish seasons and harvest limits that are aligned with sound wildlife conservation practices. Often little, if any, population dynamics information is available on species like wolves, bears or wolverines. Given the difficulty and expense of determining population estimates for

predator species, harvest seasons and rates may only be based on sporadic or incidental surveys or harvest records that may be incomplete All three species, especially bears and wolverines, have been recognized by wildlife managers as being susceptible to overharvest due to their low rates of reproduction. A more conservative approach to management of species that have low reproductive potential and are slow to recover from overharvest, may be warranted.

Regulatory alignment shouldn't be the driving factor or primary justification for changing seasons and harvest limits. The Federal Subsistence Program should weigh the need of providing additional opportunity with potential impacts to wildlife populations; and the requirement by ANILCA to manage for sustainable and healthy wildlife populations using sound wildlife conservation practices.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-05: This proposal, submitted by the Southeast Alaska Subsistence Regional Advisory Council, would align state and federal wolf hunting and trapping regulations in Unit 3.

Introduction: Prior to 2008 state and federal wolf hunting and trapping seasons were consistent for Unit 1 (Southeast Alaska mainland). Beginning in 2009, wolf trapping season dates were changed from November 10–April 30 to November 1–April 30 by the Alaska Board of Game; federal seasons remained unchanged. In 2010, the wolf hunting season in Unit 3 was extended to May 31 to encourage additional harvest in areas with predator-prey concerns; federal season dates remained unchanged. This proposal will align state and federal wolf hunting and trapping seasons.

Impact on Subsistence Uses: Adoption of this proposal will provide additional opportunity for federally qualified hunters and trappers to take wolves on federally managed public lands.

Impact on Other Uses: No impact to other users is expected by adopting this proposal. Hunters and trappers currently have opportunity to take wolves under either state or federal regulations; this proposal will likely have little to no effect on current wolf harvests.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for wolves in all of Unit 3.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

For wolves in all Southeast Alaska units with a harvestable portion, the ANS is 90% of the harvestable surplus.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
Hunting			
3	Five wolves	August 1-May 31 (General Season)	August 1-May 31 (General Season)
Trapping			
3	No limit	November 1-April 30 (General Season)	November 1-April 30 (General Season)

Special instructions: None.

Conservation Issues: ADF&G has not identified any conservation concerns for wolves in Unit 3 or with the proposed regulatory changes. Based on harvest data and anecdotal information the wolf population appears to be stable. Wolves may be taken under state and federal hunting and trapping regulations, but the majority of wolves are taken by trappers. The Unit 3 wolf trapping harvest ranged from 96 wolves in RY2011 to 21 wolves in RY2007 (mean = 60) during the period of 2007–2016 and varies annually depending on trapping interest, weather, fur prices, and logistical costs (e.g., boat and vehicle fuel). Over the last several years a concerted effort by local trappers was made to harvest more wolves in an attempt to increase deer numbers in Unit 3. Based on deer harvest and alpine surveys, deer numbers are increasing in the unit, which is likely the result of a variety of factors, including harvesting wolves to reduce predation and mild winter weather that generally improves deer survival rates.

A portion of Unit 3 (Lindenberg Peninsula and portions of Kupreanof Island) is in a Board of Game designated Intensive Management (IM) area (Lowell 2017). This IM program is currently inactive. Record high wolf harvests in Unit 3 occurred in RY2011 and RY2013 (96 and 92, respectively), which included 32 and 16 wolves taken in the IM treatment area in RY2011 and RY2013, respectively. Since then the unit-wide harvest has declined.

Enforcement Issues: Alignment of state and federal seasons will benefit both hunters and trappers and law enforcement personnel by negating the need to know specific boundaries for state and federal wolf hunting and trapping regulations.

Recommendation: ADF&G **SUPPORTS** this proposal to align state and federal wolf hunting and trapping seasons. As noted above, federally qualified hunters and trappers are currently able to take wolves during the proposed season dates under state regulations. No change in wolf harvest is expected if this proposal is adopted.

WRITTEN PUBLIC COMMENTS

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: comments on proposal WP 18-51, 18-03,18-04, 18-05, 18-24

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 1:55 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Sharon Alden** <fwxsca@yahoo.com>
Date: Fri, Aug 4, 2017 at 1:52 PM
Subject: comments on proposal WP 18-51, 18-03,18-04, 18-05, 18-24
To: "subsistence@fws.gov" <subsistence@fws.gov>

To: Office of Subsistence Management
Attention: Theo Matuskowitz
From: Sean McGuire
Re: comments on proposal WP 18-51, 18-03, 18-4, 18-5, 18-24

I am opposing proposal WP 18-51 There should be no human food or any human substance to bait any animals. This is so basic. The last thing we want is to habituate bears or any wild animal to human food. This is an ethical as well as a safety issue. The last thing we want to see is the federal baiting regulations aligned with the state of Alaska's. The State baiting regulations are painfully out dated and present a glaring safety issue.

I am opposing proposal WP 18-03 the extended hunting and trapping season in game unit one. Over kill.

I am really opposed to proposal WP 18-04. Why in the world would you want to put more pressure on a wolf population that's already in trouble this appears to be contrary to the basic concept of wildlife management?

I am also opposing proposal WP 18-05 relates to my opposition to WP18-04.

I am also opposing in the strongest possible terms proposal WP 18-24
To heard wildlife with snow machines is one of the most unethical things I can imagine and the backlash would be harsh.

Thank you for your attention
Sean McGuire
159 Kniffen Rd
Fairbanks, Ak.
ph 907-888-0124
email fwxsca@yahoo.com

August 1, 2017

TO: Federal Subsistence Board 4 pages
Attention Theo Matuskowitz
FR: Alaskans FOR Wildlife, Jim Kowalsky, Chair
RE: Comments of proposals 18-03; 18-04; 18-05
4 pages

Alaskans for Wildlife is a statewide member Alaska organization promoting naturally occurring wildlife through education and advocacy and is headquartered in Fairbanks.
We wish to offer comments on proposals 18-03; 18-04; 18-05 and 18-14.

18-04 - to increase the wolf quota take from 20% to 30% of the estimated population in GMU 2.
We ask that this change be rejected. The population of wolves is very low and efforts to enforce past quotas have been very poorly managed. An article detailing a management failure for this population of wolves in the March 14, 2017 of the Ketchikan Daily News reveals 26 wolves were harvested VS. the quota of 11, exceeding 2.6 times the quota. The quota has also been exceeded prior years. In 2016 an ADFG decision to close was made on 12/16 through a press release announcing an Emergency Closure issued 3 days later, giving trappers another 14 days to retrieve traps and have hides sealed.

The final take is 28 plus illegal and unreported beyond that. Illegal past takes are reported to be as high as half of legal take. ADFG Regional Supervisor Ryan Scott is quoted in the article thus: "There's delay in reporting…it's part of the process…it's a difficult process." We note the ADFG responsibility of the management of this hunt is essentially out of control and an abject failure. This hunt should in fact be closed completely given the admitted inability to manage it and the need for this population to recover to a normal historic level.

18-03 To extend the wolf season in Units 1A and 1B. We note the inability to manage as a matter of record outlined in the above explanation as a principle violated that very likely extends to these units and should not be repeated here made worse by poor management. We urge this proposal to extend the season be denied.

18-05 No limit for trapping wolves GMU 1. This is excessive and also is subjected to noted generally failed management as a matter of record and should be denied.

18-24 Use of snowmachines to "position" wolverines, wolves and caribou is vigorously opposed. The proposal would allow, nay, encourage, chasing ...not "positioning"....wildlife to exhaustion and amounts to nothing more than extreme gross harassment. That can not be identified as a tradition. To permit what's proposed here will earn subsistence a deserved very poor reputation in very high negatives and quickly. It must not be enacted. It is a virtual kiss-of-death for subsistence proposal.

In closing we have a word of advice. Upon reading the 125 or so pages of the transcript of the March 2017 Southeast Regional Council meeting, it is especially disturbing that no recognition or even a hint of acknowledgement of the fact that these are public lands belonging to all Americans was anywhere to be found. As you deliberate these proposals, we, Alaskans FOR Wildlife , wish to emphasize that there is a very broad interest in Alaska's federal public lands and its wildlife. Do not treat wildlife on these lands as a sole possession.

Not even a hint of the broader pubic interest and values is present in the regional council discussion including by state ADFG and federal agency personnel participating. Wr see none in the proposal justifications either. We have real fear that this insular attitude prevails throughout, and if we are correct, this is wrong and eventually will cause troublew for the subsistence populations involved, promise.

We urge all involved including agency managers and regional council leadership and members that you all please must consider the big picture if you are to survive and flourish in the public eye. Be assured that the proposed actions and implementation and failures are being carefully watched. Social media for one will capture yoiur actions and make life very difficult over a short time. Please act with wisdom and a genuine recognition that, federal subsistence law notwithstanding, you are all obligated to share public lands and the riches that dwell there.

Thank you for considering our participation.

Jim Kowalsky
Chair
Alaskans FOR Wildlife
PO Box 81957
Fairbanks, AK 99708
907 488 2434

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Comments on Proposals to the Federal Subsistence Board Attn. Theo Matuskowitz

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:51 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Francis Mauer** <fmauer@mosquitonet.com>
Date: Thu, Aug 3, 2017 at 9:02 PM
Subject: Comments on Proposals to the Federal Subsistence Board Attn. Theo Matuskowitz
To: subsistence@fws.gov

Comments Regarding Federal Subsistence Proposals: WP 18-03, 18-04, 1805, 18-24, and 18-51

Submitted to the Federal Subsistence Board by Fran Mauer, P.O. Box 80464, Fairbanks, AK 99708. August 3, 2017.

WP 18-03 I am opposed to extending the wolf hunting and trapping seasons in Unit 1. Wolves are highly vulnerable to harvest as it is, further extending of seasons is not justified, and would likely lead to excessive harvest of wolves as occurred on Prince of Wales Island last year which was supposed to be regulated by a quota, but even with quota rules in place the actual harvest exceeded the quota by 2.6 times. This proposal should be denied.

WP 18-04 This proposal would allow 30% of the wolf population on Prince of Wales Island to be harvested when existing harvest is 20%. As noted above, wolves are highly vulnerable to harvest, and last year's harvest exceeded the quota by 2.6 times! The extensive network of roads and trails on Prince of Wales render wolves exceptionally vulnerable. Expanding the harvest to 30% of the population following excessive harvest last year can not be justified given the failed management of this quota system last year. This proposal would lead to excessive harvest of an already depleted population and should be denied to conserve wolves on the Island.

WP 18-24 This proposal will open the door to harassment of wildlife by snow machines and violate a basic premise of hunting: respect for animals and fair chase principles. It would also result in excessive impacts to other animals that are not harvested due to disturbance associated with this "practice." Furthermore, it will exacerbate difficulty in enforcement of harassment rules. Approval of this proposal would give a black eye to subsistence in general, and certainly the Federal Subsistence Board, specifically for condoning such an inappropriate practice on the Federal public lands of Alaska. Deny this proposal.

WP 18-51 This proposal would lower Federal standards for baiting to the lowest common denominator: State requirements. By allowing the use of human food items such as syrup, old dough nuts and other human refuse will habituate bears to humans and contribute to human – bear conflicts, and expose innocent people to risks from bears that no longer fear humans. Every spring the Alaska Dept of Fish and Game sponsors public service announcements advising folks to keep their garbage and bird feeder refuse secure from bears, clearly stating the danger to humans from habituated bears. There is absolutely no justification to also allow the use of human foods and scent to bait bears. I urge the Board to reject this proposal (18-51).

Thank you for the opportunity to comment.

Fran Mauer

Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: WP18- 01 – WP18-13 pertain to Southeast Alaska

1 message

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 17, 2017 at 10:39 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, George Pappas <george_pappas@fws.gov>

---------- Forwarded message ----------
From: **Curtis Donald Thomas** <seafun@kpunet.net>
Date: Fri, Jul 14, 2017 at 8:01 AM
Subject: WP18- 01 – WP18-13 pertain to Southeast Alaska
To: subsistence@fws.gov

Dear sirs,

Please stop this craziness of creating new classes of citizens with special rights. I was born in Ketchikan and lived on Prince of Whales for 20 years. Someone in your organization is promoting restricting Sitka Black-tail harvest for some residents (only two deer instead of 4) and granting others more rights (5 deer, one doe, multiple permits, extended season, etc).

Recent action has already restricted access to our hunting grounds. Since I currently live in Ketchikan (a huge metropolis of 7,000 people), I cannot start hunting on POW until Aug 16th. The season starts August 1st and ends December 31st, unless you live on POW of course, then you can start in July and continue hunting into January (even people who just moved to the island from New York City).

Your continued segmentation our population is destructive. Please stop this nonsense. The constitution says we are **all equal under the law**. What gives you the right to change this and grant some Americans more rights than others.

Another crazy policy that your group implemented (maybe another group... there are so many Federal groups in Washing trying to determine what is best for us rural residents that one can not keep track). That policy is allowing someone who lives just down the road the ability to harvest 20 halibut per day. These fish average 30-40 pounds. That means some Alaskans can harvest over 500 pounds of halibut every day if they choose while others are limited to 2 fish (which is plenty). 20 fish per day is COMMERCIAL FISHING not sport or subsistence!!!!

I guess I will have to "Self Identify" as a POW resident... if it is good enough for sexual orientation in our military, it must be acceptable for residents that actually spent half of their life in the area you now say some relocated New Yorker has more rights to than I.

Crazy, Crazy, Crazy! You are attempting to fix a problem that does not exist. Please STOP this.

Curtis Thomas
8046 N. Tongass Hwy
Ketchikan, AK 99901

WP18–06 Executive Summary	
General Description	Proposal WP18–06 requests the season for black bear in Unit 2 be lengthened from Sept. 1-June 30 to Aug. 24-June 30 and the harvest limit be increased from 2 to 4 bears. *Submitted by: Klawock Cooperative Association.*
Proposed Regulation	**Unit 2—Black Bear** ~~4~~**2** bear, no more than one may be a blue or glacier bear. **Aug. 24**~~Sept. 1~~ June 30
OSM Conclusion	**Oppose**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	**Oppose**
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	

WP18–06 Executive Summary	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Neutral**
Written Public Comments	**1 Oppose**

STAFF ANALYSIS
WP18-06

ISSUES

Proposal WP18-06, submitted by the Klawock Cooperative Association (KCA) requests the season for black bear in Unit 2 be lengthened from Sept. 1-June 30 to Aug. 24-June 30 and the harvest limit be increased from 2 to 4 bears.

DISCUSSION

The proponent believes the changes are necessary as they are concerned that black bear are having a negative effect on deer in Unit 2, particularly when coupled with extreme weather events and increased harvest of both species by nonresident hunters. Further clarification with the proponent indicated the proposal's intent is to use liberalized harvest of black bear as a means of reducing predation on deer. Following an explanation that the Federal Subsistence Board (Board) could not adopt regulations simply for predator control, the proponent indicated they still wanted to move the proposal forward to see the Board would support an increase to the season and harvest limit to benefit Federally qualified subsistence users.

Existing Federal Regulation

Unit 2—Black Bear

2 bear, no more than one may be a blue or glacier bear.	Sept. 1–June 30

Proposed Federal Regulation

Unit 2—Black Bear

4~~2~~ bear, no more than one may be a blue or glacier bear.	**Aug. 24**~~Sept. 1~~ June 30

Existing State Regulation

Unit 2 – Black Bear

Residents: Two bears	Sept. 1 – June 30
Nonresidents: One bear	

Extent of Federal Public Lands

Federal public lands comprise approximately 72% of Unit 2 and consist of 72% U.S. Forest Service (USFS) managed lands (see **Unit 2 Map).**

Customary and Traditional Use Determinations

The Board has not made a customary and traditional use determination for black bear in Unit 2. Therefore, all Federally qualified subsistence users may harvest this species in this unit.

Regulatory History

The Board adopted existing State hunting regulations for black bear in Unit 2 in 1990. Since this time, there have been no proposals submitted through the Federal regulatory process regarding black bear in this unit.

Since statehood, the black bear hunting season has extended from Sept. 1-June 30, and the annual harvest limit for residents has been 2 bears, only 1 of which can be a blue or glacier bear. Nonresident and resident harvest limits were the same until 1990, when the nonresident limit was reduced to 1 bear per year. Statewide sealing of black bears has been required since 1973. In 2008, the Alaska Board of Game (BOG) required all black bear hunters to obtain a harvest ticket and harvest report prior to hunting. Proof of sex is required to remain naturally attached to the hide until sealing is completed. Although there are more specific seasons regarding unguided nonresident black bear hunting (draw hunts for either Jan-June or Sept.-Dec.), the season for residents and nonresidents hunting with a registered guide runs from September 1-June 30.

In September 2010, in response to the potential for unsustainable harvest because of a rapidly escalating black bear take by nonresidents, an alarming increase in female bear harvest along salmon streams, as well as Unit 2 residents expressing concern over increased traffic and hunting activity by nonresident hunters in the fall when many subsistence activities were occurring, Controlled Use Area (CUA) regulations were implemented. The CUA prohibited the use of motorized vehicles to hunt bears in Unit 2 from Sept. 1-Sept. 30. The BOG further modified the CUA regulations (extended time frame to October 31), as well as establishing draw hunts for all nonresident black bear hunters not using registered guides. As a result, the fall season (DL027) runs Sept. 1–Dec. 31 and the spring season (DL028) from Jan. 1–June 30. With the new regulations in place, the BOG did not reauthorize the CUA regulations when they expired in October 2012. Should the Unit 2 bear population rebound and show signs of sustaining additional harvest, the Alaska Department of Fish and Game has the authority within the new drawing regulations to increase the number of nonresident drawing permits issued each regulatory year (Scott 2017, pers. comm.).

The year round use of baiting for black bears was legalized in 1982. In 1988, the BOG limited baiting in Southeast Alaska to April 15–June 15. Federal regulations in Unit 2 also allow for the use of bait during this same time period.

In 1996, hunters were required to salvage the edible meat of all spring black bears killed in Southeast Alaska during Jan. 1–May 31. From June 1-Dec. 31, State regulations require either salvage of edible meat and skull or hide and skull. Federal regulations require salvage of the hide and edible meat year round as well as the skull being available during the sealing process.

In May 2004, the Board approved a predator control policy. Since the Board administers the subsistence taking and uses of fish and wildlife on Federal public lands through regulations that provide for the non-wasteful harvest of fish and wildlife by Federally qualified rural residents " ... for direct personal or family consumption ..." (Section 803 of the Alaska National Interest Lands Conservation Act (ANILCA)), wildlife management activities on Federal public lands, such as predator control and habitat management, are the responsibility of and within the authority of the individual land management agencies. More specific detail regarding the Board's policy can be found in **Appendix A**.

Biological Background

Black bears are found over most of the forested areas of the State. Depending on the season of the year, they may be found from sea level to alpine areas. In Southeast Alaska, black bears occupy most islands with the exceptions of Admiralty, Baranof, Chichagof, and Kruzof Islands which are inhabited by brown bears. Both bear species occur on the southeastern mainland.

Unit 2 contains some of the best black bear habitat in Southeast Alaska because of productive salmon streams, many large estuaries, and subalpine and alpine areas at lower, more hospitable elevations compared to mainland locations capable of supporting a large number of bears. The large average skull sizes of Unit 2 bears compared to other Southeast Alaska bears also suggest that Unit 2 is extremely productive black bear habitat (Bethune 2014).

Although there are abundant healthy and productive habitats, clear cut logging has occurred in Unit 2 more than in other Southeast Alaska management units. Counting national forest and private lands, the Alaska Department of Fish and Game (ADF&G) estimates about 475 mi^2 of forested black bear habitat in Unit 2 has been cut during the past 65 years, including over 40% of the old-growth forest. Logging-associated road building in Unit 2 has created the highest density of roads in Southeast, with more than 2,500 miles of drivable roads on national forest land and additional large tracts of roads on private Native corporation lands. The 2009 Access Travel Management Plan (ATM) by the USFS closed 150 miles of road to highway vehicles and converted an additional 222 miles from highway vehicle use to off highway vehicle (OHV) use only (USDA 2009). As a result of more than 40 years of large-scale clear cut logging, habitat changes continue to occur. Although early seral stages (3–20 years post-logging) provide black bears with abundant plant foods, later stages result in the disappearance of understory as conifer canopies close and light does not penetrate to the forest floor. Second-growth stands also lead to the decline of large hollow trees and root masses important for denning. It is believed that, although logging may create food for bears in the short term, the long-term result will be a decline in bear numbers in Unit 2 (Suring et al. 1988).

Recent population indices

No black bear population studies have been completed in Unit 2. Density estimates of North American black bears vary between 0.3 and 3.4 bears/mi^2, depending on the region and habitat conditions. At the high end, a Washington state study in forested Sitka spruce habitat that included logged areas comparable to Prince of Wales Island (POW) produced an estimated density of 3.4 bears/mi^2 (Lindzey and Meslow 1977).

Wood (1990) indicated that unlogged portions of Unit 2 contain some of the best black bear habitat in Southeast Alaska. Based on population estimates from other North America coastal areas (Poelker and Hartwell 1973), Wood estimated the Unit 2 black bear density at 1.5 bears/mi^2. Using Wood's density estimate, Larsen (1995) derived a population estimate of 5,400 bears for the unit. In calculating this estimate, Larsen assumed bear densities were not homogenous across the landscape.

In 2000, ADF&G supported a study on a 400mi^2 northern portion of Kuiu Island located in Unit 3 that used tetracycline biomarker mark-recapture technique to estimate black bear density. This study area was comprised of the most productive forest habitat on the island and included several major salmon producing streams and rivers. The research came up with a calculated density estimate of 3.9 bears/mi^2 (95% CI 1.8–5.6 bears/mi^2) (Peacock 2004). This high density estimate is comparable with Lindzey and Meslow's (1977) peak estimate of black bears on Long Island, Washington. Because the Kuiu Island effort was focused on an island adjacent to Unit 2 with similar logging and habitat types, the results may be more applicable to Unit 2 bear populations than studies done elsewhere. Using Peacock's estimate of 3.9 bears/mi^2 gives a population estimate of 14,040 bears in Unit 2. This estimate is likely too high, as it assumes that the entire unit is comprised of the highest quality black bear habitat available. Indeed some areas in Unit 2, such as the southern portion, is mostly muskeg scrub and low volume forest with few major salmon streams. Other areas in Unit 2, such as Heceta Island and the other western islands likely have few if any bears. Therefore a better, more conservative approach is to use the lower end of Peacock's 95% Confidence interval (1.8 bears/mi^2), which gives an estimate of 6,480 bears. It is currently estimated that the Unit 2 black bear population is lower than that estimate as the population appears to be depressed from highs seen in the 1990's and early 2000's. Plausible reasons for this decline include overharvest coupled with loss of habitat due to extensive logging in the unit over the past 50 years (Bethune 2014).

During the current and the previous reporting periods the ADF&G conducted 2 projects to help answer some of the questions surrounding the recent black bear population declines on POW. In 2008 a DNA mark-recapture pilot study in the central portion of POW was initiated in an attempt to calculate the black bear harvest rate. Efforts were intensified during the summer of 2009 and completed in 2010. The project used noninvasive breakaway single-capture noose snares equipped with barbed wire (Beier et al. 2005), and short barbed wire fences to capture hair from live bears. Bears were considered marked if a genetic signature was obtained from snagged hair samples. Recaptures were obtained from harvested bears during subsequent hunting seasons using tissue collected during the sealing process. This method gave a harvest rate of 9.2% (95% CI 0.034-0.188). Hunter harvest between 7-10 percent has proven to be a sustainable harvest rate in other bear populations in similar habitats (Scott 2017, pers. comm.).

Unfortunately, large number of tissue samples from harvested bears from 2008–2010 were compromised or lost. New techniques for collecting wolf DNA using scented hair boards are showing promise for use in future black bear density studies (Person and Larsen 2013) if this harvest rate work is ever duplicated (Scott 2017).

Harvest History

After averaging 123 bears per year during 1980–1988 and 221 bears annually from 1989 to 1995, harvest increased to an average of 353 bears from 1994–2002 (Bethune 2011). During 2003–2007 the average increased again to 431 bears annually, constituting a 350% increase in harvest over two decades. Harvest peaked in 2005 at nearly 500 bears (**Figure 1**) and has declined since. During the past 10 years, males have accounted for about 73% of the harvest and 74% of the total harvest has occurred during spring (Bethune 2014).

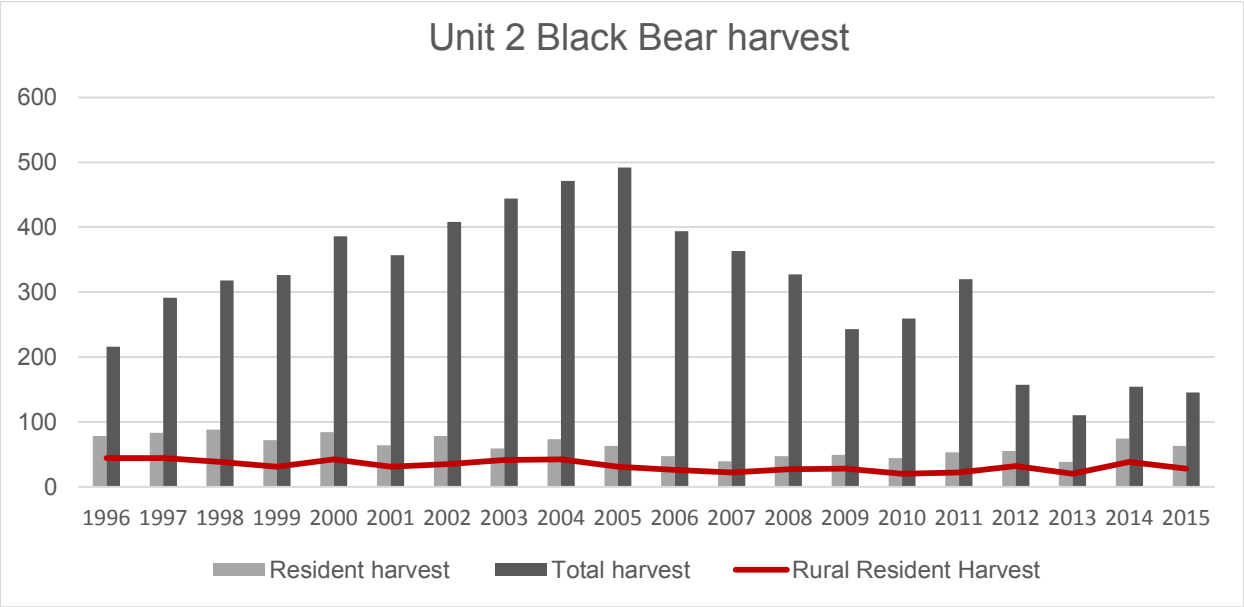


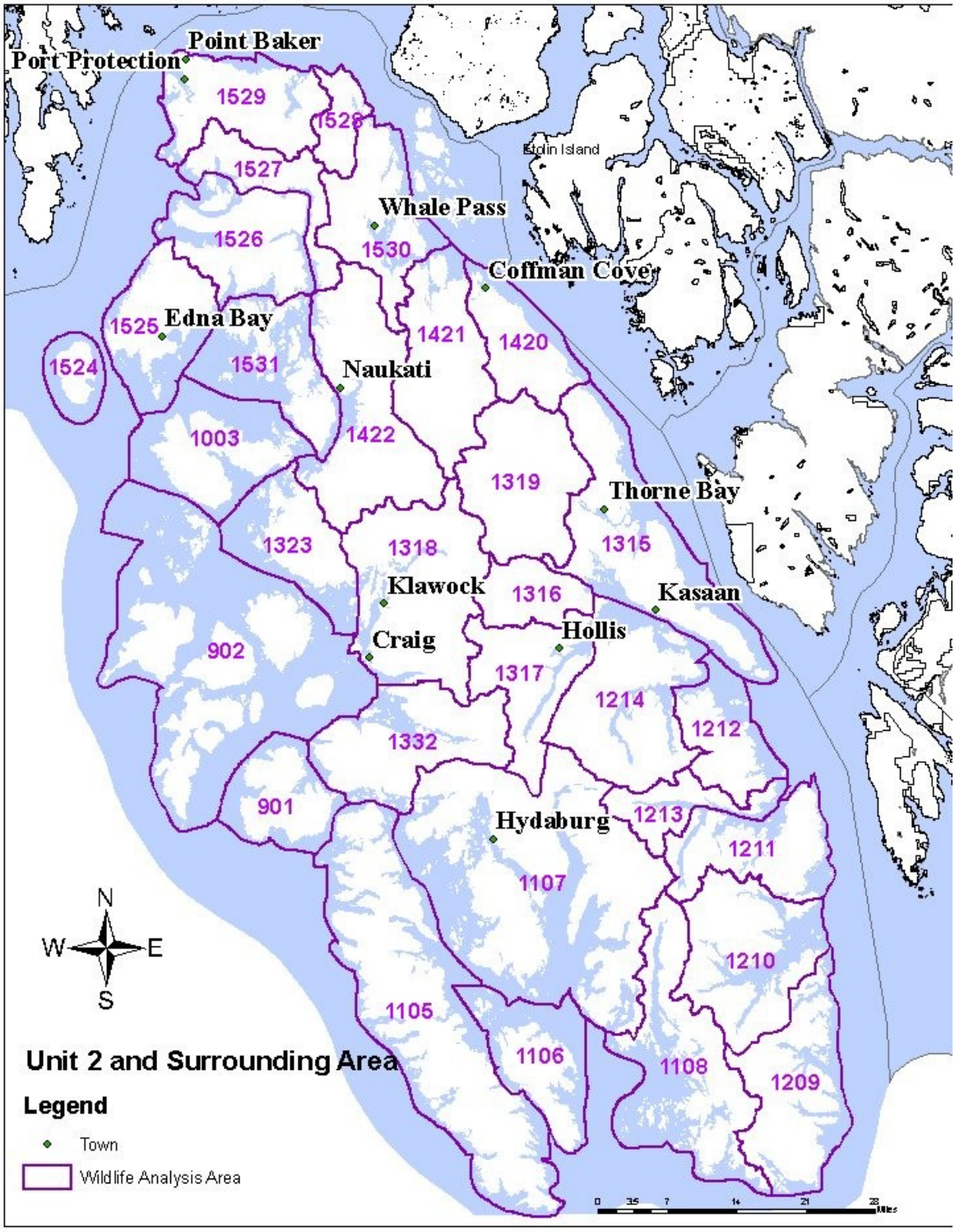
Figure 1. Overall black bear harvest, harvest by Alaska residents and by rural residents in Unit 2, 1996-2015 (Schumacher 2017, pers. comm).

Black bear harvest by nonresidents steadily increased during the past 25 years and topped out at 89% during 2004 and 2005. On average, Alaska residents living in Unit 2 accounted for 6% of the harvest, other Alaska residents another 9%, and the remaining 85% by nonresidents. The draw hunt for unguided nonresidents instituted in the 2012 regulatory year has reduced this percentage down to 65% of the harvest. Most nonresidents do not use a registered guide when black bear hunting in this unit. With recent changes to a draw hunt, guided hunts are slowly increasing but activities on Federal Lands are limited by the USFS Outfitter Guide Environmental Assessment and the 2012 Carrying Capacity Analysis for POW.

With availability of the extensive road system, numerous lodges and bed and breakfasts, and vehicle and skiff rentals, Unit 2 is a very popular and economical hunt for the do-it-yourself hunter wanting to experience Alaska. Field observations from staff, sealed harvests and anecdotal reports of lower bookings from lodges indicated fewer hunters came to Unit 2 in recent years. Economic recession, fuel prices or lower bear populations may be potential reasons for this apparent decline. However, it appears that hunter participation increased during the period leading up to the implementation of the limited draw hunt in 2012. It is likely that nonresident hunters came to Unit 2 in 2010 and 2011 knowing their chances to hunt POW in the future would be limited (Bethune 2014).

Until 1985 Unit 2 bear hunters used airplane, boat, and highway transportation in relatively equal amounts (Bethune 2011). However, logging-associated road construction peaked in the 1980s, and beginning in 1986, most hunters used the road system to access hunting areas. During the past 10 years, highway vehicles accounted for 43% of the transportation used by successful Unit 2 hunters while boats accounted for 53% (Table 4). Even boat-based hunters are using the extensive road system to access multiple waterways on a typical hunt. New highway improvement and paving projects continue to improve access on POW. These highway projects have improved hunter access to the island but will be countered somewhat by diminishing road access due to road closures associated with the Forest Service's ATM (Bethune 2014).

Historically, Wildlife Analysis Areas (WAAs) 1214, 1317 and 1422 accounted for approximately one-third of the annual harvest (**Map 1**). WAA 1422, which includes Tuxekan and El Capitan passages on west POW, offers easy road access. WAA 1317 (the area south and west of Hollis) provides easy boat access into the 12-mile Arm area. WAA 1214 includes the popular Polk and McKenzie Inlet regions. Additional WAAs that have received notable hunting pressure more recently include 1420 (Ratz Harbor to Coffman Cove on the east side of POW), WAA 1318 which encompasses the area around the communities of Craig and Klawock, POW's primary population center and which affords hunters easy road access, and 1530 (Whale Pass and Exchange Cove on the northeast corner of the island). Many of these areas also offer good boat access from saltwater along protected bays and passages. Several popular WAA's experienced significant declines in harvest beginning in approximately 2008–2009, most notably WAA's 1107 (Hydaburg area), 1210 (Moira Sound), 1211(Cholmondeley Sound), 1317 (12-Mile Arm), 1319 (North Thorne), and 1422 (Tuxekan/El Cap) (Bethune 2014).



Map 1. Wildlife Analysis Areas (WAA) of Unit 2.

Effects of the Proposal

This proposal would only increase the harvest limit and season for Federally qualified subsistence users harvesting black bear on Federal public lands. Increasing harvest limits as proposed could allow for unsustainable harvests resulting in conservation issues similar to those documented in the recent past.

Adopting the proposal would create divergence between State and Federal regulations for Unit 2 black bear. With a large amount of State and Private land in Unit 2, the proposal may create confusion for both non-Federally qualified and Federally qualified subsistence users. The proposal would have no direct effect on non-Federally qualified subsistence users hunting black bear on Federal lands.

OSM CONCLUSION

Oppose Proposal WP18-06.

Justification

Conservative black bear regulations were established for nonresidents beginning in 2010 in response to unsustainable harvests. Although the black bear population in Unit 2 has seemed to increase, it is not at a level to increase harvests beyond the current regulations. Lastly, documented black bear harvest by Federally qualified subsistence users has been remarkably consistent which suggests subsistence needs are being met and that harvest limits and season do not need to be elevated to the proposed levels.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Southeast Alaska Subsistence Regional Advisory Council

Oppose WP18-06. The Council felt that this proposal did not address a subsistence need and that the data presented showed that most subsistence hunters were not utilizing the current harvest limit and the opportunity for bear harvest that already exists.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-06: This proposal, submitted by Klawock Cooperative Association (Tribe), would increase the annual black bear bag limit in Unit 2 for all federally qualified hunters from two bears to four bears.

Introduction: Black bear hunting in Unit 2 is popular during both spring and fall hunting seasons. The majority of Unit 2 bears are harvested by guided and unguided nonresident hunters. Since RY2008 all black bear hunters have been required to obtain harvest tickets before hunting.
Beginning in the late 1990s the popularity of Unit 2 as a destination for unguided nonresident bear hunters greatly increased, as did the harvest. Annual harvest in the early 1990s was generally below 200 bears, but by the mid-2000s it approached 500 bears per year, which led to questions about whether the harvest was sustainable. Harvest declined after RY2005, but remained well above historical levels through RY2011. Anecdotal observations by department staff and the public suggested a decline in the bear population, and a regulation requiring unguided non-resident hunters to obtain a limited drawing permit prior to hunting black bears in Unit 2 was adopted in 2010 by the Board of Game. That regulation became effective in RY2012 and reduced the annual harvest by about 50%. Restrictions placed on nonresident hunters did not affect resident hunters, and over the last decade harvest by resident hunters has remained low and stable (Figure 1).

Impact on Subsistence Uses: Federally qualified subsistence users would be able to harvest additional black bears for subsistence uses.

Impact on Other Uses: Increasing the harvest limit for federally qualified users may reduce the bear population and harvest opportunity for non-federally qualified users, primarily resident hunters, by an unknown amount.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for black bears in all of Unit 2.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

For black bears in Unit 2, the ANS is 15-20.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
2	Two bears	Sept. 1- June 30 (General Season)	
2	One bear		Sept. 1- June 30 (General Season)
2	One bear		Sept. 1- June 30 (Draw Hunt)

Special instructions: Hides and skulls of harvested bears must be presented for sealing within 30 days of kill. Hides must be separated from the skull and claws, and the evidence of sex must remain naturally attached to the hide. Meat must be salvaged from harvested black bears in the spring until May 31.

Conservation Issues:
The Unit 2 black bear population is slowly recovering from previous low levels, but is believed still to be well below abundance observed in the early 1990s. Harvest by resident hunters has remained stable despite a ten-month season. Since RY2007 only six residents of Unit 2 have harvested their current bag limit of 2 bears.

A liberalization of black bear hunting opportunity while the population is still recovering is not recommended, although it is acknowledged that increasing the bag limit will likely have little effect on the total bear harvest given the current level of interest in hunting black bears among federally qualified users.

Enforcement Issues: None.

Recommendation: ADF&G is **NEUTRAL** on this proposal. It will likely have little effect on the total bear harvest nor would it create a biological concern for the bear population. Federally qualified hunters account for about 40% of the Unit 2 black bear harvest, and Unit 2 residents rarely take their current bag limit of two bears. However, considering the slow recovery of the bear population, increasing the bag limit for federally qualified users is inconsistent with the state's current management strategy.

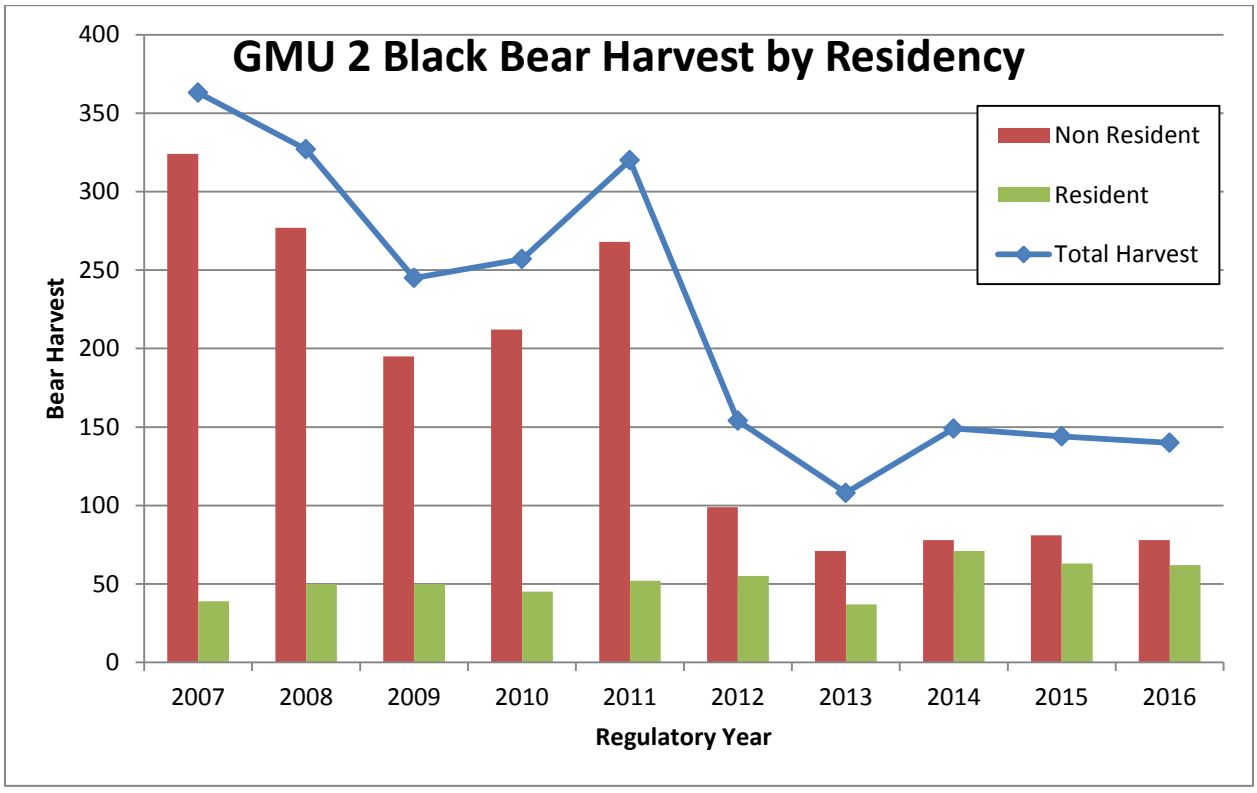


Figure 1. Unit 2 black bear harvest by hunter residency (2007-2016).

WRITTEN PUBLIC COMMENTS

Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: WP18- 01 – WP18-13 pertain to Southeast Alaska

1 message

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 17, 2017 at 10:39 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, George Pappas <george_pappas@fws.gov>

---------- Forwarded message ----------
From: **Curtis Donald Thomas** <seafun@kpunet.net>
Date: Fri, Jul 14, 2017 at 8:01 AM
Subject: WP18- 01 – WP18-13 pertain to Southeast Alaska
To: subsistence@fws.gov

Dear sirs,

Please stop this craziness of creating new classes of citizens with special rights. I was born in Ketchikan and lived on Prince of Whales for 20 years. Someone in your organization is promoting restricting Sitka Black-tail harvest for some residents (only two deer instead of 4) and granting others more rights (5 deer, one doe, multiple permits, extended season, etc).

Recent action has already restricted access to our hunting grounds. Since I currently live in Ketchikan (a huge metropolis of 7,000 people), I cannot start hunting on POW until Aug 16th. The season starts August 1st and ends December 31st, unless you live on POW of course, then you can start in July and continue hunting into January (even people who just moved to the island from New York City).

Your continued segmentation our population is destructive. Please stop this nonsense. The constitution says we are **all equal under the law**. What gives you the right to change this and grant some Americans more rights than others.

Another crazy policy that your group implemented (maybe another group... there are so many Federal groups in Washing trying to determine what is best for us rural residents that one can not keep track). That policy is allowing someone who lives just down the road the ability to harvest 20 halibut per day. These fish average 30-40 pounds. That means some Alaskans can harvest over 500 pounds of halibut every day if they choose while others are limited to 2 fish (which is plenty). 20 fish per day is COMMERCIAL FISHING not sport or subsistence!!!!

I guess I will have to "Self Identify" as a POW resident... if it is good enough for sexual orientation in our military, it must be acceptable for residents that actually spent half of their life in the area you now say some relocated New Yorker has more rights to than I.

Crazy, Crazy, Crazy! You are attempting to fix a problem that does not exist. Please STOP this.

Curtis Thomas
8046 N. Tongass Hwy
Ketchikan, AK 99901

APPENDIX A

PREDATOR MANAGEMENT POLICY

FEDERAL SUBSISTENCE BOARD

Adopted by the Federal Subsistence Board on

May 20, 2004

The Federal Subsistence Board recognizes that predators are an important component of Alaska's dynamic ecosystems, beneficial to maintaining balance, health, and diversity within associated wildlife populations and habitats. Furthermore, the Board recognizes the traditional Alaska Native cultural beliefs and values associated with wolves, bears and other predatory species, and the impact that predators can have on ungulate populations valued by subsistence users. In addition, the Board recognizes that predator control may be an appropriate management tool on some Federal public lands for restoring prey populations to provide for subsistence needs where predation has reduced or held prey populations at levels significantly below historical levels of abundance.

As authorized by the Secretaries of Interior and Agriculture [50 CFR Part 100.10 (USDI) and 36 CFR Part 242.10 (USDA)], the Board administers the subsistence taking and uses of fish and wildlife on Federal public lands through regulations that provide for the non-wasteful harvest of fish and wildlife by Federally qualified rural residents, consistent with the maintenance of healthy populations of harvested resources. Such subsistence taking and uses are *"... for direct personal or family consumption ..."* (Section 803 of ANILCA). Wildlife management activities on Federal public lands other than the subsistence take and use of fish and wildlife, such as predator control and habitat management, are the responsibility of and remain within the authority of the individual land management agencies.

Accordingly, the Board will:

A. Consider all Federal proposals to regulated seasons and dates, methods and means, harvest limits, and customary & traditional use determinations for the subsistence take of fish and wildlife. The Board will ensure that the effect of its decisions is to provide for subsistence take and use of the subject species. The Board will also take into account approved population objectives; management plans, customary and traditional uses, and recognized principles of fish and wildlife management.

B. Direct the Office of Subsistence Management to provide proponents of predator

control proposals (all Federal proposals that specifically indicate that the reason for the proposed regulation(s) is to reduce the predator population to benefit prey populations), with procedures for submitting the proposal to the appropriate agency. Where predators have been determined to be a major contributing factor in the significant reduction of ungulate populations important for subsistence use, or in the chronic suppression of such populations at low densities, the Board will endorse timely, affirmative

and effective action consistent with each respective agency's policies and management objectives, to reduce predator populations and allow affected ungulate populations to recover. The Board will monitor actions taken by the agency to address such concerns, and will provide appropriate support where necessary to ensure the continuation of subsistence harvest opportunities.

C. Ensure that the appropriate Regional Council(s) is informed of predator control proposals by having them printed in the Proposal Booklet and presented to the Council at the next appropriate Council meeting, along with other rejected proposals that address concerns which are outside the authorities of the Federal Subsistence Board.

WP18–09 Executive Summary	
General Description	Proposal WP18–09 requests that the Federal designated hunting provisions limit the number of Federally qualified recipients that a designated hunter may hunt deer for in Units 1B and 3. *Submitted by: Wrangell Fish and Game Advisory Committee*
Proposed Regulation	*§___.26(n)(1)(vii) Unit specific regulations:* ***(F) In Unit 1B, a designated hunter may hunt deer for only five other specified recipients per year.*** *§___.26(n)(3)(iii) Unit specific regulations:* ***(F) In Unit 3, a designated hunter may hunt deer for only five other specified recipients per year.***
OSM Conclusion	**Oppose**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	**Oppose**
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	

WP18–09 Executive Summary	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Neutral**
Written Public Comments	**1 Support and 1 Oppose**

STAFF ANALYSIS
WP18-09

ISSUES

Proposal WP18-09, submitted by Wrangell Fish and Game Advisory Committee, requests that the Federal designated hunting provisions limit the number of Federally qualified recipients that a designated hunter may hunt deer for in Units 1B and 3.

DISCUSSION

The proponent is concerned that the designated hunter program allows for over exploitation of deer within Units 1B and 3. The proponent states that some hunters use the designated hunting system to take upwards of 40-50 deer in a hunting season, sometimes taking only the hind quarters and back straps. The proponent believes that deer populations in these units will increase by limiting the number of recipients a designated hunter may harvest for during a season. More hunters would be successful and it would take less time to harvest their annual limit.

Existing Federal Regulations

Southeastern Alaska Area—General provisions

If you are a Federally qualified subsistence user (recipient), you may designate another Federally qualified subsistence user to take deer, moose, and caribou on your behalf unless you are a member of a community operating under a community harvest system or unless unit-specific regulations in §___.26 preclude or modify the use of the designated hunter system or allow the harvest of additional species by a designated hunter. The designated hunter must obtain a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for any number of recipients, but may have no more than two harvest limits in his/her possession at any one time, unless otherwise specified in unit-specific regulation in §___.26.

Unit 1B – Deer

2 antlered deer	*Aug. 1 – Dec. 31*

Unit 3 – Deer

Unit 3 - Mitkof, Woewodoski, and Butterworth Islands – 1 antlered deer	*Oct. 15 – Oct. 31*
Unit 3 – Kupreanof Island, that portion east of Portage Bay-Duncan Canal Portage – 1 antlered deer	*Oct. 15 – Oct. 31*
Unit 3 remainder – 2 antlered deer	*Aug. 1 to Nov. 30*
	Dec. 1 – Dec. 31 season to be announced

Proposed Federal Regulation

If you are a Federally qualified subsistence user (recipient), you may designate another Federally qualified subsistence user to take deer, moose, and caribou on your behalf unless you are a member of a community operating under a community harvest system or unless unit-specific regulations in §___.26 preclude or modify the use of the designated hunter system or allow the harvest of additional species by a designated hunter. The designated hunter must obtain a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for any number of recipients, but may have no more than two harvest limits in his/her possession at any one time, unless otherwise specified in unit-specific regulation in §___.26.

§___.26(n)(1)(vii) Unit specific regulations:

(F) In Unit 1B, a designated hunter may hunt deer for only five other specified recipients per year.

§___.26(n)(3)(iii) Unit specific regulations:

(F) In Unit 3, a designated hunter may hunt deer for only five other specified recipients per year.

Unit 1B – Deer

2 antlered deer	*Aug. 1 – Dec. 31*

Unit 3 – Deer

Unit 3 - Mitkof, Woewodoski, and Butterworth Islands – 1 antlered deer	*Oct. 15 – Oct. 31*
Unit 3 – Kupreanof Island, that portion east of Portage Bay-Duncan Canal Portage – 1 antlered deer	*Oct. 15 – Oct. 31*
Unit 3 remainder – 2 antlered deer	*Aug. 1 to Nov. 30*
	Dec. 1 – Dec. 31 season to be announced

Existing State Regulations

State regulations have similar provisions which allow residents that meet certain criteria to have someone else hunt for them. The State's system is referred to as "proxy" hunting and is governed by the following provisions:

An Alaska resident (the beneficiary) may obtain an authorization allowing another Alaska resident (the proxy) to hunt moose, caribou, or deer for them if they are blind, 70-percent disabled, 65 years of age or older or are developmentally disabled. A person may not be a proxy for more than one beneficiary at a time.*

**Definition of "70-percent disabled" – a person who presents to ADF&G either written proof that the person receives at least 70-percent disability compensation from a government agency for a physical disability or an affidavit signed by a physician licensed to practice medicine in the state, stating that the person is at least 70-percent disabled.*

Extent of Federal Public Lands

Federal public lands comprise approximately 97% of Unit 1B and consist of 97% U.S. Forest Service (USFS) managed lands (see Unit 1B Map). Federal public lands comprise approximately 90% of Unit 3 and consist of 90% USFS managed lands (see Unit 3 Map).

Customary and Traditional Use Determinations

Rural residents of Units 1A, 1B, 2, and 3 have a customary and traditional use determination for deer Unit 1B. Rural residents of Units 1B, 3, Port Alexander, Port Protection, Pt. Baker and Meyers Chuck have a customary and traditional use determination for deer in Unit 3.

Regulatory History

Federal designated hunting regulations allow a Federally qualified subsistence user to hunt for another Federally qualified subsistence user (recipient) who also qualifies for that particular hunt. There are no age or disability provisions required of the recipient. The designated hunter is required to have a current Federal designated hunting permit in their possession, along with the recipient's harvest ticket(s) or permit for that particular species. The designated hunter can hunt for any number of recipients, but may not possess more than two harvest limits at a time. All wildlife taken under designated hunting rules must be delivered promptly to the recipient. The hunter can accept no compensation for hunting or claim any part of the harvested wildlife for themselves.

In 2002, proposals WP02-04, -05, and -06 were considered within the same analysis. These proposals sought to limit the eligibility of the recipients along with the number of recipients a designated hunter could hunt for in a year. Proposal WP02-10, also considered during this cycle, asked for a prohibition on designated hunting within a portion of Unit 3. The proposals were opposed by the Southeast Alaska Subsistence Regional Advisory Council (Council). The Federal Subsistence Board (Board) rejected the proposals.

Similar proposals (WP12-02 and WP12-13) were deliberated by the Board during the 2012 regulatory cycle. Both proposals were opposed by the Council. Proposal WP12-02 requested that the designated hunting program be altered statewide to allow designated hunting only for Federally qualified subsistence users that were either over the age of 60 or disabled. It was rejected by the Board due to significant opposition and because it would have a negative effect on those unable to hunt for themselves. Proposal WP12-13 requested to limit the number of Federally qualified recipients for whom a designated hunter can hunt to two in both Unit 1B and Unit 3. It was rejected by the Board because it would have a negligible effect on the number of deer harvested and could have a significant effect on Federally qualified subsistence users unable to hunt for themselves.

Biological Background

The Sitka black-tailed deer is native to the wet coastal rainforests of Southeast Alaska. Deer populations in Alaska are dynamic and fluctuate considerably with the severity of the winters. When winters are mild, deer numbers generally increase. Periodically, however, a severe winter will cause a major decline in the population. Deer have a high reproductive potential, and reduced populations normally recover rapidly. In some cases, predation may accelerate a decline in deer numbers, or slow recovery (ADF&G 2017a).

There is little information on deer populations in Unit 1B (Lowell 2015). The number of deer harvested has remained consistently low with a slight increase in recent years (**Table 1**) indicating that harvest may not by the primary driver of the population size. According to Lowell (2015), deer populations seem stable in Unit 1B and despite low population densities, there is no reason to restrict harvest. Deer harvest in Unit 3 has been relatively stable while above average in 2015 and 2016 (**Table 2**), possibly reflecting an increased population. Although Unit 3 deer populations are believed to be below carrying capacity (Lowell, 2015) no harvest restrictions are deemed necessary. Both units experienced above average snowfall during winters from 2006-2009 and those harsh winter conditions caused a decline in the deer population. While deer populations remain relatively low in these Units, there are currently no conservation concerns for deer in Units 1B and 3.

Cultural Knowledge and Traditional Practices

The subsistence way of life is a part of the social fabric of Alaskan rural communities. Within Alaska Native cultures, the harvesting of subsistence foods is inextricably intertwined with social interactions. Social interactions may be in the form of extended families spending time at fish camps during the summer, young hunters learning harvesting skills from their older relatives, or individuals sharing their harvest successes with community members. Subsistence includes a cultural value system of sharing, which Alaska Natives have maintained since before contact with Russians and Europeans (Wolfe and Ellana 1983).

The hunting of ungulates in Southeast Alaska is a physically demanding task which not every household in a given community is able to undertake. It is common for able-bodied, younger individuals to take on the responsibility of harvesting meat for families and individuals outside of their household (i.e. the elderly and single mothers). Deer and moose are vital food staples and an important protein source for many rural Alaskans.

In 1997, the Alaska Department of Fish and Game (ADF&G) Division of Subsistence conducted key respondent interviews in Prince of Wales (POW) Island communities and Ketchikan regarding subsistence deer hunting on POW Island. Hunting and sharing practices are similar throughout most POW Island communities, and it was noted that some hunters regularly supply deer to other households as well as their own (Turek *et. al* 2004). Several individuals mentioned this pattern specifically in their responses. Communities such as Hydaburg, which is predominantly populated by Alaska Natives, had similar answers to the same questions as Pt. Baker and Port Protection whose populations are mostly non-

Native. It is anticipated that comparable information would be found if the same study were conducted in communities of Units 1B and 3.

Harvest History

Deer harvest from 2003-2016 in Units 1B and 3 is summarized in **Tables 1 and 2**. Deer harvest reported on Federal designated hunting permits from Units 1B and 3 is low, particularly in Unit 1B. The maximum number of deer reported harvested in Unit 3 on a Federal designated hunting permit averaged 13 (5-18) from 2010-2016. Federal designated deer harvest in Unit 3 has averaged 15% (10-19%) of the total deer harvest in Unit 3 from 2010-2016. Additionally, from 2010-2016, the average maximum number of recipients hunted for in Unit 3 by a Federal designated hunter was seven (4-11). During that time, no more than two Federal designated hunters harvested deer in Unit 3 for more than five recipients annually.

Table 1. Summary of deer harvested by Federal designated hunters in Unit 1B, 2003-2016. Recipient data not available prior to 2010 (USFWS 2017, ADF&G 2017b)

	Unit 1B		
Year	Total reported deer harvest	Federal designated harvest	Percent Federal designated hunter harvest
2003	42	7	17%
2004	38	6	16%
2005	58	0	0%
2006	114	0	0%
2007	47	0	0%
2008	35	1	3%
2009	98	0	0%
2010	103	1	1%
2011	89	3	3%
2012	86	4	5%
2013	87	3	3%
2014	105	1	1%
2015	132	1	1%
2016	116	3	3%

Table 2. Summary of deer harvested by Federal designated hunters in Unit 3, 2003-2016. Recipient data not available prior to 2010 (USFWS 2017, ADF&G 2017b)

	Unit 3							
Year	Total reported deer harvest	Federal designated harvest	Percent Federal designated hunter harvest	Permits used	Max Federal designated hunter harvest	Average harvest for permits used	Max number of recipients	Hunting for more than five recipients
2003	833	69	8%	32	6	2.2	-	-
2004	890	75	8%	33	13	2.3	-	-
2005	730	60	8%	29	14	2.1	-	-
2006	644	47	7%	26	4	1.8	-	-
2007	516	31	6%	15	5	2.1	-	-
2008	371	36	10%	15	8	2.4	-	-
2009	585	36	6%	15	6	2.4	-	-
2010	665	95	14%	41	12	2.3	6	1
2011	525	101	19%	38	17	2.7	8	1
2012	536	68	13%	35	10	1.9	6	1
2013	473	45	10%	27	5	1.7	4	0
2014	514	76	15%	28	16	2.7	11	2
2015	723	101	14%	55	12	1.8	6	1
2016	787	137	17%	51	18	2.7	9	2

Effects of the Proposal

If adopted, this proposal would reduce the number of Federally qualified recipients for whom a designated hunter would be able to hunt deer in Units 1B and 3. Adoption of the proposal would have a negative effect on rural residents who are unable to hunt for themselves and depend on deer as a food source. Communities outside of Wrangell would also be affected because this proposal applies to all of Units 1B and 3.

Adopting the proposal is not likely to significantly reduce the total deer harvest within these units, as the reported harvest from Federal designated hunter permits is low. Adopting this proposal would result in an exception to the general designated hunting regulations in these units and would only affect a few hunters who harvest deer for more than five recipients. Because deer populations in Southeast Alaska are predominantly influenced by winter weather conditions, hunting and natural predation, and are managed by seasons and harvest limits, the proposal would have no measurable effect on the deer population. With little or no effect on the deer population, there would be no effect on non-Federally qualified subsistence users. Adopting this proposal would also not address the proponents concern about edible meat not being salvaged as this is addressed through law enforcement.

OSM CONCLUSION

Oppose Proposal WP18-09.

Justification

There are currently no conservation concerns for deer in Units 1B and 3. Adoption of this proposal would unnecessarily restrict the traditional practice of hunting for others and would needlessly limit the ability of some Federally qualified subsistence users to enjoy the benefits of deer harvested by others. This proposal would also negatively affect Federally qualified subsistence users in other communities outside of Wrangell where no issues have been identified.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Southeast Alaska Subsistence Regional Advisory Council

Oppose WP18-09. The Council felt that this proposal did not address a subsistence need or a conservation issue and that the proposal seemed to address an enforcement issue. The Council was not in favor of restricting designated hunters, but was in favor of the enforcement of regulations and having individuals documenting illegal activity and reporting it.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-09: This proposal, submitted by the Wrangell Fish and Game Advisory Committee, would reduce the number of beneficiaries a designated hunter may hunt deer for in Unit 1B and Unit 3 from unlimited to five per year.

Introduction: Federally qualified hunters may designate another federally qualified hunter to take deer, moose, and caribou on their behalf. The state's proxy hunting system requires a beneficiary to meet certain age or disability requirements, but no such limitations exist under the federally designated hunter regulations. During the open season, federally designated hunters can harvest game on behalf of any number of federally qualified individuals, but they may have no more than two harvest limits in possession (except for goats). Federal designated hunters are required to obtain a designated hunter permit and return completed harvest reports, but it is unknown how many designated hunters accurately complete and return their harvest reports. Members of the public, including the proponent, have expressed concern that the federal designated hunter program is being abused by some individuals regarding harvest of deer in Southeast Alaska.

Impact on Subsistence Uses: This proposal would limit the number of beneficiaries a federally designated hunter could hunt deer for each year. Some beneficiaries may need to find a new designated hunter once the designated hunter's annual limit has been reached. The number of deer harvested for subsistence uses may decline.

Impact on Other Uses: Reducing the number of beneficiaries a designated hunter can hunt deer for may reduce the number of deer harvested through the federal designated hunter program and may reduce competition in some areas.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for deer in Units 1B and 3.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

For deer in Unit 1B, the ANS is 40-50, and for deer in Unit 3, the ANS is 150-175.

Identified big game prey populations and objectives (5 AAC 92.108)

Unit1B Negative
Unit 3 Positive Population Objective: 15,000 Harvest Objective: 900

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
1B	Two bucks	August 1-Dec. 31 (Harvest Ticket)	August 1-Dec. 31 (Harvest Ticket)
3 Petersburg Mgt. Area	Two bucks by bow and arrow	October. 15-December 15	October 15-December 15
3 Mitkof, Woewodski, and Butterworth Island	One buck	October 15- October 31	October 15- October. 31
3 that portion of Kupreanof Island on the Lindenberg Peninsula east of Portage Bay-Duncan Canal Portage	One buck	October 15- October 31	No open season

3 Remainder	Two bucks	August 1-November 30 (Harvest Ticket)	August 1-November 30 (Harvest Ticket)

Special instructions: None.

Conservation Issues: Deer populations have remained relatively low in portions of Unit 3 despite having the most restrictive seasons and bag limits in the state. Portions of Unit 3, including Mitkof Island, Woewodski Island, Butterworth Island, and the Lindenberg Peninsula on Kupreanof Island are managed under a 2-week season (October 15–31) with a 1-buck bag limit. Those conservative harvest management strategies are intended to rebuild the populations by reducing human-caused mortality while still offering some harvest opportunity.

ADF&G has received reports from the Petersburg and Wrangell fish and game advisory committees of individual federal designated hunters harvesting excessive numbers of deer. While the accounts cannot be verified, the reports may represent legal harvest under the federal designated hunter program where qualified individuals needed another hunter to harvest deer on their behalf and the beneficiary must receive the meat. However, the accounts also suggest that the designated hunter program may be subject to abuse. There are reports that some hunters are using the federal designated hunter program to harvest additional deer for their personal use by taking deer as part of a beneficiary's bag limit and retaining the meat, effectively increasing the individual's annual bag limit.

Enforcement Issues: Any potential abuse of the federal designated hunter program has been difficult to monitor or enforce.

Recommendation: ADF&G is **NEUTRAL** on providing opportunity for designated hunters to harvest wildlife on the behalf of beneficiaries to meet subsistence needs. However, reducing the number of beneficiaries for deer hunting may reduce the harvest of deer in Units 1B and 3, thus helping to conserve the deer population in those units.

WRITTEN PUBLIC COMMENTS

Fwd: WP 18-09

From: **Max Worhatch IV** Fri, Aug 4, 2017 at 2:22 PM
Date: Fri, Aug 4, 2017 at 2:15 PM
Subject: WP 18-09
To: subsistence@fws.gov

Federal subsistence board members-

I'm writing today in support of proposal WP18-09. As chairman of the Petersburg advisory committee to the Alaska Department of Fish and Game boards of Fish and Game, I put this very subject on our agenda for discussion for a meeting. It is very concerning to me that in game management units with short seasons and small bag limits set by the state to conserve and manage a sustainable herd are subject to an unrestrained excessively liberal federal designated hunter program. Several years ago, Lindenberg Peninsula hunting opportunities were reduced for deer hunting from two antlered deer and a season from August 1- November 30, to one antlered deer and a season that went from October 15-30. This was result of a proposal to the board of Game brought forward and by the department in recognition of a dramatic drop in the deer population on the peninsula. Some rough winters, heavy hunting pressure due to its close proximity to Petersburg, the fact there is a road system, and high wolf predation were all discussed as being factors in the decline. The federal designated hunter program was also seen as something that had increased, and was also a factor. Our AC unanimously supported the proposal, as we felt it was in the best interest of the resource to curb effort as there was direct evidence of a reduced herd size.

In our AC's discussion about the designated hunter program, it was noted that on Mitkof Island, Lindenberg Peninsula, unit 1B, and Zarembo Island all had relatively small bag limits, and or shorter seasons than most other game units in southeast. Most of this is due to the fact that there are nearby population centers, and many people do not have the time or resources to travel to areas to hunt. Hunting is an activity many people enjoy. Some may only have the resources to hunt on Mitkof Island. If they have a job, they may get to hunt deer 4 days a year. It hardly seems fair that a designated hunter, under this federal program, could hunt for 14 straight days on Mitkof, kill as many as 28 deer for people who won't or can't, while someone who just wants the activity, and a chance to take an animal for the sport and food is marginalized by this program. Robert Larson, former subsistence manager for this program provided information. The amounts reported were in my mind very questionable given the anecdotal information I had talking with hunters who used the program. This led to questions about accurate reporting and follow up as to just how many deer had been taken. It appears to me that there may be a a very large discrepancy, which alone should be reason to cause some alarm. If the discrepancy is perceived to be large enough, the state would be justified in closing the season in the areas, which would benefit no one.

Having an unlimited amount of tags for a designated hunter goes far beyond what I think the intent of what this program is supposed to address. It clearly is in conflict with responsible wildlife management. While I will commend the Wrangell AC for submitting this proposal, I do think it is still too liberal. I would rather it be reduced further still, in GMU's 3 and 1b, due to the proximity to Wrangell and Petersburg.

Proposal WP18-09 also calls for accurate reporting and enforcement of the program. A liberal all inclusive program like with little enforcement and follow up will naturally end up getting abused. A classic example is a recent case on the Stikine River where a subsistence fisherman was found to be using twice his allowable gear. Any subsistence program should be closely monitored and accurately reported.

I appreciate your consideration of my comments on what I consider a very serious issue.

Sincerely,

Max Worhatch

Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: WP18- 01 – WP18-13 pertain to Southeast Alaska

1 message

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 17, 2017 at 10:39 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, George Pappas <george_pappas@fws.gov>

---------- Forwarded message ----------
From: **Curtis Donald Thomas** <seafun@kpunet.net>
Date: Fri, Jul 14, 2017 at 8:01 AM
Subject: WP18- 01 – WP18-13 pertain to Southeast Alaska
To: subsistence@fws.gov

Dear sirs,

Please stop this craziness of creating new classes of citizens with special rights. I was born in Ketchikan and lived on Prince of Whales for 20 years. Someone in your organization is promoting restricting Sitka Black-tail harvest for some residents (only two deer instead of 4) and granting others more rights (5 deer, one doe, multiple permits, extended season, etc).

Recent action has already restricted access to our hunting grounds. Since I currently live in Ketchikan (a huge metropolis of 7,000 people), I cannot start hunting on POW until Aug 16th. The season starts August 1st and ends December 31st, unless you live on POW of course, then you can start in July and continue hunting into January (even people who just moved to the island from New York City).

Your continued segmentation our population is destructive. Please stop this nonsense. The constitution says we are **all equal under the law**. What gives you the right to change this and grant some Americans more rights than others.

Another crazy policy that your group implemented (maybe another group... there are so many Federal groups in Washing trying to determine what is best for us rural residents that one can not keep track). That policy is allowing someone who lives just down the road the ability to harvest 20 halibut per day. These fish average 30-40 pounds. That means some Alaskans can harvest over 500 pounds of halibut every day if they choose while others are limited to 2 fish (which is plenty). 20 fish per day is COMMERCIAL FISHING not sport or subsistence!!!!

I guess I will have to "Self Identify" as a POW resident... if it is good enough for sexual orientation in our military, it must be acceptable for residents that actually spent half of their life in the area you now say some relocated New Yorker has more rights to than I.

Crazy, Crazy, Crazy! You are attempting to fix a problem that does not exist. Please STOP this.

Curtis Thomas
8046 N. Tongass Hwy
Ketchikan, AK 99901

WP18–10 Executive Summary	
General Description	Proposal WP18-10 requests that the Federal season for moose in Unit 5A, except Nunatak Bench east of the Dangerous River, be open from Sept. 1 – Nov. 15, with Federal public lands closed to the harvest of moose except by residents of Unit 5A from Sept. 1 – Sept. 14. *Submitted by: Yakutat Fish and Game Advisory Committee*
Proposed Regulation	**Unit 5—Moose** *Unit 5A—except Nunatak Bench,* ***west of the Dangerous River****— 1 bull by joint State/Federal registration permit only. From Oct. 8 – Oct. 21, Federal public lands will be closed to taking of moose, except by residents of Unit 5A hunting under these regulations* — *Oct. 8-Nov. 15* ***Unit 5A, except Nunatak Bench, east of the Dangerous River- 1 bull by joint State/Federal registration permit only. From Sept. 1 – Sept. 14, Federal public lands are closed to taking of moose, except by residents of Unit 5A hunting under these regulations.*** — ~~*Oct.8*~~ ***Sept. 1*** *– Nov. 15*
OSM Conclusion	**Support**

WP18–10 Executive Summary	
Southeast Alaska Subsistence Regional Advisory Council Recommendation	**Support** WP18-10 **with modification** to change the season open date from Sept. 1 – Nov. 15 to Sept. 16 – Nov. 15, and changing the closure of Federal public lands from Sept. 1 – Sept. 14 to Sept. 16 – Sept. 30. The modified regulation should read: **Unit 5—Moose** *Unit 5A—except Nunatak Bench,* ***west of the Dangerous River****— 1 bull by joint State/Federal registration permit only. From Oct. 8 – Oct. 21, Federal public lands will be closed to taking of moose, except by residents of Unit 5A hunting under these regulations* — *Oct. 8-Nov. 15* ***Unit 5A, except Nunatak Bench, east of the Dangerous River- 1 bull by joint State/Federal registration permit only. From Sept. 16 – Sept. 30, Federal public lands are closed to taking of moose, except by residents of Unit 5A hunting under these regulations.*** — ~~*Oct. 8*~~ ***Sept. 16*** *– Nov. 15*
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	

WP18–10 Executive Summary	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Neutral**
Written Public Comments	**1 Oppose**

STAFF ANALYSIS
WP18-10

ISSUES

Proposal WP18-10, submitted by the Yakutat Fish and Game Advisory Committee, requests that the Federal season for moose in Unit 5A, except Nunatak Bench, east of the Dangerous River, be open from Sept. 1 – Nov. 15, with Federal public lands closed to the harvest of moose except by residents of Unit 5A from Sept. 1 – Sept. 14.

DISCUSSION

Currently, the area in Unit 5A west of the Dangerous River receives heavy hunting pressure during the first few days of the subsistence season, resulting in a rapid harvest and multiple animals taken out of localized areas. The proponent states that in recent years, the quota has been met and the season closed within about 4-5 days of the opening, and that the area east of the Dangerous River is less accessible and receives less hunting pressure. The proponent claims that by opening up the east side of the Dangerous River earlier, access will be improved for subsistence users (longer days, potentially better weather conditions, and greater availability of local air taxi), allowing additional opportunities and potentially reducing the hunting pressure during the opening days of the subsistence season on the west side.

Implementation of this request would effectively open the Federal season for moose in a portion of Unit 5A five weeks earlier than the existing regulation. The proponent intends to submit a parallel proposal to the Alaska Board of Game (BOG), requesting that the State season open on September 8 on the east side of the Dangerous River.

Existing Federal Regulation

Unit 5A—Moose

Unit 5A— except Nunatak Bench—1 bull by joint State/Federal registration permit only. From Oct. 8 – Oct. 21, Federal public lands will be closed to taking of moose, except by residents of Unit 5A hunting under these regulations	*Oct. 8-Nov. 15*

Proposed Federal Regulation

Unit 5—Moose

Unit 5A—except Nunatak Bench, ***west of the Dangerous River****— 1 bull by joint State/Federal registration permit only. From Oct. 8 – Oct. 21, Federal public lands will be closed to taking of moose, except by residents of Unit 5A hunting under these regulations*		*Oct. 8-Nov. 15*
Unit 5A, except Nunatak Bench, east of the Dangerous River- 1 bull by joint State/Federal registration permit only. From Sept. 1 – Sept. 14, Federal public lands are closed to taking of moose, except by residents of Unit 5A hunting under these regulations.		~~*Oct. 8*~~ ***Sept. 1*** *– Nov. 15*

Existing State Regulation

Unit 5A—Moose

Unit 5A remainder—One bull by permit, available in person in Douglas or Yakutat beginning Aug. 15	*RM061*	*Oct. 15-Nov. 15*

Extent of Federal Public Lands

Federal public lands comprise approximately 97% of Unit 5 and consist of 63% National Park Service (NPS) managed lands, 33% U.S. Forest Service (USFS) managed lands, 1% Bureau of Land Management (BLM) managed lands and less than 1% U.S. Fish and Wildlife Service (USFWS) managed lands (see **Unit 5 Map**). National Park Service lands in 5A within Glacier Bay National park are closed to subsistence. The area east of the Dangerous is comprised almost entirely of Federal public lands, with the exception of two Native allotments and a Sealaska Corporation site, all near Cannery Creek west of the Alsek River.

Customary and Traditional Use Determinations

Rural residents of Unit 5A have a customary and traditional use determination for moose in Unit 5A.

Regulatory History

Moose hunting in Unit 5A, except Nunatak Bench, has been managed using a registration permit system since 1978. In 1990, the Federal government began managing subsistence hunting, fishing, and trapping on Alaska's Federal public lands. On October 5, 1990 the Federal Subsistence Board (Board) closed Federal lands in Unit 5A to moose hunting from Oct. 15–21, except for Yakutat residents (FSB 1990).

Additionally, the harvest quota for Unit 5A except the Nunatak Bench was set at 60 bulls, and the quota for the area west of the Dangerous River (**Fig. 1**) was set at 30 bulls. In 1992, the list of communities with a customary and traditional use determination (C&T) was expanded to include all the residents of Unit 5 and not just the residents of Yakutat (P92-012A). The Board used an emergency special action (S92-10) to close the moose season in Unit 5A west of the Dangerous River in 1992 because the harvest quota had been reached.

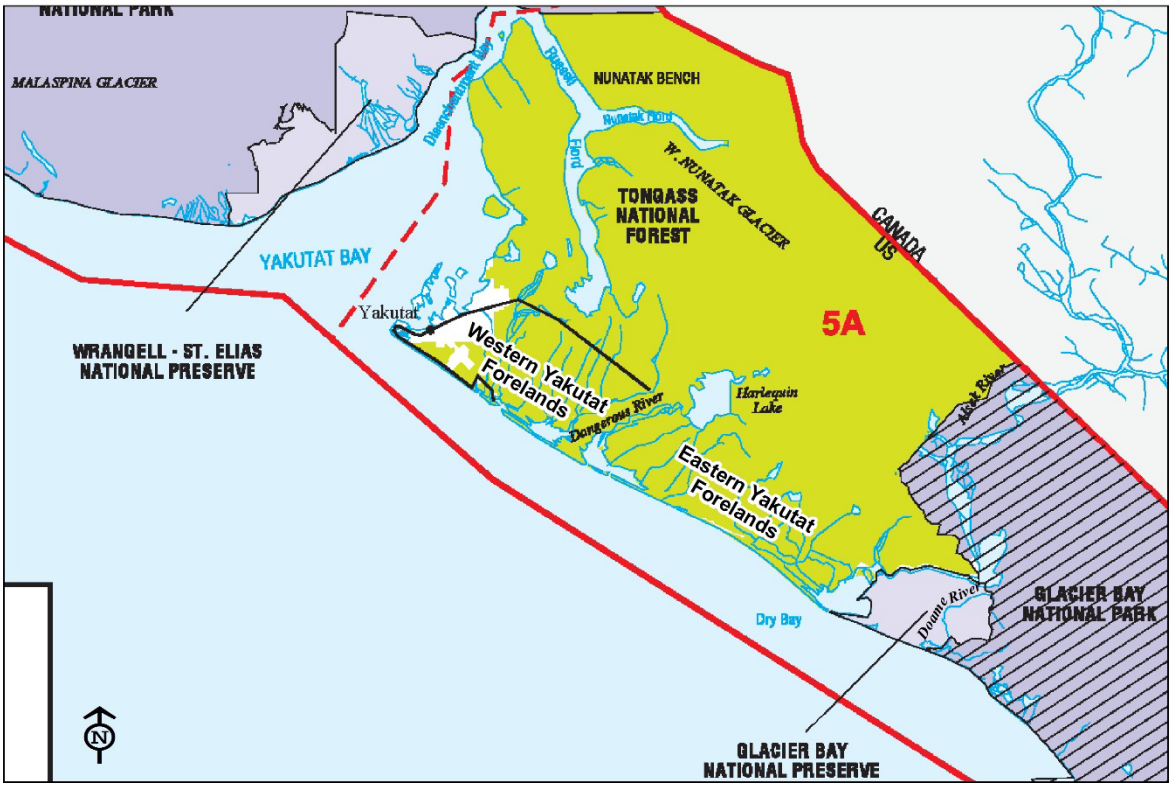


Figure 1. Unit 5A (OSM 2017)

In 1996, to allow for increased opportunity by Federally qualified subsistence users, the Board adopted Proposal P96-014, which extended the Federal season by one week, from a beginning date of October 15 to October 8.

The regulatory dates for the closure of Federal public lands to non-Federally qualified users were changed in 2000 from Oct. 15 – Oct. 21 to October 8 – October 21 (P00-010), to reflect the change in the Federal moose season start date of October 8. In 2004, the Board adopted Proposal WP04-20, which established a joint State/Federal registration permit for subsistence hunting of moose in Unit 5A (RM061), which allowed for more efficient management and harvest monitoring of the hunt. The State issued Emergency Orders in 2004 (01-02-04) and 2007 (01-08-07) to close the portion of Unit 5A west of the Dangerous River when the number of moose harvested reached 28 to prevent the harvest from exceeding the quota of 30 bulls.

In 2008, in response to continued low bull:cow ratios in Unit 5A, the Board approved WSA08-05, which reduced the total harvest quota from 60 to 50 bulls for Unit 5A except the Nunatak Bench and from 30 to 20 bulls for Unit 5A west of Dangerous River. In October 2008, the State issued Emergency Order No. 01-07-08, closing the portion of Unit 5A west of the Dangerous River when the harvest reached 20 bull moose. In 2009, the State raised the harvest quota from 50 to 55 bull moose in Unit 5A except the Nunatak Bench, and the limit for the area west of Dangerous River from 20 to 25 bulls. This change was based on surveys conducted during the winter of 2008, which indicated improved bull:cow ratios.

In 2009, the harvest quota for moose in Unit 5A except the Nunatak Bench was set by the Board at 55 bulls and for Unit 5A west of Dangerous River at 25 bulls, with the same quota established by the State. In 2010, the Board issued a letter of delegation to the Yakutat District Ranger which included the authority to establish the quota for moose in Unit 5A, except Nunatak Bench, and to close the season by local announcement when the quota has been taken.

Since 2010, the Yakutat District Ranger has used the delegated authority to establish the moose harvest quota in the fall for Unit 5A except the Nunatak Bench at 55 bulls, with no more than 25 of those bulls to be taken in the area west of the Dangerous River from October 8 to November 15. The Alaska Department of Fish and Game (ADF&G) also established the yearly moose harvest quota for the State season in Unit 5A remainder, except for Nunatak Bench, at 55 bulls, with no more than 25 bulls to be taken in the area west of the Dangerous River between 2010 and 2016. Since 2012, the season has been closed west of the Dangerous by Special Action (Federal) and Emergency Order (State) before the season end date of November 15 in order to not exceed the quota of 25 bulls.

In 2012, Federal public lands remained closed to hunting moose from Oct. 8 – Oct. 21 due to conservation concerns (WCR12-02), except for residents of Unit 5A. This closure was reviewed again most recently in 2015 (WCR15-02), and the continued closure was supported by the Southeast Alaska Regional Advisory Council (Council) during their winter 2017 meeting.

In 2015, the Council submitted Proposal WP16-06, requesting that a definition of "Nunatak Bench" be added to the Federal subsistence regulations for Unit 5. The Board adopted the proposal and the following definition of Nunatak Bench was added to Federal subsistence regulations: "In Unit 5A, Nunatak Bench is defined as that area east of the Hubbard Glacier, north of Nunatak Fiord, and north and east of the East Nunatak Glacier to the Canadian Border." 50 CFR 100.26(n)(5)(A); 36 CFR 242. 26(n)(5)(A).

In response to rapid harvest and the harvest quota being exceeded in 2014, managers reduced the reporting period for the joint State and Federal moose registration permit for RM061 (Unit 5A, except Nunatak Bench) from 5 days to 3 days, effective starting the 2015 season.

In 2012, lands selected by Sealaska under the Alaska Native Claims Settlement Act near Yakutat (known as "the nine townships") reverted from State to Federal land management as a result of final land selections, increasing the amount of land available for Unit 5A (Yakutat) residents to hunt between Oct. 8 and Oct. 21. Consequently, little land is available for non-local residents to hunt until Federal lands open under State regulations on October 22nd. This land status change also effectively opened up popular

hunting areas closer to town for local residents a week earlier, helping to distribute hunting pressure during the 1st week of the Federal season. However, some areas within the nine townships are excellent moose habitat, and a significant proportion of the annual harvest comes from those areas because they are productive and easily accessed from the road system. This earlier opening, likely in addition to the recent mild winters and subsequent increasing moose population, has resulted in a very rapid harvest and the need to close the season by special action and emergency order in just 4-5 days. Since 2012, the season west of the Dangerous has been closed by Special Action (Federal) and Emergency Order (State) before the season end date of November 15 in order to not exceed the quota of 25 bulls. The season west of the Dangerous River was closed on: Oct. 24, Oct. 26, Oct. 13, Oct. 13, and Oct. 11, in 2012, 2013, 2014, 2015, and 2016, respectively. From 2014-2016, there was no State season west of the Dangerous River, since the quota was met prior to the opening date.

Subsistence uses, including hunting, are not allowed on Federal public lands in Glacier Bay National Park. *See* 50 CFR 100.3(a); 36 CFR 242.3(a). Subsistence uses are allowed on Federal public lands in Glacier Bay National Preserve.

Biological Background

Population trends

Moose were first sighted along the lower Alsek River drainage in the eastern section of Unit 5A in the late 1920s and early 1930s. By the 1950s, the moose population had expanded its range westward to the Malaspina Forelands west of Yakutat Bay. The population grew rapidly and by the 1960s was estimated to be over 2,000 animals, which was likely above the carrying capacity of the range (Barten 2006). During the 1960s and early 1970s, the population declined due to both liberal harvest seasons, including cow hunts designed to protect the moose habitat, and severe winters in 1970 and 1972 that reduced the survival and recruitment (Scott 2010).

In 1974, the moose population in Unit 5A was estimated to be approximately 300 animals (FWS 1996). Concern over low population numbers resulted in a hunting closure in Unit 5A from 1974–1977. In 1989, the State developed a management plan for Unit 5A Yakutat Forelands, including the following objectives: 1) to maintain a moose population of 850 animals post-hunt; 2) to sustain an annual harvest of 70 moose; 3) to provide a hunter success rate of 28%, and 4) maintain a post-hunt bull:cow ratio of 20:100 (ADF&G 1990). The population objectives have been updated to an objective of 1,000 animals post hunt (Sell 2014a). Furthermore, the bull:cow ratio of 20:100 should be considered a minimum; State biologists generally manage for a bull:cow ratio of 25:100 in order to ensure adequate breeding and to provide for a maximum sustainable harvest (Scott 2017).

Population counts conducted in the 1970s and 1980s were based on annual winter moose surveys that had been adjusted using a 50% sightability correction factor used to account for animals not seen during the survey (Smith and Franzmann 1979). However, more recent data from a sightability study on the Yakutat Forelands suggest that a 70% sightability correction factor is more appropriate (Oehlers 2007). The 70% correction factor, however, reflects good snow cover, which does not always occur during the population surveys. Ideally, a sightability logistic regression model would include covariates such as snow coverage,

habitat type, and group size in addition to population data so that more accurate annual estimates can be obtained. However, due to variation in survey conditions such as timing, survey routes, number of trained personnel and variable snow conditions, these criteria have not been consistently recorded and so only the raw survey data are used for abundance trend information (Barten 2006, Barten 2008a, Scott 2010). Consequently, results of aerial surveys should be considered a minimum population estimate and used primarily as an index for trend analysis.

Between 2000 and 2016, surveys of the Unit 5A Yakutat Forelands have been conducted annually as conditions permitted (**Table 1**). However, some surveys have been limited to subsections of the forelands with a focus to obtain herd composition data rather than a total population estimate. Because of inconsistent snowfall between years and the surveys timed around sufficient snow cover, surveys often occur after bulls have begun to drop their antlers, resulting in unreliable composition data (Barten 2008). Prior to 2005, surveys were conducted in open areas where concentrations of moose were known to occur. The distribution and movements of moose in addition to the observer's ability to detect moose during aerial surveys are highly variable and dependent on the weather conditions, timing, and amount of snow cover in the late fall. Thus, population counts prior to 2005 may have missed large segments of the moose population and are probably not very reliable for detecting population trends (Barten 2008). In 2005, a more rigorous systematic survey design was developed using line transects which allowed for increased survey coverage, increased reliability of population estimates, reduced bias in the areas selected, and consistency between years.

Table 1. Moose survey results for Unit 5A, 2002-2016 (Barten 2002, 2005, 2006, 2008b; Converse and Rice 2003; Oehlers 2008a, b, c; Oehlers 2012; Scott 2010, 2011a, 2011b, 2013a,b; Sell 2016a, b). Composition surveys emphasize sex and age ratio, rather than a total population estimate.

Month	Year	Survey Area	Composition Survey (Y/N)	# Bulls	# Cows	# Calves	# Unk.	Total	Bull:Cow
March	2002	Yakutat Forelands	Y	28	146	21	0	195	19:100
Dec.	2003	Western Forelands	N	3	23	23	140	189	[1]
Dec.	2003	Eastern Forelands	N	7	23	25	118	173[2]	[1]
Nov.	2005	Eastern Forelands	Y	33	166	17	0	216	20:100
Dec.	2005	Western Forelands	N	10	46	47	224	328	3.7:100[3]
Dec.	2005	Eastern Forelands	N	31	25	28	221	305	12.6:100[3]
Nov.	2006	Western Forelands	Y	12	119	11	0	142	10:100
Dec.	2007	Western Forelands	N	24	21	21	200	266	11:100[3]
Dec.	2007	Eastern Forelands	N	55	49	53	262	419	18:100[3]
Nov.	2008	Western Forelands	Y	23	67	4	0	94	34:100
Dec.	2008	Western Forelands	Y	24	166	31	0	221	14:100[3]

Month	Year	Survey Area	Composition Survey (Y/N)	# Bulls	# Cows	# Calves	# Unk.	Total	Bull:Cow
March	2010	Yakutat Forelands	Y	28	146	21	0	195	19:100
Nov.	2011	Western Forelands	Y	28	141	60	0	229	20:100
Dec.	2012	Western Forelands	N	3	12	14	168	197	[1]
Oct.	2013	Western Forelands	Y	13	35	4	2	54	37:100
Oct.	2013	Eastern Forelands	Y	12	26	6	0	44	46:100
Dec.	2013	Western Forelands	N	18	36[4]	41	117	212	12:100[3,]
Dec.	2015	Western Forelands	N	33	43	51	166	293	16:100[3]
Dec.	2015	Eastern Forelands	N	76	85	100	274	535	21:100[3]
Dec.	2016	Western Forelands	N	68	39	43	140	290	38:100[3]
Dec.	2016	Eastern Forelands	N	54	38	44	117	253[5]	35:100[3]

[1] survey conducted after bulls starting to drop antlers, no bull: cow ratio estimated
[2] area between Italio and Akwe rivers not surveyed due to poor conditions
[3] minimum estimate
[4] cows with calves only
[5] poor survey conditions= some areas not surveyed and total number of moose should be considered a minimum estimate

Following the hunting closures in the mid 1970's and the 1989 management plan, the Yakutat Forelands moose population slowly recovered to a total of approximately 632 and 685 moose in 2005 and 2007, respectively (**Table 1, Fig. 2**). Low bull:cow ratios were observed starting in 2006, particularly on the western forelands (**Table 1**). Following the 2007 survey, there were several severe winters, which likely reduced survival and recruitment and caused a decline in the moose population (Barten 2012). Complete population surveys, however, were not conducted between 2007 and 2014 (surveys during this period focused on sex and age composition). The age composition of bulls in the harvest through 2013 suggests that the range of age classes are well represented in the population and that calf survival is high enough to provide continued harvest of bull moose at current levels (Sell 2014a).

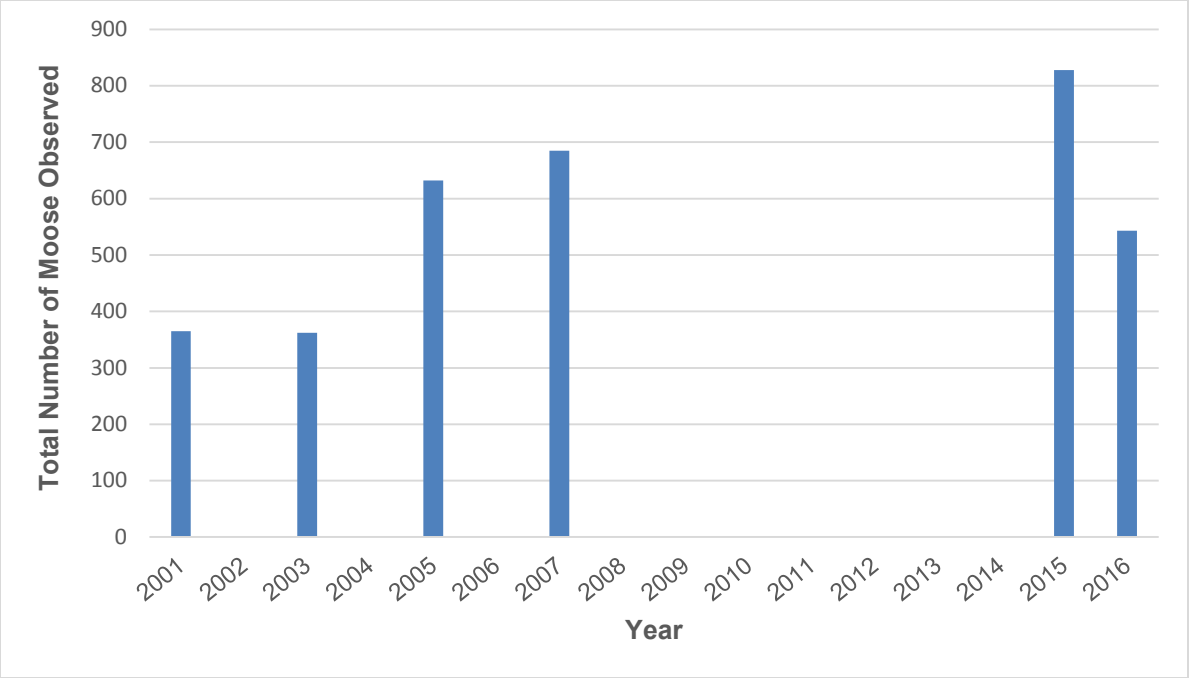


Figure 2. Number of moose observed in Unit 5A (Yakutat Forelands), 2001-2016 (Barten 2004, 2005, 2008b; Converse and Rice 2003, Sell 2015, 2016)

The mild winters of 2014/2015 and 2015/2016 are thought to have resulted in improved over-winter survival for ungulate populations region wide (Scott 2017). In 2015 and 2016, a total of 828 and 543 moose, respectively were observed on the Yakutat Forelands. Although the total number observed was lower in 2016 than 2015, those estimates may be more reflective of survey conditions than actual numbers. Percentage of calves was similar in 2015 and 2016 (18% and 17%, respectively), indicating healthy recruitment. Bull:cow ratios were higher in 2016 (36:100) than 2015 (19:100), meeting the State's management objective of 25 bulls:100 cows during this period. Although the management plan has not been formally updated since 1990, and there are no recent quantitative data on habitat, body condition, twinning rates, etc., an estimate of 800 moose may be a more realistic population goal for Unit 5A (Scott 2017).

Habitat

There have been no recent habitat studies conducted to assess the quality of the moose habitat in Unit 5A. Good body condition and high pregnancy and twinning rates indicate that the quality and quantity of forage habitat was good in the early to mid-2000s (ADF&G 2005, Oehlers 2007). A relatively stable low density population also indicates good quality habitat.

Breeding

Breeding strategies of moose differ between the tundra (Alaska/Yukon-*Alces alces gigas*) and taiga (Eastern, northwestern, and Shira's subspecies-*Alces alces americana, Alces alces andersoni, Alces alces shirasi*) moose, and there are likely gradations between these two strategies (Schwartz 1997). Tundra

moose tend to be relatively polygamous breeders and form assemblages during the rut, where dominant males can monopolize females. Consequently, one male can breed with many cows during one breeding season. In forest dwelling taiga moose, one bull will remain with a single female or small group of females for one or several days, likely breeding with only a few females during rutting season. Moose in Yakutat are likely in a mixing zone between *Alces alces gigas* and *Alces alces andersoni* (Schmidt et al. 2009). If females are not bred during their first estrous cycle, they may experience a recurrent estrous cycle (Schwartz 1997). However, one study in Alaska (Schwartz and Hundertmark 1993) reported that an estimated 88% of calves were conceived during the first estrus.

The breeding season in interior Alaska ranges from September 28-October 12, with calving season approximately mid-May to mid-June, peaking the last two weeks of May (Schwartz 1997). Moose in Yakutat have been observed congregating from August-October, coinciding with the rutting season (Oehlers, personal observation). Older prime bulls come into rut earlier than younger bulls and because rutting bulls are more vulnerable to harvest, hunting seasons held during the peak of rut may increase the harvest of prime bulls (Timmerman and Buss 1997). However, in a 1992 survey of 19 moose management jurisdictions, Wilton (1992) found that 74% of 136 moose hunting seasons coincided with the rutting period (September 16-October 15). Currently within Alaska, Federal fall seasons for moose in many units open in September, or even earlier, including a September 1 opening in Units 5B (Malaspina Forelands) and 6C (Cordova area).

Harvest History

The annual moose harvest in Unit 5A ranged from 30-48 during 2002-2011, with an average of 38 (Barten 2004, Sell 2014). Total harvest has ranged from 33-51 from 2012-2016 (**Table 2**). An average of 15 and 27 moose were harvested annually east and west of the Dangerous River, respectively, from 2012-2016. The harvest has exceeded the quota guideline of 25 bulls west of the Dangerous annually since 2012, with the exception of 2013 (**Table 2**). Harvest east of the Dangerous River, however, has not met the quota during this same time period.

Table 2. Harvest of moose west and east of the Dangerous River in Unit 5A 2012-2016 (Schumacher 2017). Designation of Federally qualified subsistence user is based on harvester's community of residence.

Year	Harvest West (% Federally qualified users)	Harvest East (% Federally qualified users)	Total
2012	27(89%)	13 (23%)	40
2013	25 (92%)	8 (50%)	33
2014	28 (100%)	16 (81%)	44
2015	29 (100%)	21 (48%)	51
2016	27 (100%)	17 (59%)	44

Federally qualified subsistence users account for the majority of the harvest west of the Dangerous River (the quota was met before the State season opened from 2014-2016), averaging 96% from 2012-2016 (Schumacher 2017). East of the Dangerous River, Federally qualified subsistence users accounted for an

average of 52% of the harvest from 2012-2016. The lower percentage of the harvest from Federally qualified subsistence users on the east side is primarily due to the limited and costlier access relative to the west side. Federally qualified subsistence users reported highway vehicles and boats as the predominant transportation for moose hunting west of the Dangerous River, whereas 3 or 4 wheelers and planes were the primary transportation methods for the east side (**Table 3**). Non-Federally qualified users reported a higher rate of airplane use than Federally qualified subsistence users both east and west of the Dangerous River. The west side receives more pressure in terms of number of hunters, averaging 78 hunters (all users) annually from 2012-2016 versus 44 on the east side. Total number of days hunted is also higher on the west side, averaging 236 days annually versus 178 days on the east side during that same time period. Particularly in recent years, the hunting effort is concentrated during a shorter season on the west side than east. Success rate is similar in both areas; 33% and 35%, respectively, east and west of the Dangerous River from 2012-2016, exceeding the State management objective. Hunter effort details are shown in **Table 4**.

Table 3. Transportation methods reported by all users during the Unit 5A moose season from 2012-2016 (Schumacher 2017). Numbers are reflective of all hunters who reported at least one day of hunting.

Area	Federal Status	Plane	3 or 4 wheeler	Boat	Off road vehicle	Highway Vehicle	Foot	Airboat	Unk.
West of Dangerous River	Federally qualified	N/A	10%	32%	2%	52%	2%	1%	N/A
	non-Federally qualified	19%	14%	33%	N/A	19%	10%	N/A	5%
East of Dangerous River	Federally qualified	25%	44%	14%	3%	14%	1%	N/A	N/A
	non-Federally qualified	56%	25%	7%	3%	6%	2%	N/A	1%

Table 4. Hunting effort by all users for moose in Unit 5A 2012-2016 (Schumacher 2017). Numbers are reflective of all hunters who reported at least one day of hunting.

Area	Year	Total Number of Hunters	Total Number of Days Hunted	Success Rate	Average # of Days Hunted by Successful hunters	Average # of Days Hunted by all Hunters
West of Dangerous River	2012	81	271	33%	2.9	3.3
	2013	89	328	28%	2.2	3.7
	2014	69	171	41%	2.0	2.5
	2015	80	233	36%	2.0	2.9
	2016	72	178	38%	1.3	2.5

Area	Year	Total Number of Hunters	Total Number of Days Hunted	Success Rate	Average # of Days Hunted by Successful hunters	Average # of Days Hunted by all Hunters
East of Dangerous River	2012	42	175	31%	2.8	4.2
	2013	30	154	27%	2.6	2.9
	2014	54	200	30%	3.0	3.7
	2015	48	180	44%	3.4	3.8
	2016	47	183	36%	1.8	3.9

Effects of the Proposal

The area east of the Dangerous River is less accessible than the west side, including minimal to no local air taxi service after September. Consequently, this area receives less hunting pressure, particularly from Federal subsistence users, and the harvest quota is not usually met. If this proposal is adopted, access will be improved for subsistence users. An earlier and extended season, more daylight hours, potentially better weather conditions, and greater availability of local air taxi, will result in additional opportunities for subsistence users to harvest moose.

It is difficult to predict the effect that adoption of this proposal would have on hunting patterns. It is likely that many subsistence users would take advantage of the earlier opening on the east side of the Dangerous River. Although access opportunities will be improved, in particular the availability of a local air taxi, this type of transportation is expensive, so many subsistence users may elect to access the area by other means (boat, foot, and ATV), limiting the actual area that most users can reasonably access. Local residents with private planes and commercial fishing cabins would be more likely than others to utilize the more eastern section of this area during this earlier season. Given the high harvest on the west side and interest/demand for moose meat, it is likely that the west side will continue to receive high hunting pressure and reach the quota; however, some users may opt to put in more effort earlier on the east side, thus reducing the pressure or at least extending the season length on the west side.

Since the harvest quota is not generally met east of the Dangerous River, an earlier (and subsequently longer) season may result in an increase in harvest, potentially meeting the quota and consequently increasing the overall harvest in Unit 5A. If the quota is reached, the season east of the Dangerous River may be closed earlier than November 15th. Harvest west of the Dangerous River is not expected to be impacted by implementation of this proposal.

The proponent intends to submit a parallel proposal to the State Board of Game, requesting that the State season open on September 8 on the east side of the Dangerous River. If both proposals are adopted, the State season would also start approximately five weeks earlier on the east side while continuing the two week closure to non-Federally qualified users on Federal lands (Unit 5A east of the Dangerous is composed almost entirely of Federal lands). State regulations for the west side of the Dangerous River would remain the same. Consequently, there would be no negative impacts to State users and would also

provide them additional opportunities, including the availability of local air taxi service. If, however, this proposal is passed and a parallel extension is not implemented under State regulations, Federally qualified subsistence users will enjoy an earlier season opening whereas the State season will remain the same. Consequently, fewer moose may be available to State users.

Biologically, since the harvest is managed on a quota, there would be minimal effects to the overall moose population. However, bulls would be harvested earlier than they are currently, coinciding more closely with the pre-rut and rutting season. Fall moose seasons within Alaska, including southcentral Alaska, include September opening dates, and are sustainable (Scott 2017). Because movement patterns of bulls throughout the Yakutat Forelands and specifically across the Dangerous River are largely unknown, effects of a potential increased harvest east of the Dangerous River on the population on the west side are difficult to predict. Given limited access, a currently healthy moose population, and a limited quota, effects to the population are expected to be minimal.

OSM CONCLUSION

Support Proposal WP18-10.

Justification

Currently, the area in Unit 5A west of the Dangerous River receives heavy hunting pressure during the first few days of the subsistence season, resulting in a rapid harvest and multiple animals taken out of localized areas. The area east of the Dangerous River is less accessible than the west side, including minimal to no local air taxi service after September, and receives less hunting pressure. Opening the Federal season on the east side of the Dangerous River earlier will improve access, allowing additional opportunities for subsistence users and potentially reducing the hunting pressure, or at least lengthening the season, west of the Dangerous River.

Since the harvest is managed on a quota which is set annually, there would be minimal effects to the overall moose population. A season opening in September is consistent with other seasons in southcentral Alaska. Given limited access, a currently healthy moose population, and a limited quota, effects to reproduction are expected to be minimal. Consequently, there are not expected to be any conservation concerns as a result of adoption of the proposal.

The proponent intends to submit a parallel proposal to the State Board of Game, requesting that the State season open on September 8 on the east side of the Dangerous River. Consequently, if both proposals are passed, there would be no negative impacts to State users and it would also provide them additional opportunities, including the availability of local air taxi service.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Southeast Alaska Subsistence Regional Advisory Council

Support WP18-10 **with modification** to change the season open date from "Sept 1 – Nov 15" to "Sept 16 – Nov 15," and changing the closure of Federal public lands from "Sept 1 – Sept 14" to "Sept 16 – Sept 30." The proposal was controversial. It was submitted by the Yakutat Fish and Game Advisory Committee made up of Yakutat residents; however, other Yakutat residents were not in favor of this proposal. The accessibility to this area is by airplane and cost prohibitive to many residents. The Council discussed dates and believed that local Yakutat residents would not be the ones to benefit because they are still engaged in fishing and not hunting yet during the proposed dates. The Council amended the dates after deciding that opening the harvest season earlier would allow a two-week priority for rural residents during a later time when most would be finished fishing and; therefore, expanding the opportunity for subsistence users to get moose. There is no conservation concern and the main goal of this proposal is to utilize a resource that has not been fully utilized in the past. Substantial evidence through analysis and studies support this amended proposal. Proposal will probably not restrict other users and the Council felt that a parallel proposal to Board of Game is needed to adjust the State season so that non-Federally qualified hunters do not suffer in their harvest opportunities.

The modified regulation should read:

Unit 5—Moose	
Unit 5A—except Nunatak Bench, ***west of the Dangerous River****— 1 bull by joint State/Federal registration permit only. From Oct. 8 – Oct. 21, Federal public lands will be closed to taking of moose, except by residents of Unit 5A hunting under these regulations*	*Oct. 8-Nov. 15*
Unit 5A, except Nunatak Bench, east of the Dangerous River- 1 bull by joint State/Federal registration permit only. From Sept. 16 – Sept. 30, Federal public lands are closed to taking of moose, except by residents of Unit 5A hunting under these regulations.	~~*Oct.8*~~ ***Sept. 16*** *– Nov. 15*

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-10: This proposal, submitted by the Yakutat [State Fish and Game] Advisory Committee, liberalizes the federal moose hunting season on the east side of the Dangerous River in Unit 5A by adding an additional 5 weeks to the beginning of the season (September 1–November 15).

Introduction:

In 1996 the Federal Subsistence Board lengthened the federal moose hunting season in Unit 5A by one week by starting it a week earlier than the state season. Although the concurrent seasons had been managed under the state's registration permit system, the new "early hunt" was administered under a separate federal registration permit issued by the U.S. Forest Service (USFS) and the National Park Service. In addition, hunting by non-Yakutat residents was prohibited on federal public lands from October 8–21. Around the same time, a section of Sealaska lands near Yakutat (locally known as "the nine townships") provided moose hunting opportunity for non-Yakutat residents during the state season, which started on October 15 and helped disperse moose hunting effort and harvest west of the Dangerous River.

Just prior to the 2004 hunting season, ADF&G worked with the USFS to craft a joint state and federal permit that now serves as the only permit needed to hunt the Yakutat Forelands. Development of this joint permit made it possible for ADF&G to track all hunting effort and obtain necessary data for management of moose in this area.

In 2012, the nine townships reverted to federal ownership and management, which opened additional harvest opportunity close to town for Yakutat residents under federal regulations and increased harvest significantly. Federal regulations allow designated hunters to hunt moose for multiple people, and there are a few efficient hunters who are able to take multiple moose, accounting for a majority of the harvest. State and federal staff attempt to closely monitor the moose harvest to remain within the quota for the west side of the Dangerous River, which has typically been 25 moose, but hunters often do not report their harvest in a timely fashion. Reported harvests exceeded the annual quota from RY2014–RY2016, even though managers closed the moose hunting seasons within 3–4 days of the start of the federal season and the state hunt was not offered. During those same years hunting east of the Dangerous River remained open for the entire state and federal seasons. From RY2012-RY2016, an average of 44 bull moose was taken per year in Unit 5A. However, despite abundant hunting opportunity, only an average of 15 of those 44 moose was taken east of the Dangerous River. We believe that is due to hunters' inability to access this roadless area by small plane. The one seasonal air charter operator in Yakutat closes in late September before the state hunting season opens on October 15, leaving hunters who do not own private aircraft unable to access the area.

Impact on Subsistence Uses: An early opening of the federal moose hunting season on the east side of the Dangerous River could potentially slow the harvest that occurs closer to town near the road system by allowing hunters to harvest a moose before the west side opens.

Impact on Other Uses: If this proposal is adopted, hunters that do not reside in Yakutat will still have an opportunity to hunt moose under state regulations unless the harvest quota is reached before the state season opens. The Yakutat Fish and Game Advisory Committee has expressed intent to submit a proposal to the Board of Game for their 2018/2019 Southeast Region meeting to open the state moose season on the east side of the Dangerous River on September 8 for all hunters.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for moose in all of Unit 5.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

For moose in Unit 5, the ANS is 50.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
Unit 5A	1 Bull	October 15-November 15 (Registration permit)	October 15-November 15 (Registration permit)

Special instructions: Successful hunters must return the completed hunt report and front portion of the lower jaw to the ADF&G office in Douglas or Yakutat or the USFS office in Yakutat within three (3) days of kill.

Conservation Issues: ADF&G has not identified any conservation concerns for the moose population in Unit 5A. Aerial survey data indicate that the moose population on the east side of the Dangerous River is doing well and has good bull:cow ratios. The percentage of calves observed during surveys was similar in 2015 and 2016 (118 calves:100 cows and 113 calves:100 cows, respectively), which indicates positive recruitment. Bull:cow ratios were higher in 2016 (36:100) than 2015 (19:100), meeting the state's management objective of 25 bulls:100 cows during that year. The 1990 Moose Management Plan calls for a population of 850 moose and a harvest of 70 animals. Even though ADF&G can only conduct minimum counts of the moose population, it is likely the Unit 5A population objective is being met, if all of the moose could be accounted for. However, the unit-wide harvest objective is not being met, primarily due

to the difficulty and expense of accessing hunting opportunity east of the Dangerous River where moose are relatively abundant and lightly harvested.

Opening the hunting season east of the Dangerous River will potentially disperse some harvest pressure from areas west of the Dangerous River that are accessible by road from Yakutat because seasonal air charter service will still be available. Only one air charter service operates in Yakutat and that business closes before the current federal moose season opens.

Enforcement Issues: The Alaska Wildlife Troopers no longer maintain a permanent post in Yakutat. However, troopers from elsewhere make patrols in the Yakutat area during the federal moose season in Unit 5A and enforce all state laws during the federal hunt. USFS law enforcement has had a presence during the last couple years. The local Yakutat police department does not have enforcement authority for wildlife violations.

Recommendation: ADF&G is **NEUTRAL** on this proposal to provide additional harvest opportunity and anticipates that a proposal may be submitted to the Board of Game to allow continued opportunity for Alaska residents living outside the Yakutat area.

WRITTEN PUBLIC COMMENTS



Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: WP18- 01 – WP18-13 pertain to Southeast Alaska

1 message

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 17, 2017 at 10:39 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, George Pappas <george_pappas@fws.gov>

---------- Forwarded message ----------
From: **Curtis Donald Thomas** <seafun@kpunet.net>
Date: Fri, Jul 14, 2017 at 8:01 AM
Subject: WP18- 01 – WP18-13 pertain to Southeast Alaska
To: subsistence@fws.gov

Dear sirs,

Please stop this craziness of creating new classes of citizens with special rights. I was born in Ketchikan and lived on Prince of Whales for 20 years. Someone in your organization is promoting restricting Sitka Black-tail harvest for some residents (only two deer instead of 4) and granting others more rights (5 deer, one doe, multiple permits, extended season, etc).

Recent action has already restricted access to our hunting grounds. Since I currently live in Ketchikan (a huge metropolis of 7,000 people), I cannot start hunting on POW until Aug 16th. The season starts August 1st and ends December 31st, unless you live on POW of course, then you can start in July and continue hunting into January (even people who just moved to the island from New York City).

Your continued segmentation our population is destructive. Please stop this nonsense. The constitution says we are **all equal under the law**. What gives you the right to change this and grant some Americans more rights than others.

Another crazy policy that your group implemented (maybe another group... there are so many Federal groups in Washing trying to determine what is best for us rural residents that one can not keep track). That policy is allowing someone who lives just down the road the ability to harvest 20 halibut per day. These fish average 30-40 pounds. That means some Alaskans can harvest over 500 pounds of halibut every day if they choose while others are limited to 2 fish (which is plenty). 20 fish per day is COMMERCIAL FISHING not sport or subsistence!!!!

I guess I will have to "Self Identify" as a POW resident... if it is good enough for sexual orientation in our military, it must be acceptable for residents that actually spent half of their life in the area you now say some relocated New Yorker has more rights to than I.

Crazy, Crazy, Crazy! You are attempting to fix a problem that does not exist. Please STOP this.

Curtis Thomas
8046 N. Tongass Hwy
Ketchikan, AK 99901

WP18–12 Executive Summary	
General Description	Proposal WP18-12 requests to add residents of the community of Gustavus to the customary and traditional use determination for mountain goat in Unit 1C. *Submitted by: Calvin Casipit.*
Proposed Regulation	***Customary and Traditional Use Determination – Goat*** ***Unit 1 C*** *Residents of Haines, Kake, Klukwan, Petersburg, ~~and~~ Hoonah**, and Gustavus***
OSM Conclusion	**Support**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	**Support**
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	

WP18–12 Executive Summary	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient bases for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Neutral**
Written Public Comments	**1 Oppose**

STAFF ANALYSIS
WP18-12

ISSUES

Proposal WP18-12, submitted by Calvin Casipit, requests to add residents of the community of Gustavus to the customary and traditional use determination for mountain goat in Unit 1C (**Figure 1**).

DISCUSSION

The proponent states that customary and traditional use determination for mountain goat in Unit 1C extend to residents in Units 1D and 4, yet Gustavus residents reside in 1C and do not have a customary and traditional use determination.

The Southeast Alaska Subsistence Regional Advisory Council (Council) has been working to improve customary and traditional use determinations for its region. Under the approach it prefers, customary and traditional use determinations will be made broadly to ensure that subsistence uses are protected and will be allowed to continue. The Council believes customary and traditional use determinations should not be used to limit or restrict subsistence uses. When there are resource shortages and all subsistence needs cannot be met, the Council believes Alaska National Interest Lands Conservation Act (ANILCA) Section 804 procedures can be used to allocate scarce resources.

A significant factor affecting hunting effort in the Southeast Region is the heavily populated Juneau road system (31,000 people), and Ketchikan road system (13,500 people) (ADLWD 2017). People living in these areas are nonrural residents of Alaska under Federal Subsistence Management Program regulations. Juneau and Ketchikan residents are not eligible to harvest fish and wildlife under Federal subsistence regulations, and the proposed customary and traditional use determination will not apply to Juneau or Ketchikan residents that only seasonally reside in Gustavus. Additionally, Glacier Bay National Park constitutes one quarter to one third of the land mass in each of Units 1C, 1D, and 5A. These Federal public lands within the park are closed to all hunting, and wildlife management in the park is not in the Federal Subsistence Board's (Board's) jurisdiction.

The customary and traditional uses of mountain goat by residents of Gustavus have not yet been recognized by the Board. Consequently, the focus of this analysis is expanding the existing customary and traditional use determination for mountain goats in Unit 1C, to include Gustavus.

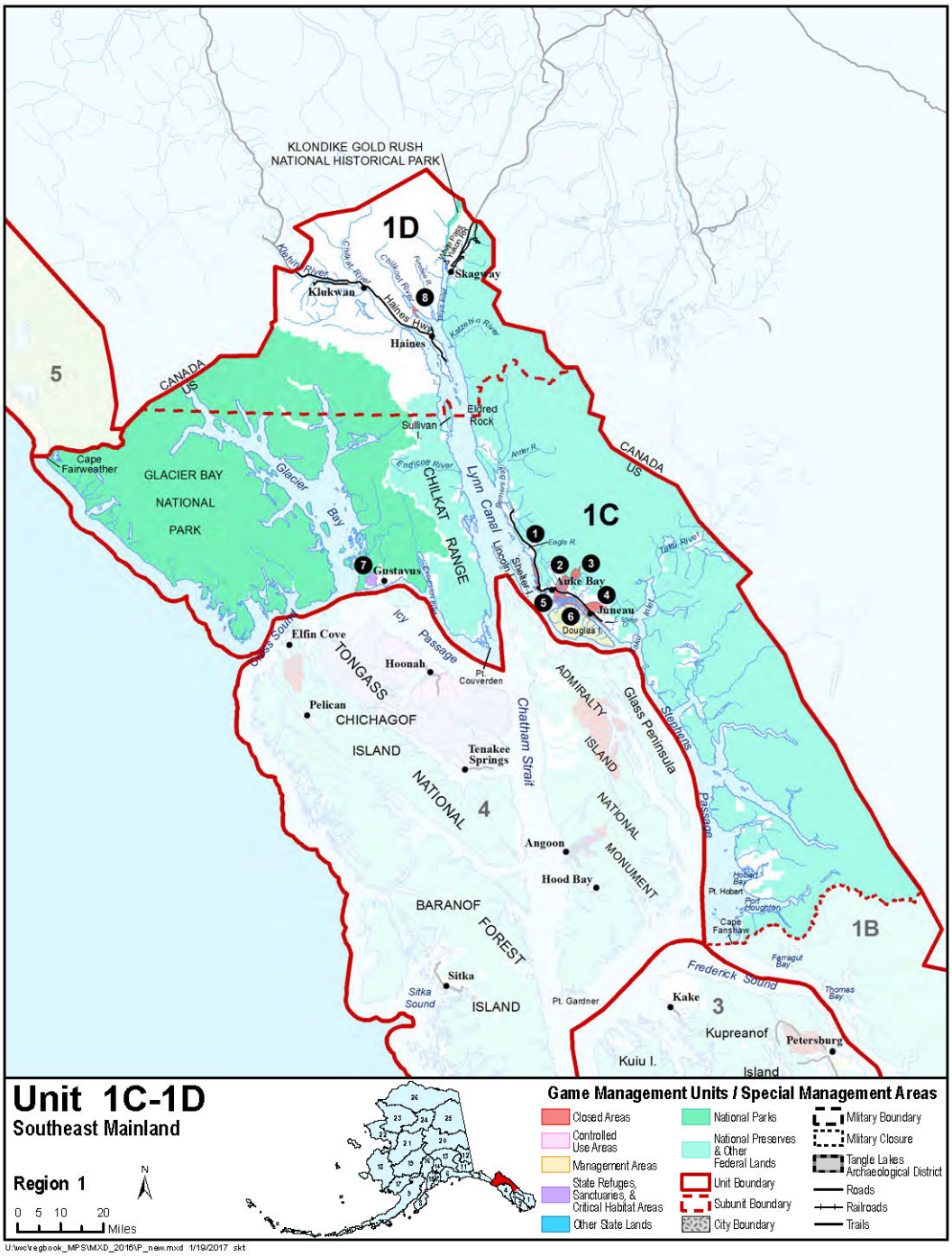


Figure 1. Boundary of Units 1C and 1D (ADFG 2017a). Map numbers within black ovals represent 1) Juneau road system closed area, 2) Mendenhall Lake closed area, 3) Mt. Bullard closed area, 4) Mt. Juneau closed area, 5) Mendenhall Wetlands State Game Refuge, 6) Douglas Management Area, 7) Dude Creek Critical Habitat Area, and 7) Lutak Road closed area.

Existing Federal Regulation

Customary and Traditional Use Determination—Goat

Unit 1C *Residents of Haines, Kake, Klukwan, Petersburg, and Hoonah*

Proposed Federal Regulation

Customary and Traditional Use Determination—Goat

Unit 1C *Residents of Haines, Kake, Klukwan, Petersburg, ~~and~~ Hoonah,* ***and Gustavus***

Extent of Federal Public Lands

Federal public lands comprise approximately 95.5% of Unit 1C and consist of 62.6% U.S. Forest Service (USFS) managed lands and 32.9% National Park Service (NPS) managed lands (see **Figure 1**).

Regulatory History

At the beginning of the Federal Subsistence Management Program in Alaska in 1992, the Board adopted the State's customary and traditional use determination in Unit 1C (72 CFR 22961; May 29, 1992). The customary and traditional use determination that was adopted for goats in Unit 1C included residents of Haines, Klukwan, and Hoonah.

The Board has adopted only one change since 1992 (36 CFR 242; June 29, 1998). In 1998, the Board adopted Proposals P98-07 and P98-08 with modification and added residents of Kake and Petersburg to the customary and traditional use determination for mountain goats in Unit 1C. The Interagency Staff Committee said in its justification for the proposals,

> The recommendation is supportive of the proposal and the Regional Council recommendation. It provides for an expansion of the existing C&T determination based on documented use. The traditional use and ownership area of several Tlingit groups overlap in Unit 1C, with traditional use of the unit by at least the Chilkat, Hoonah, and Kake Tlingits. Contemporary residents of Kake and Petersburg are descended from and are the current members of these groups showing long term traditional use patterns within Unit 1C. In addition, the two communities should be included in the C&T use determination because they have an active record of harvest of goat in the unit. The rationale for extending the positive C&T for these communities to Unit 1C as a whole rather than to a part of it is for regulatory simplicity (FWS 1998:77).

The Board's stated policy is to defer to the recommendations of Regional Advisory Councils on customary and traditional use determinations (FSB 2012). Additionally, the Board can adopt Council recommendations on determinations that include entire management units or entire management areas when residents of a community have demonstrated taking fish or wildlife in a portion of a management unit or management area.

The current customary and traditional use determination for mountain goat in Unit 1C includes the residents of Haines, Kake, Klukwan, Petersburg, and Hoonah. Gustavus does not currently have a customary and traditional use determination for goat in any unit specifically, though within Unit 1A and 1D there is a customary and traditional use determination for all rural residents.

Community Characteristics

Gustavus is located on the north shore of Icy Passage at the mouth of the Salmon River in the St. Elias Mountains (ADCCED 2017). It is approximately 48 air miles northwest of Juneau and is surrounded by Glacier Bay National Park and Preserve to the north, east, and west, and Icy Passage to the south (ADCCED 2017). The community is situated within Unit 1C.

At the time of the 2010 census, a total of 442 year-round residents were documented in Gustavus, representing 212 households. The mean age of community residents is 50 years old (ADCCED 2017). The demographics of Gustavus include both Native and non-Native households (ADCCED 2017). During the summer months there are up to three times the number of residents engaged in seasonal employment and recreational activities than in other months (ADLWD 2017).

Historically, the Gustavus area was used by the Tlingit people for seasonal harvesting and processing of subsistence resources (NPS 2017). It is within the traditional territory of the Hoonah (*Xunaa*) *Kwaan* (ANKN 2017). Western settlers became established at the Gustavus site as early as 1917 and the first successful homestead patent was issued in 1923 (NPS 2017). Early settlers called the town Strawberry Point, but the U.S. Postal Service renamed the town Gustavus in 1925 when they first established an office there (NPS 2017). In the same year, Glacier Bay National Monument, which includes Gustavus, was established by President Calvin Coolidge (ADCCED 2017). Homesteaders appealed the inclusion of Gustavus in the monument for many years and it was excluded when the monument became Glacier Bay National Park in 1980 when ANILCA was passed (ADCCED 2017). The city became incorporated on April 1, 2004 (ADCCED 2017).

The landscapes surrounding Gustavus are relatively flat due to rapid glacial retreat. Captain George Vancouver visited nearby Icy Strait in 1794 and described Glacier Bay as being completely covered by the Grand Pacific Glacier (ADCCED 2017). By 1894 the glacier had retreated 40 miles and by 1916, 65 miles (ADCCED 2017). A spruce-hemlock forest developed on the lands that were previously described by Vancouver as being glaciated (ADCCED 2017).

Eight Factors for Determining Customary and Traditional Use

A community or area's customary and traditional use is generally exemplified through the eight factors: (1) a long-term, consistent pattern of use, excluding interruptions beyond the control of the community or area; (2) a pattern of use recurring in specific seasons for many years; (3) a pattern of use consisting of methods and means of harvest which are characterized by efficiency and economy of effort and cost, conditioned by local characteristics; (4) the consistent harvest and use of fish or wildlife as related to past methods and means of taking: near, or reasonably accessible from the community or area; (5) a means of handling, preparing, preserving, and storing fish or wildlife which has been traditionally used by past generations, including consideration of alteration of past practices due to recent technological advances, where appropriate; (6) a pattern of use which includes the handing down of knowledge of fishing and hunting skills, values, and lore from generation to generation; (7) a pattern of use in which the harvest is shared or distributed within a definable community of persons; and (8) a pattern of use which relates to reliance upon a wide diversity of fish and wildlife resources of the area and which provides substantial cultural, economic, social, and nutritional elements to the community or area.

The Board makes customary and traditional use determinations based on a holistic application of these eight factors (50 CFR 100.16(b) and 36 CFR 242.16(b)). In addition, the Board takes into consideration the reports and recommendations of any appropriate Regional Advisory Council regarding customary and traditional use of subsistence resources (50 CFR 100.16(b) and 36 CFR 242.16(b)). The Board makes customary and traditional use determinations for the sole purpose of recognizing the pool of users who generally exhibit the eight factors. The Board does not use such determinations for resource management or restricting harvest. If a conservation concern exists for a particular population, the Board addresses that concern through the imposition of harvest limits or season restrictions rather than by limiting the customary and traditional use finding.

Specific information on each of the eight factors is not required because a community or area seeking a customary and traditional use determination only has to "generally exhibit" the eight factors (50 CFR 100.16(b) and 36 CFR 242.16(b)).

There is a long term, consistent pattern of use of mountain goat in Unit 1C by residents of Gustavus. The contemporary permanent occupation of Gustavus was settled primarily by non-Native homesteaders who have continued a pattern of historic use of mountain goat in Unit 1C. Today, the community is composed of both Native and non-Native households. The ADF&G Division of Subsistence conducted subsistence harvest surveys in Gustavus in 1987 and found that 4% of households were using mountain goat in that year and that all of them received the resource from other households (ADF&G 2017b). Between 1980 and 1997, at least 13 residents of Gustavus hunted for mountain goat in Unit 1C, and at least 4 were successful (OSM 1998). More recently between 2014 and 2016, seven Gustavus households reported hunting for mountain goat in Unit 1C; four were successful (ADFG 2017c).

Unit 1C is located primarily within the boundaries of the traditional lands used by the Auke Bay Tribe (*Aak'w* Kwaan), the Taku Tribe (*T'aa ku* Kwaan), and the Hoonah Tribe (*Xunaa* Kwaan; ANKN 2017). The Kake Tribe (*Keex*' Kwaan) also had permanent and seasonal settlements in the southern portion of the

unit on the mainland (Firman and Bosworth 1990). The use of mountain goat in Unit 1C by these tribes is well documented in ethnographic literature (see ADF&G 1992). The Hoonah Tlingit harvested goat historically in Glacier Bay and Dundas Bay (Goldschmidt and Haas 1946) and near Excursion Inlet (Schroeder and Kookesh 1990).

The residents of Southeast Alaska have used mountain goat continuously throughout recorded history wherever goat has been found. The mountain goat, found in rocky terrain from the Gulf of Alaska to the Cascade Range of Washington State, has been an important source of food, clothing, tools, and fat or grease to the Tlingit, Tsimshian, and Haida groups of Southeast Alaska (de Laguna 1990). Archaeological evidence obtained from the Prince William Sound area suggests that mountain goat "seems to have played a fairly important part in the diet of those who lived or came near the areas where it could be obtained" (de Laguna 1972).

The Tlingit historically exhibited a pattern of hunting mountain goats ***recurring in specific seasons for many years*** including the fall, early winter, and spring. During the fall and early winter, when goats are at their fattest, hunts took place in mountainous areas (OSM 1998). Temporary camps were utilized and berries picked and preserved while smoking fish and processing goat meat. This means of harvest exhibits both ***efficiency and economy of effort***. Oberg's (1973) sources indicated that any meat to be stored was hunted and dried in August. In the spring, when snow had pushed the goats into the tree-line, they were hunted in timbered areas and their fleece collected from brush and branches for use in weaving ceremonial blankets. Starting in the mid-nineteenth century, some Tlingit groups would go directly from the salmon streams to hunt mountain goat, deer, and bear (Goldschmidt and Haas 1946: de Laguna 1990).

The people of southeast Alaska employ a variety of ***means of handling, preparing, preserving, and storing*** mountain goats ***which have been traditionally used by past generations***. Mountain goats have been used by the indigenous peoples of the region as a source of food, clothing, tools, and fat or grease. Goat horns, skins, and fleece were common trade items among the Tlingits. The horns were used to make spoons, personal ornaments, boxes for storing powder and shot tool handles and feast dishes. Goat skin was thought to make the best drum heads (Emmons 1991; de Laguna 1990). The wool is used to weave ceremonial blankets, each blanket requiring the wool of approximately three goats and taking up to a year to complete. These blankets were found among the Tlingit, Haida, and Tsimshian. According to Tlingit tradition they originated with the Tsimshian and were carried to other groups by intermarriage or migration (Emmons 1991). The wool of the goat was also used for bedding, twisted into cords, and used for decoration, as in ear ornaments. The fat of the goat was melted and formed into cakes. These were used for food and to grease the face before blackening or painting (Emmons 1991). Traditionally, the meat was dried or boiled and preserved in oil (Goldschmidt and Haas 1946). If killed in the mountains, the goat was usually butchered and the meat dried on site to make it easier to pack out (de Laguna 1990).

Goat hunting ***knowledge, skills, values, and lore*** were traditionally passed down to young men by their maternal uncles. In many communities, a goat hunting area may not be shown to newcomers without kinship ties until they become established as a resident. Young women are taught the weaving of the ceremonial Chilkat blankets, made from goat hair, by their mother or maternal grandmother. These

blankets and other items made from goat horns, fleece, and skin are important ceremonial regalia. Blanket wearing is still practiced and taught among Tlingit groups (OSM 1998).

To reach goat hunting areas, Tlingit hunters had to climb high into the mountains (Krause 1956). These areas were reached by canoe, with hunting taking place from heads of rivers and lakes adjacent to steep mountains (Oberg 1973). Traditionally, Tlingit groups used bow and arrow or spears to hunt goat. Trained dogs were used to drive the goats down into canyons where hunters waited to spear them (de Laguna 1990). In a harvest study conducted by ADF&G in 1987-88, one Wrangell elder recalled a story his grandfather had told regarding goat hunting. As a young man, the grandfather was sent along with other young men up a mountain to surround and drive the goats down into the valley where hunters waited at the valley entrance (Cohen 1989). Contemporary hunters use firearms for goat hunting, and boats or airplanes to reach goat hunting areas (ADFG 2017a). Between 2011 and 2013, approximately 82% of successful mountain goat hunters in Unit 1C used boats as their mode of transportation (Scott 2014).

Both past and present harvest of goat in southeast Alaska is demonstrative of ***a pattern of use in which the harvest is shared or distributed within a defined community or persons***. In Tlingit tradition, the meat of a boy's first kill is divided up and distributed, with the belief that this act of sharing would bring luck to the boy in his future hunting. This tradition is still in practice (de Laguna 1972). Goat meat continues to be traded, bartered and shared within and among the communities of Kake and Petersburg, as well as other communities which have used Unit 1C to harvest goat (OSM 1998). ADF&G Division of Subsistence surveys in 1987 showed that while Gustavus residents did not harvest goats in that year, several individuals used goat that they received from elsewhere (ADF&G 2017b).

As in all communities in Southeast Alaska, the harvest and use of a broad range of subsistence caught foods in Gustavus is high, demonstrating ***a pattern of use which relates to reliance upon a wide diversity of fish and wildlife resources of the area which provides substantial cultural, economic, social, and nutritional elements to the community***. The 1987 ADF&G Division of Subsistence surveys documented that in the study year, 100% of households in Gustavus harvested and used wild resources; residents harvested approximately 241 lbs. of subsistence foods per capita (OSM 1998; ADF&G 2017b). Approximately 90% of households gave subsistence foods to other households and an equal percentage received subsistence foods from other households.

The customary and traditional use determinations for other large game species in Unit 1C can provide additional insights on which residents generally exhibit the eight factors used in the determination for mountain goat, using these other species as proxies. Gustavus residents currently have a customary and traditional use determination for deer, black bear, and moose in Unit 1C.

Effects of the Proposal

If this proposal is adopted, those eligible to hunt mountain goats under Federal subsistence regulations in Unit 1C would *increase*, adding residents of Gustavus to the customary and traditional use determination for mountain goat. A customary and traditional determination would increase resident opportunity in the event that State seasons or harvest limits are reduced or closed, it would allow them to continue hunting

mountain goats in the event that the species is closed to non-Federally qualified users on Federal public lands, and allow them to be considered in the event of Federal prioritization among Federally qualified subsistence users in Unit 1C.

If this proposal is not adopted, there would continue to be no priority for Gustavus residents to hunt mountain goat in Units 1C under Federal regulations. The priority for mountain goat hunting in Unit 1C would continue to include residents of Haines, Kake, Klukwan, Petersburg, and Hoonah.

OSM Conclusion

Support Proposal WP18-12.

Justification

Based on a review of the eight factors, rural residents of Gustavus have demonstrated customary and traditional use of mountain goat within Unit 1C. According to ethnographic descriptions and harvest documentation supporting such a finding, residents of Gustavus customarily and traditionally used this resource, and continue to do so.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Southeast Alaska Subsistence Regional Advisory Council

Support WP18-53a. The Council felt that there was not currently a conservation concern for this resource, and including residents of Gustavus in this hunt would not create a concern for conservation. This proposal was supported by traditional ecological knowledge and also by reported harvests. Further, the Council decided this proposal would be beneficial to subsistence users without unnecessarily restricting other users or uses.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient bases for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-12: This proposal, submitted by Calvin Casipit, would add residents of Gustavus to the customary and traditional use determination for mountain goats in Unit 1C.

Introduction: Tlingit people have historically used the area around Gustavus for subsistence harvesting activities. Mountain goats were used by the Tlingit, Haida, and Tsimshian in Southeast Alaska as a source of food, clothing, tools, and fat or grease. Goat horns, skins, and fleece were common trade items. Fur trading of goat skins was recorded by Tikhmenief (ADF&G 1992:48). The community of Gustavus was settled and named by 1925. The population of Gustavus was estimated at 558 by the State of Alaska Department of Labor and Workforce Development (ADLWD 2017).

There is little information about the historical harvesting practices of Gustavus residents, however, harvest reporting has been required by the state since 1980 and show residents of Gustavus have hunted for mountain goats since 1986.

Impact on Subsistence Uses: Adoption of this proposal would increase the pool of federally qualified users eligible to participate in mountain goat hunting opportunities in Unit 1C provided under ANILCA.

Impact on Other Uses: If this proposal were adopted, impact to other users would depend on actions taken by the Federal Subsistence Board or the Alaska Board of Game to provide opportunities to a larger pool of users eligible for hunting under ANILCA.

Opportunity Provided by State: The State of Alaska provides goat hunting opportunities throughout Southeast Alaska. Please refer to the *2017-2018 Alaska Hunting Regulations* for more detail on the current seasons and bag limits in Unit 1C.

State customary and traditional use findings: The Alaska Board of Game has made a positive customary and traditional use finding for mountain goats in Unit 1C outside the Juneau Nonsubsistence Area.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for mountain goats in Unit 1C outside the Juneau Nonsubsistence Area is 25-30.

Conservation Issues: Currently there are no conservation issues concerning mountain goats in Unit 1C as a whole. All hunts are managed by registration permit with relatively short reporting periods (5 days) for successful hunters, which provides area managers the ability to close hunts quickly when guideline harvest levels are reached. Guideline harvest levels are based on the overall number of adult goats observed during the most recent aerial survey: 6 points (male=1pt, female=2pt) of harvest opportunity are provided for every 100 adult goats observed. This is a conservative harvest management strategy that encourages take of males because goats are sensitive to overharvest, particularly females.

Aerial surveys conducted between 2011 and 2016 indicate a stable mountain goat population on the Chilkat Range adjacent to the community of Gustavus (range: 183-377 total goats). Other metrics support the indication that the population is stable: kids/100 adults (range: 14-30) and goats per hour. (range: 20-84). Mountain goat harvest for the period 2001-2016 in the Chilkat Range has averaged 4 goats per year with relatively few female goats being taken (avg. 1/yr.).

U.S. Forest Service permitting staff have indicated an interest by big game guides to obtain additional mountain goat hunt permits in the unit. This, and the variable historical harvest in the unit, have the potential to become a conservation concern for specific goat populations.

Recommendation: ADF&G is **NEUTRAL** on eligibility requirements for participation in the subsistence program provided under ANILCA The Juneau-Douglas Fish and Game Advisory Committee expressed concern that finding a positive C&T for mountain goats in Unit 1C may be the first step in establishing a federal priority for goats, as is the case for moose in portions of Unit 1C.

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WRITTEN PUBLIC COMMENTS

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: WP18-12

AK Subsistence, FW7 <subsistence@fws.gov> Wed, Aug 2, 2017 at 8:55 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Nicholas Orr** <nicholasporr@yahoo.com>
Date: Wed, Aug 2, 2017 at 7:52 AM
Subject: WP18-12
To: "subsistence@fws.gov" <subsistence@fws.gov>

There should be no customary and traditional (CT) use for mountain goats for Gustavus residents because there has been no CT use of mountain goats in Gustavus. The town is only slightly more than 100 years old and as such lacks the 'customary' and 'traditional' parts of the CT designation. Other communities such as Hoonah and Angoon have existed for thousands of years and as such *do* meet the 'customary' and 'traditional' portions of the CT designation. This looks to be an attempt by an individual to shoot mountain goats without regard for season.

WP18–13 Executive Summary	
General Description	Proposal WP18–13 requests removing the requirement that traps and snares be marked with trapper identification in Southeast Alaska (Units 1-5). *Submitted by: Michael Douville of Craig*
Proposed Regulation	**Units 1-5—Trapping (Special Provisions)** ~~*Trappers are prohibited from using a trap or snare unless the trap or snare has been individually marked with a permanent metal tag upon which is stamped or permanently etched the trapper's name and address, or the trapper's permanent identification number, or is set within 50 yards of a sign that lists the trapper's name and address, or the trapper's permanent identification number. The trapper must use the trapper's Alaska driver's license number or State identification card number as the required permanent identification number. If a trapper chooses to place a sign at a snaring site rather than tagging individual snares, the sign must be at least 3 inches by 5 inches in size, be clearly visible, and have numbers and letters that are at least one-half inch high and one-eighth inch wide in a color that contrasts with the color of the sign.*~~
OSM Conclusion	**Support**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	**Support**
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	

WP18–13 Executive Summary	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

WP18–13 Executive Summary	
ADF&G Comments	**Neutral**
Written Public Comments	**1 Oppose**

STAFF ANALYSIS
WP18-13

ISSUES

Proposal WP18-13, submitted by Michael Douville of Craig, requests removing the requirement that traps and snares be marked with trapper identification in Southeast Alaska (Units 1-5).

DISCUSSION

The proponent states that during the March 2016 statewide Alaska Board of Game (BOG) meeting, the requirement to mark traps and snares under State regulations was removed. This requirement is still in place for Federal regulations. The proponent asserts that requiring Federally qualified subsistence users to mark traps while State regulations do not is unnecessary and burdensome.

Existing Federal Regulation

Units 1-5—Trapping (Special Provisions)

Trappers are prohibited from using a trap or snare unless the trap or snare has been individually marked with a permanent metal tag upon which is stamped or permanently etched the trapper's name and address, or the trapper's permanent identification number, or is set within 50 yards of a sign that lists the trapper's name and address, or the trapper's permanent identification number. The trapper must use the trapper's Alaska driver's license number or State identification card number as the required permanent identification number. If a trapper chooses to place a sign at a snaring site rather than tagging individual snares, the sign must be at least 3 inches by 5 inches in size, be clearly visible, and have numbers and letters that are at least one-half inch high and one-eighth inch wide in a color that contrasts with the color of the sign.

Proposed Federal Regulation

Units 1-5—Trapping (Special Provisions)

~~*Trappers are prohibited from using a trap or snare unless the trap or snare has been individually marked with a permanent metal tag upon which is stamped or permanently etched the trapper's name and address, or the trapper's permanent identification number, or is set within 50 yards of a sign that lists the trapper's name and address, or the trapper's permanent identification number. The trapper must use the trapper's Alaska driver's license number or State identification card number as the required permanent identification number. If a trapper chooses to place a sign at a snaring site rather than tagging individual snares, the sign must be at least 3 inches by 5 inches in size, be clearly visible, and have numbers and letters that are at least one-half inch high and one-eighth inch wide in a color that contrasts with the color of the sign.*~~

Existing State Regulation

There are no trap marking requirements in State regulations for Units 1-5.

Extent of Federal Public Lands

Federal public lands comprise approximately 88% of Units 1-5 and consist of 69% U.S. Forest Service (USFS) managed lands, 19% National Park Service (NPS) managed lands, less than 1% Bureau of Land Management (BLM) managed lands and less than 1% U.S. Fish and Wildlife Service (USFWS) managed lands (see **Unit Maps**). National Park Service lands in Units 1C, 1D, and Unit 5A within Glacier Bay National Park, are closed to subsistence.

Customary and Traditional Use Determinations

The Federal Subsistence Board (Board) has not made a customary and traditional use determination for beaver, coyote, red fox, lynx, marten, mink, muskrat, river otter, wolf and wolverine in Unit 1-5. Therefore, all Federally qualified subsistence users may harvest these species in these units.

Regulatory History

In 2012, the Board adopted Proposal WP12-14 which implemented the trap marking requirement for Units 1-5. The rational of the Board was that the Alaska Board of Game (BOG) adopted trap marking requirements for Units 1-5 in 2006 in response to concerns by Alaska Wildlife Troopers, Alaska Department of Fish and Game (ADF&G) personnel, and members of the public that trapping as a whole would benefit from having some way of identifying ownership of traps and snares. This was prompted by traps being placed in areas where trapping was not allowed, or in some cases where pets were caught and contacting the trapper was not possible due to no required marking on the traps. In addition, there have been numerous cases of unattended snares being found on Prince of Wales Island without any way of contacting the responsible trapper. In some cases, snares were found after the season closed and were still capable of capturing a passing deer, bear, or wolf. In these situations, it is essential for conservation of these species that the owner of the snares be identified for both educational and enforcement purposes (FSB 2012).

The Southeast Alaska Subsistence Regional Advisory Council expressed a concern that there was a lack of evidence why traps should be marked in either State or Federal regulations, and stated that regulations should be adopted for a good reason and that this does not include one bear caught in a snare, set by an unknown person for an unknown reason (SEASRAC 2011). However, the Council supported the proposal, stating the benefit of aligning Federal and State regulations and reducing the uncertainty about whether current regulations required traps to be marked.

In 2014, the Board considered Proposal WP14-01, which requested new statewide Federal provisions requiring trapper identification tags on all traps and snares, the establishment of a maximum allowable time limit for checking traps, and establishment of a harvest/trapping report form to collect data on non-target species captured in traps and snares. The proposal was unanimously opposed by all ten Federal Subsistence

Regional Advisory Councils, the Alaska Department of Fish and Game, and the public as reflected in written public comments submitted. As such, the proposal was rejected by the Board as part of its consensus agenda (FSB 2014). The analysis for the proposal indicated its statewide application would be unmanageable, making it more appropriate for regional consideration. Additionally, it would require substantial law enforcement and public education efforts, and users could avoid the regulation by trapping under State regulations.

In March of 2016, the BOG removed trap marking requirements statewide in response to Proposal 78. The BOG determined that trappers are generally responsible and that the 2006 regulation was not addressing the reasons why it was implemented, noting that marking traps does not prevent illegal trapping activity or prevent dogs from getting trapped.

Hunting and trapping are not allowed on Federal public lands in Glacier Bay National Park, Sitka National Historical Park or Klondike Gold Rush National Historical Park. In order to engage in subsistence in Wrangell-St. Elias National Park (WRST), the National Park Service requires that subsistence users either live within the park's resident zone (36 CFR 13.430, 36 CFR 13.1902) or have a subsistence permit (36 CFR 13.440) issued by the Park Superintendent.

Trapping seasons for most furbearers are aligned under State and Federal regulations in Units 1-5. Earlier openings do occur for some species under State regulations. There is one species for which the Federal season extends beyond the State season; beaver season is through May 15 for Units 1-5 under Federal regulations and through April 30 under State regulations. Within WRST, trapping is only allowed under Federal regulations. Consequently, with the exception of WRST and during the 2 weeks of extended season for beaver, trappers are able to trap under the less restrictive State regulations during the concurrent Federal season, and not be required to mark their traps.

Current Events

The Southeast Alaska Subsistence Regional Advisory Council submitted two proposals for the 2018-2020 Federal regulatory cycle that would align season dates for State and Federal trapping regulations in the Southeast Region. Proposal WP18-03 requests modifying the Federal hunting and trapping seasons in Unit 1 for wolves to match those currently under State regulations. Proposal WP18-05 requests lengthening the Federal hunting and trapping seasons for wolves in Unit 3 to match those currently under State regulations.

The Wolf Technical Committee (2017) recommended that USFS and ADF&G staff work with advisory groups and law enforcement to determine need and effectiveness of wolf trap marking requirements for Unit 2 wolves in both State and Federal regulations. These discussions have not yet occurred.

Effects of the Proposal

Federally qualified subsistence users are currently required to purchase and install metal name tags on their traps and snares, or to place a sign near their snare site(s). Copper tags stamped with the trapper's identification information, including fasteners, are relatively inexpensive (approximately $25 per 100 tags

or less for "write your own" tags). Adoption of this proposal would remove that requirement; saving trappers this limited expense and burden.

The requirement to mark traps under Federal regulations is currently difficult to enforce. Removing this regulation would align State and Federal regulations and reduce confusion for users and law enforcement. Within WRST, trapping is only allowed under Federal regulations, thus adopting this proposal would remove the requirement to mark traps in the Park.

Although marking traps does not necessarily prevent illegal trapping activity or prevent dogs from getting trapped, it does allow law enforcement to identify trappers that have traps deployed outside the open season or have otherwise violated regulations, and may encourage responsible and ethical trapping. Recent examples of illegal activities (trapping out of season and wonton waste) have occurred in the Yakutat area, for example, where without the State marking requirement law enforcement officers did not have the information available to contact the trappers regarding the violations. It also allows law enforcement officers to contact trappers and educate them on trapping rules and regulations in the case of unintentional violations or to minimize user conflicts including injured pets. Adoption of this proposal would decrease enforcement officer's abilities to identify and contact individual trappers for any of these situations, and decrease their overall ability to enforce legal and responsible/ethical trapping, which may result in localized conservation concern for some species. However, given that trappers are currently not required to mark traps under State regulations, and no additional harvest is expected to occur, no additional conservation concerns are anticipated.

The marking of traps has an added public safety benefit; if non-trappers, including parents and dog owners, encounter a set while recreating, they can contact the trapper for more information on trapping activity in the area, thus reducing the potential for user conflicts including injured children and pets. Minimizing user conflicts also helps prevent negative public attitude regarding trapping. Adoption of this proposal would remove these benefits. Subsequently, there would be minimal beneficial effects to other users (i.e. recreationists/dog walkers).

Removing the requirement to mark traps may prevent harassment of individual trappers by persons opposed to trapping. However, currently, trappers can use their permanent identification number (Alaska driver's license number or State identification card number) to meet the marking requirement, which may provide some level of confidentiality.

Adoption of this proposal would preempt the efforts of the Wolf Technical Committee and its discussions with law enforcement and interested groups. Results of these discussions would, however, be useful when considering future proposals.

OSM CONCLUSION

Support Proposal WP18-13.

Justification

Adoption of this proposal will align State and Federal regulations related to trap marking throughout most of Units 1-5. Requiring traps to be marked does not prevent illegal trapping activity, and in most cases users are currently able to trap under the less restrictive State regulations, effectively rendering the Federal marking requirement unenforceable as Federally qualified users could avoid the requirement by trapping under State regulations. There will be minimal effects to other users. There is no anticipated conservation concern with adopting this proposal, as there is no established correlation between level of harvest and trap marking requirements. Future discussions between State and Federal managers, including law enforcement users, as well as input from the public, should continue.

LITERATURE CITED

FSB. 2014. Transcripts of Federal Subsistence Board proceedings, April 15-17, 2014. Office of Subsistence Management, FWS. Anchorage, AK.

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SEASRAC. 2011. Transcripts of the Southeast Subsistence Regional Advisory Council, September 27-29, 2011 in Wrangell, Alaska. Office of Subsistence Management, FWS. Anchorage, AK.

Wolf Technical Committee. 2017. Interagency Wolf Habitat Management Program: Recommendations for Game Management Unit 2. Management Bulletin R10-MB-822. USDA Forest Service, USDI Fish and Wildlife Service, and Alaska Department of Fish and Game.

SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Southeast Alaska Subsistence Regional Advisory Council

Support WP18-13. The Council felt that this was an opportunity to align more restrictive Federal regulations with State regulations. The Council decided there was not a conservation concern, that there was substantial evidence supporting this housekeeping proposal. Adoption of this proposal would provide a minor benefit to subsistence users by eliminating one requirement of trappers and there are no restriction of other uses.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-13: This proposal, submitted by Michael Douville, would remove the trap marking requirement under federal trapping regulations for Units 1–5 and align federal and state trapping requirements.

Introduction: In response to concerns expressed by the Alaska Wildlife Troopers (AWT), the Department of Fish and Game, and the public, the Board of Game (BOG) adopted trap marking requirements for Units 1–5 during their 2006 meeting. Agency and public concerns were prompted by traps being set in closed areas, traps left set after seasons closed, and pets and non-target species being caught in traps. In such cases enforcement officers often had difficulty identifying the responsible trapper for enforcement or educational purposes. The trap marking requirement was intended to make identifying trappers easier and was also thought to encourage more responsible trapping practices. This requirement went into effect during the regulatory year (RY) 2007 trapping season.

To align federal and state regulations and eliminate confusion over whether traps and snares needed to be marked, the Federal Subsistence Board adopted an identical requirement to mark traps in 2012. Though ultimately supporting the new regulation, there was concern from the Southeast Subsistence Regional Advisory Council (SE RAC) that there was insufficient evidence of conservation or ethical concerns to warrant a trap-marking requirement.

Beginning with the RY2012 trapping season all trappers in Units 1–5 were required to mark their traps and snares under state and federal regulations. The mark could be a metal tag affixed to each trap/snare or a 3-inch by 5-inch placard set within 50 yards of each set.

At the request of the Alaska Trappers Association (Proposal 78), the Alaska Board of Game rescinded the state requirement to mark traps in Units 1–5 for identification during its March 2016 Statewide meeting. State and federal regulations are no longer aligned, and federal regulations are now more restrictive than state regulations.

Impact on Subsistence Uses: If the proposal is adopted, federally qualified subsistence users would no longer be required to mark their traps when trapping on federal lands.

Impact on Other Uses: If the proposal is adopted there would be no effect on other users.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for furbearers in all of Southeast Alaska outside nonsubsistence areas.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

For furbearers in all Southeast Alaska units outside nonsubsistence areas with a harvestable portion, the ANS is 90% of the harvestable surplus.

		Open Season	
Unit/Area	Bag Limit	Resident	Nonresident
1-5	No limit except only one fisher	Season dates vary by species. Consult current trapping regulations.	

Special instructions: All beaver, lynx, marten, river otter, wolf, and wolverine harvest under state trapping regulations are required to be sealed within 30 days of the close of the season.

Conservation Issues: Illegally or poorly placed traps and snares can pose a threat to wild animals, pets, and public safety. Unreported harvest of furbearers in unlawfully set traps and snares has been documented, as well as instances of pets, deer, and black bears being caught in traps or snares and target species not being salvaged.

Despite these social conflicts, there is no evidence that marking of traps will address these concerns, and trappers have complained of being wrongfully accused of illegally trapping after their marked traps were relocated and set by other people.

Enforcement Issues: The requirement to mark traps was established to encourage lawful and ethical trapping because individual trappers can be more readily identified and held accountable for their actions. When enforcement officers spot illegal or unethical trapping activity, marked traps are a great help in identifying the trapper for enforcement or educational purposes.

Recommendation: ADF&G is **NEUTRAL** on this proposal because trap identification does not address a biological concern for furbearer populations.

WRITTEN PUBLIC COMMENTS



Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: WP18- 01 – WP18-13 pertain to Southeast Alaska

1 message

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 17, 2017 at 10:39 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, George Pappas <george_pappas@fws.gov>

---------- Forwarded message ----------
From: **Curtis Donald Thomas** <seafun@kpunet.net>
Date: Fri, Jul 14, 2017 at 8:01 AM
Subject: WP18- 01 – WP18-13 pertain to Southeast Alaska
To: subsistence@fws.gov

Dear sirs,

Please stop this craziness of creating new classes of citizens with special rights. I was born in Ketchikan and lived on Prince of Whales for 20 years. Someone in your organization is promoting restricting Sitka Black-tail harvest for some residents (only two deer instead of 4) and granting others more rights (5 deer, one doe, multiple permits, extended season, etc).

Recent action has already restricted access to our hunting grounds. Since I currently live in Ketchikan (a huge metropolis of 7,000 people), I cannot start hunting on POW until Aug 16th. The season starts August 1st and ends December 31st, unless you live on POW of course, then you can start in July and continue hunting into January (even people who just moved to the island from New York City).

Your continued segmentation our population is destructive. Please stop this nonsense. The constitution says we are **all equal under the law**. What gives you the right to change this and grant some Americans more rights than others.

Another crazy policy that your group implemented (maybe another group... there are so many Federal groups in Washing trying to determine what is best for us rural residents that one can not keep track). That policy is allowing someone who lives just down the road the ability to harvest 20 halibut per day. These fish average 30-40 pounds. That means some Alaskans can harvest over 500 pounds of halibut every day if they choose while others are limited to 2 fish (which is plenty). 20 fish per day is COMMERCIAL FISHING not sport or subsistence!!!!

I guess I will have to "Self Identify" as a POW resident... if it is good enough for sexual orientation in our military, it must be acceptable for residents that actually spent half of their life in the area you now say some relocated New Yorker has more rights to than I.

Crazy, Crazy, Crazy! You are attempting to fix a problem that does not exist. Please STOP this.

Curtis Thomas
8046 N. Tongass Hwy
Ketchikan, AK 99901

WP18–14 Executive Summary	
General Description	Proposal WP18-14 requests an extension of the wolverine hunting and trapping seasons in Unit 13 and the hunting season in Unit 11. The proposed hunting seasons in Units 11 and 13 would change from Sept. 1 – Jan. 31 to Sept. 1 – Feb. 28. The proposed Unit 13 trapping season would change from Nov. 10 – Jan. 31 to Nov. 10 – Feb. 28, which would match the existing trapping season in Unit 11. *Submitted by: Wrangell-St. Elias National Park Subsistence Resource Commission.*
Proposed Regulation	**Hunting** **Units 11 and 13—Wolverine** *1 wolverine* — *Sept. 1 – ~~Jan. 31~~* ***Feb. 28*** **Trapping** **Unit 11—Wolverine** *No limit* — *Nov. 10 – Feb. 28* **Unit 13—Wolverine** *No limit* — *Nov. 10 – ~~Jan. 31~~****Feb. 28***
OSM Conclusion	**Support**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	**Support**
Kodiak/Aleutians Subsistence Regional Advisory Council	

WP18–14 Executive Summary	
Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	**Support**
North Slope Subsistence Regional Advisory Council	

WP18–14 Executive Summary	
Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee (ISC) found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal. The Federal Subsistence Board (Board) is charged by ANILCA to provide rural residents of Alaska the priority opportunity for non-wasteful subsistence uses on Federal public lands. When evaluating proposed changes to federal subsistence regulations, the Secretaries of Interior and Agriculture give deference to recommendations made by the Regional Advisory Councils. The Board may choose not to follow any recommendation which the Board determines is not supported by substantial evidence, violates recognized principles of fish and wildlife conservation or would be detrimental to the satisfaction of subsistence needs. The ISC has identified several proposals submitted in this wildlife cycle that request changes to seasons and harvest limits for wolves, bears and wolverines with the primary justification of aligning Federal regulations with State regulations or at times misalignment with State regulations in order to align with other unit or species specific Federal regulations. These proposals generally cite the need for alignment as being necessary to reduce regulatory confusion among subsistence users. The OSM analyses usually conclude that the season alignments will have little impact on harvest as the State has already established the harvest parameters and a federal subsistence user could already hunt under State regulations if they chose to. While aligning seasons may be desirable in some cases, it is not appropriate for all. For example, in the case of wolves, extending seasons to June 1 provides increased opportunity, but this opportunity coincides with a vulnerable time when wolves are bearing and raising their young, and pelts are of poor quality. In general, extensions of seasons into important life cycle periods (denning, rearing, breeding etc.) may reduce populations to unhealthy levels, especially when data regarding the status of such populations is limited. What is known about most species is their general biological life cycle and this information should be used to inform and establish seasons and harvest limits that are aligned with sound wildlife conservation practices. Often little, if any, population dynamics information is available on species like wolves, bears or

WP18–14 Executive Summary	
	wolverines. Given the difficulty and expense of determining population estimates for predator species, harvest seasons and rates may only be based on sporadic or incidental surveys or harvest records that may be incomplete All three species, especially bears and wolverines, have been recognized by wildlife managers as being susceptible to overharvest due to their low rates of reproduction. A more conservative approach to management of species that have low reproductive potential and are slow to recover from overharvest, may be warranted. Regulatory alignment shouldn't be the driving factor or primary justification for changing seasons and harvest limits. The Federal Subsistence Program should weigh the need of providing additional opportunity with potential impacts to wildlife populations; and the requirement by ANILCA to manage for sustainable and healthy wildlife populations using sound wildlife conservation practices.
ADF&G Comments	**Neutral**
Written Public Comments	**1 Support**

STAFF ANALYSIS
WP18-14

ISSUES

Proposal WP18-14, submitted by the Wrangell-St. Elias National Park Subsistence Resource Commission, requests an extension of the wolverine hunting and trapping seasons in Unit 13 and the hunting season in Unit 11. The proposed hunting seasons in Units 11 and 13 would change from Sept. 1 – Jan. 31 to Sept. 1 – Feb. 28. The proposed Unit 13 trapping season would change from Nov. 10 – Jan. 31 to Nov. 10 – Feb. 28, which would match the existing trapping season in Unit 11.

DISCUSSION

The proponent would like to have the same opportunities for harvesting wolverines in Units 11 and 13. In addition, alignment of the wolverine and lynx trapping seasons would allow trappers to keep a wolverine incidentally caught in a lynx set in February in Unit 13.

Existing Federal Regulation

Hunting

Units 11 and 13—Wolverine

1 wolverine	*Sept. 1 –Jan. 31*

Trapping

Unit 11—Wolverine

No limit	*Nov. 10 – Feb. 28*

Unit 13—Wolverine

No limit	*Nov. 10 – Jan. 31*

Proposed Federal Regulation

Hunting

Units 11 and 13—Wolverine

1 wolverine	*Sept. 1 – ~~Jan. 31~~* ***Feb. 28***

Trapping

Unit 11—Wolverine

No limit	*Nov. 10 – Feb. 28*

Unit 13—Wolverine

No limit	*Nov. 10 – ~~Jan. 31~~****Feb. 28***

Existing State Regulation

Hunting

Units 11 and 13—Wolverine

One wolverine	*Sept. 1 – Jan.31*

Units 11 and 13—Wolverine

Trapping

No limit	*Nov. 10 – Jan.31*

Extent of Federal Public Lands

Federal public lands comprise approximately 87% of Unit 11 and consist of approximately 84% National Park Service (NPS) managed lands, 3% U.S. Forest Service (USFS) managed lands, and 0.1% Bureau of Land Management (BLM) managed lands (See **Unit 11 Map**).

Federal public lands comprise approximately 12% of Unit 13 and consist of approximately 6% National Park Service (NPS) managed lands, 2% U.S. Forest Service (USFS) managed lands, and 4% Bureau of Land Management (BLM) managed lands (See **Unit 13 Map**). Federal public lands within Denali National Park as it existed prior to ANILCA (December 1980) are closed to all hunting and trapping.

Customary and Traditional Use Determinations

The Federal Subsistence Board (Board) has not made a customary and traditional use determination for wolverine in Units 11 and 13. Therefore, all Federally qualified subsistence users may harvest this species in this unit.

Under the guidelines of the Alaska National Interest Lands Conservation Act (ANILCA), National Park Service regulations identify qualified local rural subsistence users in National Parks and Monuments by: 1) identifying resident zone communities which include a significant concentration of people who have customarily and traditionally used subsistence resources on park lands; and 2) identifying and issuing subsistence use (13.440) permits to individuals residing outside of the resident zone communities who have a personal or family history of subsistence use. In order to engage in subsistence on National Park lands in Wrangell St. Elias National Park (WRST) or Denali National Park (DENA) ANILCA additions, the National Park Service requires that subsistence users either live within the park's resident zone (36 CFR 13.430, 36 CFR 13.902, 36 CFR 13.1902) or have a subsistence permit (36 CFR 13.440) issued by the park superintendent.

Regulatory History

Wolverine harvests declined throughout the 1970s and 1980s following the mandatory sealing requirement implemented by the State in 1971. Before sealing began, fur buyer reports and bounty records were the primary source of wolverine harvest data. In 1990 the Federal Subsistence Board (Board) adopted the State's hunting and trapping regulations for wolverines. In 1987 the State wolverine trapping season was shortened in Units 11 and 13 from Nov. 10 -Mar. 31 to Nov. 10-Feb. 28 to help the wolverine populations recover. However, this did not occur and by 1992 wolverines could only be found in the remote mountains of Unit 13. In 1992, the Board adopted Proposal P92-031 to reduce the harvest limits under the trapping regulations from "No limit" to "two wolverines" and to retain the Feb. 28 closure date for the trapping season as wolverines are more vulnerable to harvest in late winter and early spring (OSM 1992a). In 1992, the Board also closed Federal public lands in Unit 11 and Unit 13 to wolverine hunting except by Federally qualified subsistence users (P92-031) (OSM 1992a). The Board also adopted Proposal P92-032 which reduced the hunting season from Sept. 1- Mar. 31 to Sept. 1 – Jan. 31 (OSM 1992b). The State also shortened the wolverine hunting and trapping seasons to January 31 and the hunting harvest limit to 1 wolverine on State lands in the 1992-1993 regulations. The trapping harvest limit remained at 2 wolverines during 1992-1993.

In 1994, the Board rejected Proposal P94-21 which sought to allow non-Federally qualified users to take wolverines on Federal public lands in Units 11 and 13. The Board supported the Southcentral Alaska Subsistence Regional Advisory Council's (Council) recommendation to oppose the proposal due to concerns that the wolverine populations in Units 11 and 13 had not recovered sufficiently (OSM 1994).

In 1997, the Board adopted Proposal P97-32 opening Federal public lands for non Federally qualified users to wolverine trapping in Units 11 and 13 and increased the harvest limit from "two wolverines" to "No limit". The State also dropped the harvest limit that restricted trappers to two wolverines. These actions were based on density estimates that suggested wolverine densities were within the range of densities found in typical wolverine habitat in other areas. In addition, there was no significant difference in the harvest before and after the two wolverine harvest limit and the restriction on non-Federally qualified users (OSM 1997).

At the spring 2008 Board meeting, the Alaska Department of Fish and Game (ADF&G) opposed proposal WP08-03/04 to align the lynx and wolverine trapping season, but noted that it "…can support in-season authority being delegated to either the National Park Service or to the Office of Subsistence Management to adjust the wolverine trapping season so that it matches the lynx trapping season" (FSB 2008). Council Chair Ralph Lohse explained to the Board, "There's no way you can trap lynx without catching wolverines but there's no way you can trap wolverines without catching lynx." Chairman Lohse also noted that the idea of WP08-03/04 "…was to align the lynx and wolverine season so that somebody's not tempted to keep a wolverine after the lynx season is closed, or to keep lynx after the wolverine season's closed"(FSB 2008). On April 30, 2008, the Board adopted Proposal WP08-03/04 to align the Unit 11 wolverine trapping season with the Unit 11 lynx season and extend the trapping season from Nov. 10–Jan. 31 to Nov. 10–Feb. 28 and delegated its authority to do so to the Assistant Regional Director, Office of Subsistence Management in coordination with the State of Alaska regulations based on health of the lynx population in Unit 11. The wolverine populations in Unit 11 were considered healthy enough to sustain the additional harvest and the season extension would allow trappers to keep wolverines incidentally taken in lynx sets in February (OSM 2008).

In March 2010 the Council supported Proposal WP10-34, which requested the wolverine season be managed independently from the lynx season in Unit 11. Chairman Lohse and other Council members did not feel that there were associated wolverine conservation issues. In 2010, the Board adopted the proposal. Because lynx populations are cyclic and wolverine populations are not, the Board decided to manage the species separately (OSM 2010).

Biological Background

State management goals and objectives for wolverines in Units 11 and 13 are as follows (Robbins 2013):

- Provide for an optimal harvest of furbearers consistent with sustained yield principles.
- Manage accurate annual harvest records based on sealing documents
- Maintain indices of population trends using trapper questionnaires and track surveys.

Relatively little research on wolverines has been done in Units 11 and 13 and thus the biology is based in part on studies from other parts of Alaska, North America, and Scandinavia. Wolverines are distributed across Alaska and are most abundant in the mountains of the Chugach, Talkeetna, and Alaska ranges in Unit 13 and in the Chugach and Wrangell ranges in Unit 11. Male wolverines have exceptionally large home ranges that range from 230-1,579 km^2 (89 to 610 mi^2); resident female home ranges average 100-400 km^2 (39-154

mi^2), and the home range of transient and subordinate individuals is between the two (Hornocker and Hash 1981, Magoun 1985, Whitman et al. 1986, Banci and Harestad1990, Gardner et al. 2010). Wolverines are opportunistic predators and scavengers, eating just about anything they can find or kill. They have a seasonal pattern to primarily scavenge in winter and use a variety of prey in summer, e.g. rodents, snowshoe hares, birds, and carrion. In a Yukon Territory study, snowshoe hare contributed the highest proportion of any single prey species to the wolverine's diet (Banci 1987). Range size may be related to habitat, topography, and food availability (Gardner 1985)

Wolverines are generally solitary outside of the breeding season (May et al. 2006). Breeding season occurs between May and August; however, the species is polygamous and exhibits delayed implantation, occurring between December and February, followed by a gestation period of 30-50 days (Rausch & Pearson 1972, Inman et al. 2012). Use of reproductive dens begins from early February to late March (Copeland and Whitman 2003). In Unit 11 pregnant female wolverines den mostly in the inaccessible higher mountainous areas (FSB 2008). Females utilize two different dens prior to weaning their young: a natal den (birth location) and a maternal den (used after birthing but before weaning). Female wolverines usually give birth to 1-2 young between February and April (Inman et al. 2012). Females vacate dens in late April to mid-May, moving to rendezvous sites where mothers leave their young while acquiring food (Inman et al. 2012). In Alaska and the Yukon Territory, wolverine kits are born predominantly from mid-February through March (Rausch and Pearson 1972). Juveniles are weaned in 9 to 10 weeks, begin to travel with their mothers in early summer, and are independent by late summer.

The reproductive capacity of wolverines is limited; the abundance of food determines whether pregnancy will be maintained, and the number of young that will be born. Wolverine research in North America and Scandinavia found that only 38-57% of the females reproduced each year, and that the annual birth rate was only 0.4-0.9 kits/female (Magoun 1985, Copeland 1996, Persson 2003, and Krebs and Lewis 1999). Wolverines have low reproductive rates, averaging <1 weaned kit/adult female annually (Krebs et al. 2004). Female wolverines are capable of aborting or reabsorbing fetuses if food availability is too low to support pregnancy and lactation. Persson (2003) found that the annual recruitment of juveniles to one year of age was 0.5 kits/female. The size of winter food caches likely influences the outcome of wolverine pregnancies (Inman et al. 2012).

Wolverine population estimates are difficult to determine as the species' large home ranges cause them to naturally occur at low densities. Between 1987 and 1995 density estimates in good habitat at high elevations in Units 13A and 13D were 4.7-5.2/1000 km^2 (Becker and Van Daele 1988, Gardner and Becker 1991, Golden 2007). Densities in the Talkeetna mountains were estimated to be 1/213 km^2 (4.7/1000km^2) (Gardner and Becker 1991). ADF&G conducted a study from 2011 to 2014 in portions of Units 13A and 13E, to describe the distribution, habitat use, and estimate the current wolverine population size (Colson 2015). The high densities of 9.48 wolverines/1000 km^2 (CI=8.12-10.83) found in the Wolverine Study Area (WSA), using an aerial Sample-Unit Probability methodology (SUPE), were comparable to the high densities of 9.7 wolverines per 1000 km^2 found in the Yukon (Golden et al. 2007). Similar wolverine densities of 9.7 wolverines/1000 km^2, using mark-recapture methods, were also found in Southeast Alaska (Royle et al. 2011). The densities in Units 13A and 13E were much greater than the 3.0 wolverines/1000 km2 found in Turnigan Arm and Chugach Mountains using the SUPE methodology (Golden et al. 2007).

Although there are no recent density estimates for Units 13B and 13D, the high wolverine densities in Unit in 13A suggest that this area may serve as refugia for Unit 13 remainder (Colson 2015).

Gardner et al. (2010) conducted a coarse (large)-scale aerial survey of Interior Alaska in 2006 to estimate wolverine occurrence and distribution. The survey covered an estimated 180,000 km^2 (69,500 mi^2) which included all of the Eastern Interior region as well as portions of Units 24 and 21. They observed wolverine tracks in 66% of the units sampled and occupancy modelling indicated 83% of the study area as core wolverine habitat, illustrating that wolverines are widely distributed throughout Interior Alaska (Gardner et al. 2010). Gardner (1985) found that movements of radio collared wolverines in Unit 13 declined during the fall but increased again in February with the dispersal of juveniles into vacant habitat. This suggests that wolverine harvest is not just a function of trapping effort and that extending the season into February may increase the take of dispersing juveniles. Long distance dispersal of wolverines has been documented in Unit 13 (Golden 1997) and is a potential source of population redistribution into vacant habitat. Krebs et al. (2004) found trapped wolverine populations to likely be maintained by immigration of wolverines from untrapped areas, termed refugia. Krebs et al. (2004) asserted the establishment and/or preservation of refugia twice the size of trapped areas may be necessary to ensure long-term viability of trapped wolverine populations.

Human caused mortality is an important source of adult wolverines mortality according to many North American studies (Hornocker and Hash 1981, Whitman and Ballard 1983, Magoun 1985, Banci 1987). Banci (1994) and Copeland (1996) reported that starvation and predation are the most common natural causes of wolverine mortality. Persson (2003) found that predation by adult wolverines was the most important cause of juvenile wolverine mortality during their first summer. It appears that few wolverines live longer than 5 to 7 years in the wild, however some do survive to 13 years of age (Rausch and Pearson 1972, Liskop et al. 1981, Banci 1987).

Information on the distribution, habitat use, movements, and population is limited in Units 11 or 13. Reports by hunters and trappers, harvest records, and field observations by ADF&G biologists are the main source of wolverine abundance information for Unit 11 (Schwanke and Tobey 2007).

Harvest from Units 11 and 13 occur primarily in the foothills of the mountains in the Chugach, Talkeetna, Alaska, and Wrangell ranges. Robbins (2013) states there are large areas that could be used for refuge between harvest locations, particularly in Unit 11. Much of this area is difficult to access, and thus some areas may not be trapped and essentially serve as refugia (Robbins 2013).

Since regulatory year 1996/97, ADF&G trapper questionnaires have provided furbearer abundance and population trends based on responses from area trappers. While qualitative, this information is used for tracking population changes over time and is the best available data for many furbearer populations, including wolverines in Units 11 and 13 (ADF&G 2006, 2007, 2010a, 2010b, 2010c, 2012, 2013a, 2013b, Parr 2016). However, harvest records were not found to be a good indicator of wolverine distribution (Gardner et al. 2010). Low reproductive rates, inherently low population densities, and susceptibility to harvest pressure indicate that conservative harvest strategies are warranted for wolverines (Krebs et al. 2004).

Habitat

Wolverine presence is also positively correlated with elevation and negatively associated with human infrastructure and disturbance (Gardner et al. 2010, May et al. 2006). Wolverines in Interior Alaska may occupy lowland habitats where harvest pressure and human influences are limited (Gardner et al. 2010). Wolverines were found throughout the WSA in Units 13A and 13E with no major gaps and used lower elevations and forested habitats more frequently than expected based on the assumption of random distribution among elevations (AFG&G 2015). Wolverines and wolverine tracks were found less often than expected in open habitat and more frequently than expected in forested habitats. Selection of lower elevations for movements in late winter may be due to greater snow depths and decreased winter food availability in the WSA (Colson 2015). Wolverines utilize subalpine, high-elevation habitats (Magoun and Copeland 1998, Gardener et al. 2010, Copeland et al. 2007) and are considered common in the more remote mountainous regions of Units 11 and 13 and relatively scarce at lowland elevations (Schwanke 2010). In southcentral Alaska, wolverines prefer spruce habitats during winter and rocky areas during summer (Gardner 1985, Whitman et al. 1986).

Wolverine populations are demographically vulnerable and susceptible to impacts from climate change (Inman et al. 2012). Copeland et al. (2010) found a positive correlation between wolverine distribution and persistent spring snow cover. This association can be explained by several factors: wolverines den beneath the snow; large feet give wolverines a morphological advantage over ungulates in deep snow, improving food availability; food caches are more secure from competitors and less prone to spoilage; and human influences are generally absent (Inman et al. 2012, Gardener et al. 2010, Copeland et al. 2010). Thermoregulatory needs (Hornocker and Hash 1981), protection from predators (e.g. wolves), suitability of the site during the spring thaw, and proximity to rearing habitat are some factors influencing den site selection (Copeland and Whitman 2003). Information from trapper reports and general observations suggest wolverine numbers are low in forested areas but relatively common in the mountainous areas of Units 11 and 13 (Robbins 2013).

Cultural Knowledge and Traditional Practices

At least five Alaska Native groups, including the Dena'ina, Tanana, Ahtna, Tanacross, and Upper Tanana, historically held territories within present day Units 11 and 13 (Krauss et al. 2011). Much of the land in these units was the territory of the Ahtna Athapaskans with the northeastern portion of Unit 13 belonging to the Dena'ina The Copper River Basin has been occupied by Ahtna Athapaskans for centuries (Stratton & Georgette 1984, VanStone 1974). Wolverines were found throughout the region and were one of several furbearing species of importance to the local people (VanStone 1974, de Laguna et al. 1981). De Laguna and McClellan (1981) noted that the pelts from lynx, wolverine, marten, fox, beaver, and otter were valuable and were kept separated until they were dried.

The fur trade was in full swing by the beginning of the nineteenth century, and the Dena'ina incorporated furs into their existing trade system. Some Dena'ina men acted as middlemen for the Russians trade of furs with the more interior native groups (Townsend 1981). Furbearers (i.e. wolverines) were snared and were

an important resource to the Ahtna for making clothes, blankets, packs, tents, and bags with some furbearer bones utilized in creating tools or pieces of equipment (de Laguna et al. 1981, Reckord 1983).

The nineteenth and twentieth centuries brought about many changes to the eastern interior of Alaska. Trading posts, roads, mining camps, roadhouses, schools, missions, and the Trans-Alaska pipeline were examples of many such changes. Population increased in the Copper River Basin, especially in the 1940s with an influx of military personal coming into Alaska to serve in the Pacific Theater during World War II (Townsend 1981). Those living in the Copper River Basin today are of diverse backgrounds (Holen et al. 2015, La Vine et al. 2013, La Vine & Zimpelman 2014).

In recent comprehensive subsistence surveys conducted by ADF&G, it was noted that although wolverines do not compose a majority of the harvest for communities of the region they are an important subsistence resource. The total attempted harvest of wolverines by households within the surveyed communities ranged between 0% and 44% (Holen et al. 2015, Kukkonen and Zimpelman 2012, La Vine et al. 2013; La Vine & Zimpelman 2014).

During each study year, communities within the Copper River Basin harvested or attempted to harvest wolverine in Units 11, 12, and 13. Harvest and search areas specific to Units 11 and 13 described locations along Dan, Drop, and May Creeks; Indian, Chitistone, and Sanford Rivers; Crosswind and Paxson Lakes; the area around the community of Chitina; Nabesna and McCarthy Roads; and the Denali, Parks, Glenn, Richardson, and Edgerton Highways (Holen et al. 2015; La Vine et al. 2013; La Vine & Zimpelman 2014). The community of Mentasta Pass, which had the highest attempted, harvested, and use rates of wolverine in the area, also had the largest search range. This community utilizes all of Unit 13C, most of the northwestern portion of Unit 12, and road systems along Units 11, 13A, and 13B (La Vine et al. 2013).

Harvest History

All harvested wolverines are required to be sealed by the State. Wolverine harvest in Unit 11 remains relatively low given the amount of potential wolverine habitat that is available. Between 2006 and 2016, an average of 10 and 51 wolverines per year were reported harvested in Units 11 and 13, respectively (**Figure 1**) (ADF&G 2017). The opening dates for the wolverine trapping season typically has been Nov. 10 and prior to 1985 closed on March 31. During the period between 1971 and 1984 the average annual harvest was 28 animals in Unit 11. During the period from 1985 to 1991, when the harvest season was shortened to Nov. 10 to Feb. 28, the annual wolverine harvest dropped to 10 animals in Unit 11. The annual wolverine harvest remained at about 10 animals between 1992 and 2007 despite a shorter trapping harvest season in Unit 11 from Nov. 10 to Jan. 31. The wolverine Federal trapping season was lengthened in Unit 11 to Feb. 28 in 2008. From 2006-2016 an average of 11 wolverines (range 4-21) were harvested annually in Unit 11. From 2007 to 2011 approximately 36% of the harvest was female and 64% male (Robbins 2013). The lack of easy access, low harvest, and the high percentage of males and relatively few trappers suggests that the longer Federal trapping season in Unit 11 is sustainable.

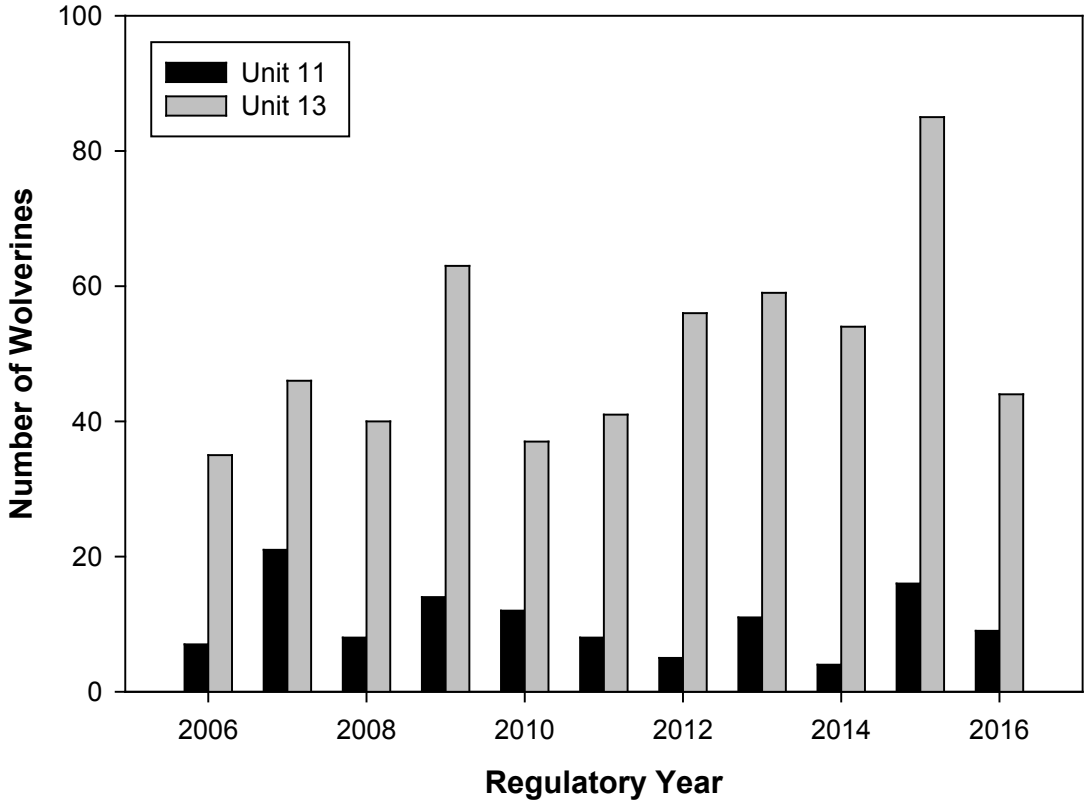


Figure 1. Wolverine harvest in Units 11 and 13, 2006-2016 (Schwanke 2010, Robbins 2013, ADF&G 2017).

Unit 13 is more accessible than Unit 11 due to the proximity to the Glenn, Richardson, Parks, and Denali highways and this may account for the greater harvest pressure. This may be one of the factors why the wolverine trapping season on Federal public lands in Unit 13 has been a month shorter (Robbins 2015, pers. comm.). Most of the wolverine harvest occurs in Unit 13B, north of the Denali Highway, and averages about 12 animals per year (Robbins 2015, pers. comm.) (**Figure 2**). The annual wolverine harvest in Unit 13 from 2007-2011, averaged 45 (range 37-63) (Robbins 2013). The percentage of females in the harvest was 37% from 2007-2011 (Robbins 2013).

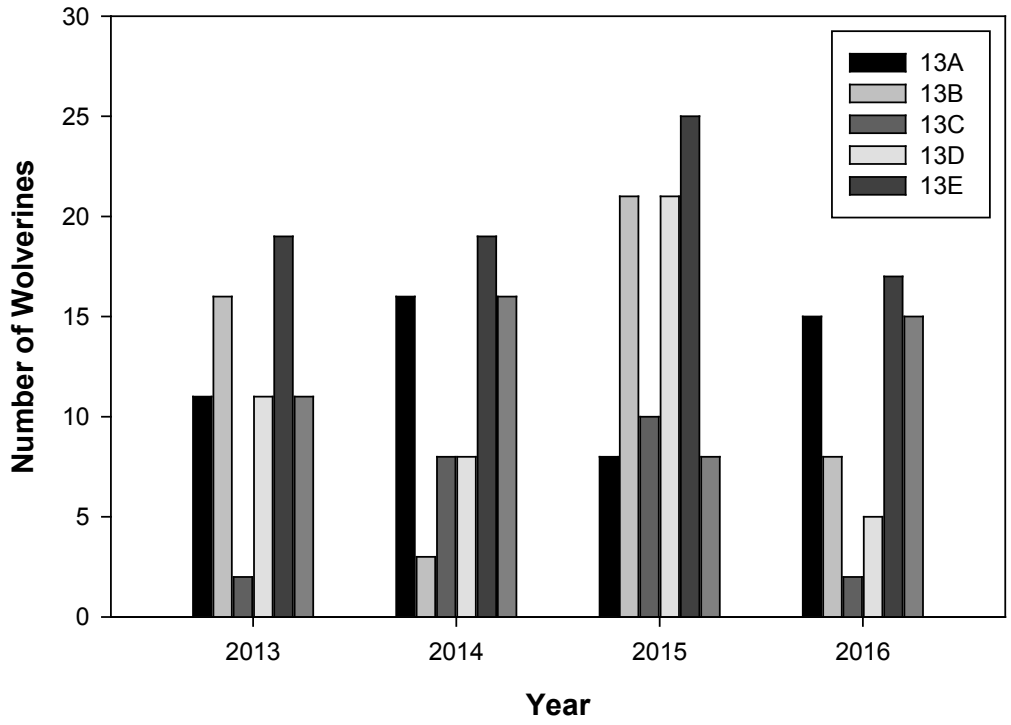


Figure 2. Unit 13 wolverine harvest by subunit, 2013-2016 (Rinaldi 2017, pers. comm.).

Changes in harvest may or may not accurately reflect the effects of harvest on the wolverine population dynamics. Harvest fluctuations, which can vary as much as 100% between years (**Figure 3, Figure 4**), can be the result of population fluctuations, changes in the hunter/trapper success rates, hunter effort, fur prices, and accessibility. Wolverine populations occur in low densities and thus are susceptible to overharvest.

Since male wolverines range widely over greater distances than females, males seem to be more susceptible to trapping and hunting. Hollis (2010) determined that if the percent of males harvested consistently falls below 50%, overharvesting may be occurring. The average percentage of males in the annual harvest in Units 11 and 13 from 2000/2001 and 2011/2012 was 65% and 60%, respectively (**Figures 3, 4**) (Schwanke 2010, Robbins 2013, Hatcher 2017 pers. comm.). Although most of the wolverines harvested from 2007-2011in Units 11 and 13 were taken by trapping, an average of 4 wolverines were shot each year in Unit 13. An average of 0.4 and 4.2 wolverines were shot in Unit 11 and Unit 13 from 2007-2011, respectively (Robbins 2014). The high percentage of males in the harvest suggests that the wolverine populations in Units 11 and 13 are likely not being overharvested (**Figures 2, 3**) (Schwanke 2010, Robbins 2013, Hatcher 2017 pers. comm.).

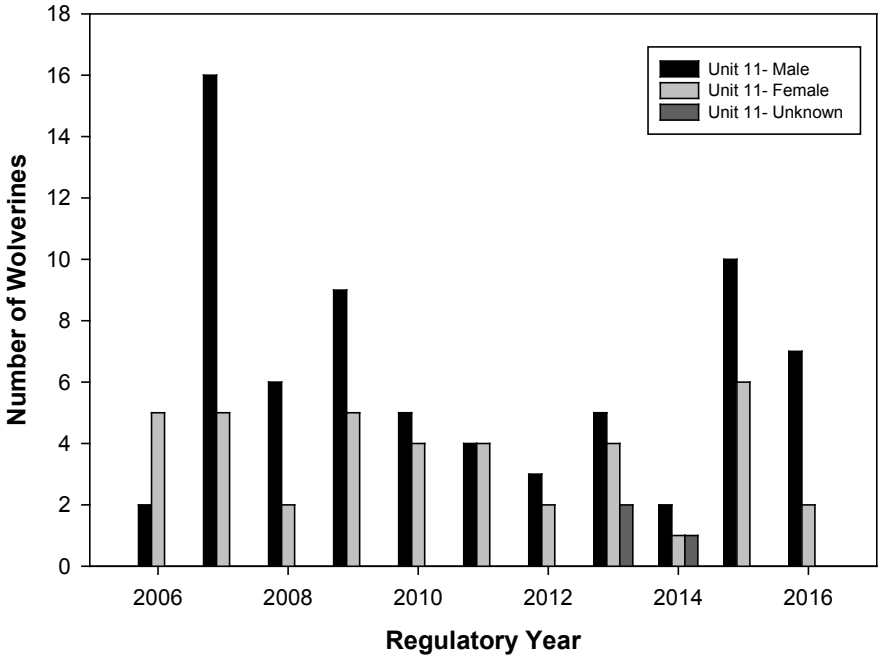


Figure 3. Unit 11 wolverine harvest by sex, 2006-2016 (Schwanke 2010, Robbins 2013, ADF&G 2017)

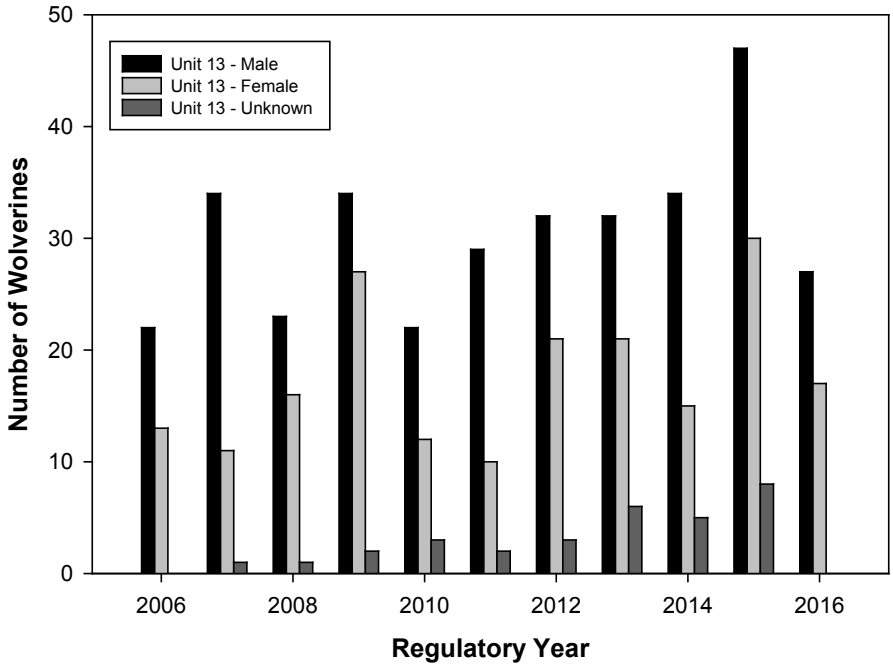


Figure 4. Unit 13 wolverine harvest by sex, 2006-2016 (Schwanke 2010, Robbins 2013, ADF&G 2017).

In Unit 11, wolverine harvest occurred from November to February with the peak months being December through February during the period 2007-2011 (**Figure 5**). In Unit 13 wolverine harvest occurred from September to February with the peak months being December and January during 2007-2011 (**Figure 5)**. Approximately 15% of the wolverines taken in Unit 11 from 2007-2011 occurred in February. January was the peak month for wolverine harvest in Unit 13 from 2007-2011. It is expected that a similar or greater percentage of wolverines will be taken during February in Unit 13 compared to Unit 11.

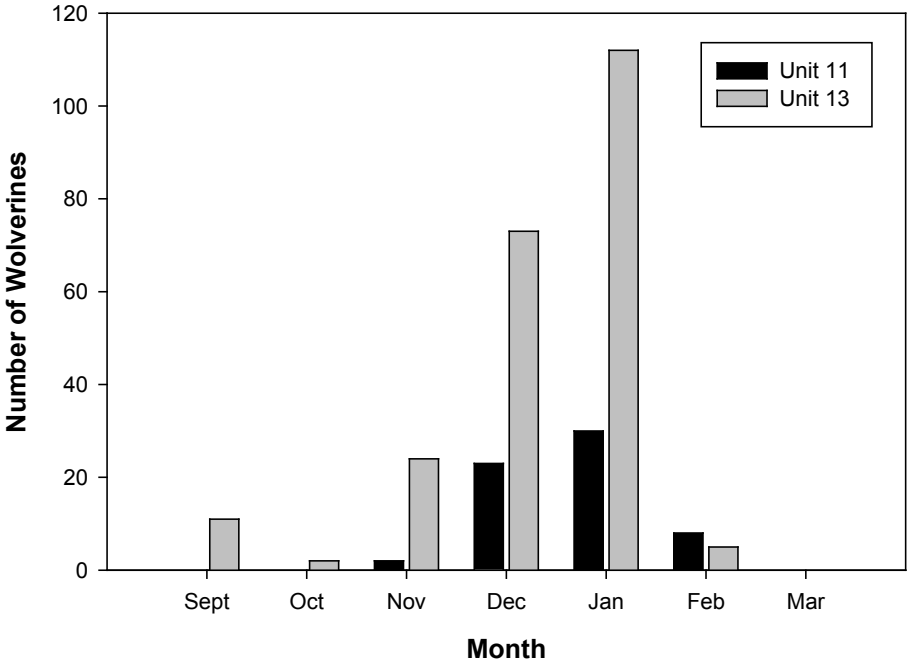


Figure 5. Units 11 and 13 wolverine harvest by month, 2007-2011 (Robbins 2013).

Other Alternatives Considered

One alternative considered was to extend the hunting season in Unit 11 and Unit 13 but not the trapping season in Unit 13 because of greater harvest rate and access in Unit 13 than Unit 11. In addition, the harvest opportunity is already being met in Unit 13 and seems to be currently sustainable with the hunting and trapping season closing on Jan 31. Combined with the lack of biological data on wolverine populations in Unit 13, it is difficult for mangers to monitor the impacts from a trapping harvest season extension. In the past this was one of the factors why the wolverine season was a month shorter in Unit 13 than Unit 11. This alternative was not chosen because the original proposal provides more opportunity for Federally qualified subsistence users.

Effects of the Proposal

If adopted, this proposal would add an additional 28 days to the wolverine hunting season in Units 11 and 13 and the hunting and trapping seasons in Unit 13. Extension of harvest and trapping seasons would allow more opportunities for Federally qualified subsistence users. It would also allow trappers to keep a wolverine incidentally caught in a lynx set.

If this proposal is adopted, the total annual harvest of wolverines in Units 11 and 13 is expected to increase. However, as only Federally qualified subsistence users would be able to hunt or trap during the extended season in February, trapping pressure may be less than during months when there are both Federal and State seasons. In addition, Federal public lands make up only 12% of Unit 13, so the proposed changes would be limited in scope if adopted. The wolverine harvest increased by 15% when the trapping season was extended until February 28 in Unit 11. A 15% increase of the wolverine harvest in Unit 13 would likely result in additional 7-10 wolverines during February. Only one wolverine was taken by hunting Unit 11 from 2009-2011 and thus the wolverine harvest from hunting in not expected to increase substantially during February.

Lynx and wolverines can occasionally be trapped in the same types of sets. If adopted, the Federal subsistence lynx and wolverine trapping seasons in Units 11 and 13 would be aligned, which would reduce incidental take issues (i.e. trapping a wolverine out of season when targeting lynx). However, incidental take is rarely reported, so it is difficult to determine how much incidental take actually occurs (Robbins 2015, pers. comm.). It is safe to assume, however, that such incidental take does occur with some regularity given the explanation provided by the proponent and previously-cited testimony of Ralph Lohse, former Chair of the Southcentral Alaska Subsistence Regional Advisory Council. Aligning the lynx and wolverine seasons may result in more accurate harvest reporting of wolverines and protect Federally qualified users from adverse law enforcement action for what is potentially unavoidable incidental take of wolverines during the lynx trapping season.

The biological impact of adopting this proposal to the wolverine population is uncertain. Wolverine populations are not known and they occur at low densities throughout Units 11 and 13 and thus are susceptible to overharvest. The best available information (trapper questionnaires) suggests that wolverine harvest in Unit 13 has been stable and appears sustainable. Changes in the harvest may or may not accurately reflect the effects of harvest pressure on the wolverine population dynamics. The extension of the trapping season in Unit 11 from January 31 to February 28 since 2008 has not resulted in a significant increase in the overall annual harvest (11 vs 10) when the harvest season was shorter. Accurate monitoring of the harvest is essential to determine the effects the extension to the harvest season would have on wolverines which occur in low densities in Units 11 and 13.

Adoption of this proposal would extend harvest into the denning period. While females likely only leave dens for short periods of time to access food caches or for other feeding opportunities, the risk of litter loss is slightly increased. In addition young wolverines would be more susceptible to being taken as they disperse.

OSM CONCLUSION

Support Proposal WP18-14.

Justification

Extending the wolverine trapping and hunting seasons on Federal public lands in Units 11 and 13 provides Federally qualified subsistence users with additional harvest opportunity and reduces the Federal regulatory complexity between the lynx and wolverine seasons. Aligning the lynx and wolverine seasons may result in more accurate harvest reporting of wolverines since they are occasionally caught in the same trap sets. Since the extended wolverine seasons are open only to Federally qualified subsistence users, and because Federal public lands in Unit 13 are limited, the increase in the harvest and trapping pressure should be minimal.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Southcentral Alaska Subsistence Regional Advisory Council

Support WP18-14. The Council supports the proposal recognizing that there are no biological concerns and the population remains stable for wolverine in Units 11 and 13. Hunting will most likely not increase where wolverine trapping has been a historical activity and extending the season will provide for additional subsistence opportunity. Land management agencies have the ability to monitor the harvest and can take action if necessary to protect the population.

Eastern Interior Alaska Subsistence Regional Advisory Council

Support WP18-14. The Council felt that the passing of the proposal would be very beneficial to the users in home region, would generate additional income and provide materials for personal clothing. It appears that there is no immediate conservation concern since hunting pressure is low, but there is a potential for a future concern due to the proximity of highway system. The Council welcomed the alignment of wolverine and lynx season, commenting that it creates a more favorable condition for the trappers to harvest more fur by allowing trappers to keep wolverine caught in lynx sets.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee (ISC) found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

The Federal Subsistence Board (Board) is charged by ANILCA to provide rural residents of Alaska the priority opportunity for non-wasteful subsistence uses on Federal public lands. When evaluating proposed changes to federal subsistence regulations, the Secretaries of Interior and Agriculture give deference to recommendations made by the Regional Advisory Councils. The Board may choose not to follow any recommendation which the Board determines is not supported by substantial evidence, violates recognized principles of fish and wildlife conservation or would be detrimental to the satisfaction of subsistence needs.

The ISC has identified several proposals submitted in this wildlife cycle that request changes to seasons and harvest limits for wolves, bears and wolverines with the primary justification of aligning Federal regulations with State regulations or at times misalignment with State regulations in order to align with other unit or species specific Federal regulations. These proposals generally cite the need for alignment as being necessary to reduce regulatory confusion among subsistence users. The OSM analyses usually conclude that the season alignments will have little impact on harvest as the State has already established the harvest parameters and a federal subsistence user could already hunt under State regulations if they chose to.

While aligning seasons may be desirable in some cases, it is not appropriate for all. For example, in the case of wolves, extending seasons to June 1 provides increased opportunity, but this opportunity coincides with a vulnerable time when wolves are bearing and raising their young, and pelts are of poor quality.

In general, extensions of seasons into important life cycle periods (denning, rearing, breeding etc.) may reduce populations to unhealthy levels, especially when data regarding the status of such populations is limited. What is known about most species is their general biological life cycle and this information should be used to inform and establish seasons and harvest limits that are aligned with sound wildlife conservation practices. Often little, if any, population dynamics information is available on species like wolves, bears or wolverines. Given the difficulty and expense of determining population estimates for predator species, harvest seasons and rates may only be based on sporadic or incidental surveys or harvest records that may be incomplete All three species, especially bears and wolverines, have been recognized by wildlife managers as being susceptible to overharvest due to their low rates of reproduction. A more conservative approach to management of species that have low reproductive potential and are slow to recover from overharvest, may be warranted.

Regulatory alignment shouldn't be the driving factor or primary justification for changing seasons and harvest limits. The Federal Subsistence Program should weigh the need of providing additional opportunity with potential impacts to wildlife populations; and the requirement by ANILCA to manage for sustainable and healthy wildlife populations using sound wildlife conservation practices.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-14: This proposal, submitted by the Wrangell-St. Elias National Park Subsistence Resource Commission, would extend the wolverine hunting and trapping season in Unit 13 and the hunting season in Unit 11 from September 1–January 31 to September 1–February 28.

Introduction: The proposer requests an alignment of wolverine hunting and trapping seasons in Units 11 and 13. Very few wolverine are taken using a firearm in Unit 11 (averaging < 1), and an average of 5 wolverine were taken using a firearm in Unit 13 (state and federal lands) between 2011 and 2015. Two proposals submitted for the 2018 Southcentral meeting of the Alaska Board of Game to extend the state's trapping season in Unit 13 to February 28. An additional proposal asks to extend the trapping season in both Units 11 and 13 to February 28.

Impact on Subsistence Uses: The proposal provides additional hunting and trapping opportunity for wolverine by extending the Units 11 and 13 hunting seasons an additional month and aligning the Unit 13 trapping season for wolverine with red fox, lynx, and marten. Currently federally qualified users with a trapping license can trap and hunt wolverine until February 28 in Unit 11.

The amount of wolverine habitat on federal land in Unit 13 is limited, so harvest is not expected to increase considerably. However, aligning the wolverine trapping season with the trapping seasons of other Unit 13 furbearers would allow legal harvest of wolverine incidentally captured in lynx sets.

Impact on Other Uses: The proposed change would have little impact on other users.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings furbearers in all units, outside state nonsubsistence areas.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for furbearers in units outside nonsubsistence areas is 90% of the harvestable surplus.

Season (Permit/Hunt #) Unit/Area	Bag Limit	Open Resident and Nonresident
Unit 11 & 13 (Units 11 & 13)	Hunting: 1 wolverine Trapping: No Limit	Hunting: September 1–January 31 Trapping: November 10–February 28 (Unit 11) November 10–January 31 (Unit 13)

Special instructions: None

Conservation Issues: No conservation concerns have been identified for this proposal, but it should be recognized that there are limited biological data specific to wolverine for Units 11 and 13. A Sample-Unit Population Estimator (SUPE) survey was conducted in portions of Units 13A and 13E in 2015 (Colson 2015), which found a normal density of 9.5 wolverines/1,000 km^2 (95% confidence interval 8.1–10.8 wolverines/1,000 km^2). However, no recent wolverine population data are available for Units 13B and 13D, where the majority of federal land and wolverine habitat occurs.

An annual average of 59 wolverines was harvested in Unit 13 between 2011 and 2015 by state and federal users. Extending the hunting seasons until February 28 in Units 11 and 13 is not expected to increase the harvest significantly, given that the number of wolverines harvested using a firearm was less than one

wolverine in Unit 11 and averaged 5 wolverines in Unit 13 between 2011 and 2015. It is also noted that when the federal trapping season in Unit 11 was extended from January 31 to February 28 in 2008, there was no increase in the number of wolverines harvested. In 2016, nine wolverines were harvested by hunters and trappers in Unit 11, all by local residents.

Enforcement Issues: Enforcement issues may develop due to the patchwork of state and federal lands. Difficulty in discerning land ownership could lead to unintentional violations.

Recommendation: ADF&G is **NEUTRAL** on the allocation of wolverine harvest between user groups and has not identified any biological concerns associated with this proposal, but there is no reason for the wolverine season should differ on state and federal lands. This proposal would be more appropriately considered after the two proposals are considered by the Board of Game. Considering the limited amount of wolverine habitat on federal lands in Unit 13 and the limited number of federally qualified trappers, extending the hunting and trapping seasons is not likely to increase wolverine harvest in Unit 13 significantly. Similarly, extending the wolverine hunting season in Unit 11 would likely result in a minimal increase in harvest.

Written Public Comments

Ahtna Intertribal Resource Commission
dba/Copper River-Ahtna Inter-Tribal
Resource Conservation District
PO Box 613
Glennallen, Alaska 99588
907-822-8154
contact@ahtnatribal.org

July 26, 2017

Chairperson of Federal Subsistence
Board or his Designated Field Officer
Office of Subsistence Management
1011 E. Tudor Road, MS-121
Anchorage, Alaska 99503-6199

Dear Mr. Christensen or Designated Field Officer:

Enclosed are Ahtna Inter-Tribal Resource Commission's (AITRC) comments on 2018-2020 Federal Wildlife proposals. Please consider our viewpoint on wildlife proposals, when decsions are made on federal wildlife regulations.

Sincerely,

Shirley Smelcer, Chairperson of CRITR

Comments on 2018-2020 Federal Wildlife Proposals

Southcentral Subsistence Regional Advisory Council

WP18-14 Change season dates for wolverine hunting and trapping

We support Proposal WP18-14 to extending Unit 11 Wolverine hunting season to February 28th, and extending Unit 13 Wolverine hunting and trapping seasons to February 28th.

Wolverine population is in Unit 11 and Unit 13 is considered to be healthy and abundant. There isn't a conservation concern for wolverine in these two game management units.

Other Federally qualified subsistnece users and Ahtna People will be able to hunt and trap longer in these two GMUs, allowing more opportunity to harvest a wolverine for peronal use or to sell for extra income.

Wolverine is commonly used for clotheing, ruff, or for moccasins, coats or jackets. Wolverine fur is also sold to acquire extra income, which supplements cash, food cost and bills.

WP18-16 Extend winter season [Unit 11 moose]

We do not support WP18-16. See comments under WP18-17.

WP18-17 Extend season [Unit 11 moose] (CRITR)

We suppport Proposal WP18-17 to extend moose hunting season and to allow Ahtna Intertribal Resource Commission to distribute moose permits on federal public lands in Unit 11.

Moose population in Unit 11 can sustain a moose hunt from August 1 to March 31. Moose population will not be depleted or over harvested by Ahtna tribal members who are federally qualified hunters. An increase of moose harvest on federal public lands will not occur with the newly established tribal moose hunt.

AITRC has management capability to distribute Unit 11 moose federal permits to Ahtna tribal members. A permitting system will be set up to allow proof of residency within the Copper Basin and Cantwell communitie before moose permits are distrbuted to federally qualified tribal members. AITRC staff will monitor moose permit and hunting by tribal members. AltRC has a wildlife biologist on staff to help with moose hunt. AITRC has management capbility to distribute Unit 11 moose permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since 2009. AITRC has experienced staff to distribute moose permits and ensure tribal hunters will return moose permits.

WP18-18 Extend season [Unit 13 mooose] (CRITR)

We support WP18-18 to extend moose season and to allow AITRC to distribute mooose permits. Moose population in Unit 13 can sustain a moose hunt from August 1 to March 31. Moose population will not be depleted or over harvested by Ahtna tribal members who are federally qualified hunters. Bureau of Land Management Biologist reported in 2016 1,384 moose permits wree distributed, 681 moose permits were used and 99 moose were harvested by federally qualified subsistence hunters. An increase of moose harvest on federal public lands will not occur with the newly established tribal moose hunt.

AITRC has management capability to distribute Unit 13 moose federal permits to Ahtna tribal members. A permitting system will be set up to allow proof of residency within the Copper Basin and Cantwell communitie before moose permits are distrbuted to federally qualified tribal members. AITRC staff will monitor moose permit and hunting by tribal members. AItRC has a wildlife biologist on staff to help with moose hunt. AITRC has management capbility to distribute Unit 13 moose permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since 2009. AITRC has experienced staff to distribute moose permits and ensure tribal hunters will return moose permits.

WP18-19 Caribou – Revise permitting system [Unit 13 caribou] (CRITR)

We support WP18-19 to allow AITRC to distribute Unit 13 Nelchina Caribou hunting permits to Ahtna tribal members, who are federally qualifed customary and traditional use hunters.

AITRC has management capbility to distribute Unit 13 Nelchina Cariobu permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since the year 2009. AITRC has experienced staff to distribute Nelchina Caribou permits and ensure tribal hunters return caribou permits.

Eastern Interor Subsistence Regional Advisory Council

WP18-50 Extend season [Unit 11 moose]

We do not support WP18-50, we support WP18-17. See comments under WP18-17.

WP18-51 Statewide – Modify baiting restrictions to align State regulations

We support WP18-51 to modify bait regulations to align with State regulations. Federal regulations are more restrictive than State regulations. Adding skinned carcasses of furbearers and fur animals, small game, with the exception of the meat of birds, to bait bear regulations will align State and Federal regulations, provide more opportunities for federal subsistence hunters who use bait stations to harvest bears.

Traditional use of grease, parts of wild game, and other methods of harvesting bears at bait stations would occur, hunters who use bait stations would have an imporoved chance of harvesting a bear with more options to choose from to use as bait.

WP18-54 – Increase harvest limit and Delegate Authority to set harvest limit for [Unit 12 caribou] to be announced winter season

We do not support WP18-54 to change Unit 12 Caribou regulations to "up to 3 caribou" may be taken with a federal registration permit. This will increase the take of caribou beyond sustainable limits and will stress the herd in its winter range. We have seen overharvest of caribou in the past with liberal bag limit that has taken decades to recover. This is not a wise proposal and we oppose it..

WP18-55 Extend Winter and fall season [Unit 12 moose]

Unit 12 Moose

That portion within Tetlin National Wildlife Refuge and those lands within the Wrangell-St. Elias National Preserve north and east of a line formed by the Pickeral Lake Winter Trail from the Canadian border to Pickerel Lake – 1 antlered bull by Federal registration permit (FM1203) Aug. ~~24~~ **20** - Sept. ~~20~~ **30**

Nov. 1 - ~~Feb. 28~~ **Apr. 30**

We are neutral on WP18-55 to extend Unit 12 Moose season to allow longer hunting opportunity.

WP18–15 Executive Summary	
General Description	Proposal WP18-15 requests that residents receiving a State or Federal Unit 6C moose permit be ineligible to receive a Federal Unit 6C moose permit the following regulatory year. *Submitted by: Tom Carpenter of Cordova*.
Proposed Regulation	**Unit 6C—Moose** *1 bull by Federal drawing permit only.* *Sept. 1 – Dec. 31* *In Unit 6C, only one moose permit may be issued per household. A household receiving a State permit for Unit 6C moose permit may not receive a Federal permit.* ***A person receiving a State or Federal Unit 6C moose permit is ineligible to receive a Unit 6C Federal moose permit the following regulatory year.*** *The annual harvest quota will be announced by the U.S. Forest Service, Cordova Office, in consultation with ADF&G. The Federal harvest allocation will be 100% of the antlerless moose permits and 75% of the bull permit. Federal public lands are closed to the harvest of moose except by Federally qualified users with a Federal permit for Unit 6C moose, Nov. 1-Dec.31.*
OSM Conclusion	**Oppose**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	**Oppose**
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	

WP18–15 Executive Summary	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendations and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Neutral**

WP18–15 Executive Summary	
Written Public Comments	**None**

STAFF ANALYSIS
WP18-15

ISSUE

Proposal WP18-15, submitted by Tom Carpenter of Cordova, requests that residents receiving a State or Federal Unit 6C moose permit be ineligible to receive a Federal Unit 6C moose permit the following regulatory year.

DISCUSSION

The proponent states that the Unit 6C moose hunt is very popular with Cordova residents and claims that over 1,000 applicants have applied in recent years. The hunt is administered by the U.S. Forest Service office in Cordova through a permit drawing and while the process is random there are residents that may receive permits for consecutive years while others are not so lucky. The proponent states that meat from the harvest is shared broadly throughout the community of Cordova. The proponent requests that regulations be changed to ensure distribution of opportunity among Federally qualified subsistence users by requiring successful applicants to be ineligible to receive a Federal Unit 6C moose permit, the regulatory year following their success.

Existing Federal Regulation

Unit 6C—Moose

1 antlerless moose by Federal drawing permit only.	*Sept. 1 – Oct. 31*
Permits for the portion of the antlerless moose quota not harvested in the Sept. 1-Oct. 31 hunt may be available for redistribution for a Nov. 1-Dec. 31 hunt.	
1 bull by Federal drawing permit only.	*Sept. 1 – Dec. 31*
In Unit 6C, only one moose permit may be issued per household. A household receiving a State permit for Unit 6C moose permit may not receive a Federal permit. The annual harvest quota will be announced by the U.S. Forest Service, Cordova Office, in consultation with ADF&G. The Federal harvest allocation will be 100% of the antlerless moose permits and 75% of the bull permits. Federal public lands are closed to the harvest of moose except by Federally qualified users with a Federal permit for Unit 6C moose, Nov. 1-Dec.31.	

Proposed Federal Regulation

Unit 6C—Moose

1 antlerless moose by Federal drawing permit only.	*Sept. 1 – Oct. 31*
Permits for the portion of the antlerless moose quota not harvested in the Sept. 1-Oct. 31 hunt may be available for redistribution for a Nov. 1-Dec. 31 hunt.	
1 bull by Federal drawing permit only.	*Sept. 1 – Dec. 31*
In Unit 6C, only one moose permit may be issued per household. A household receiving a State permit for Unit 6C moose permit may not receive a Federal permit. ***A person receiving a State or Federal Unit 6C moose permit is ineligible to receive a Unit 6C Federal moose permit the following regulatory year.*** *The annual harvest quota will be announced by the U.S. Forest Service, Cordova Office, in consultation with ADF&G. The Federal harvest allocation will be 100% of the antlerless moose permits and 75% of the bull permit. Federal public lands are closed to the harvest of moose except by Federally qualified users with a Federal permit for Unit 6C moose, Nov. 1-Dec.31.*	

Existing State Regulation

Unit 6C—Moose

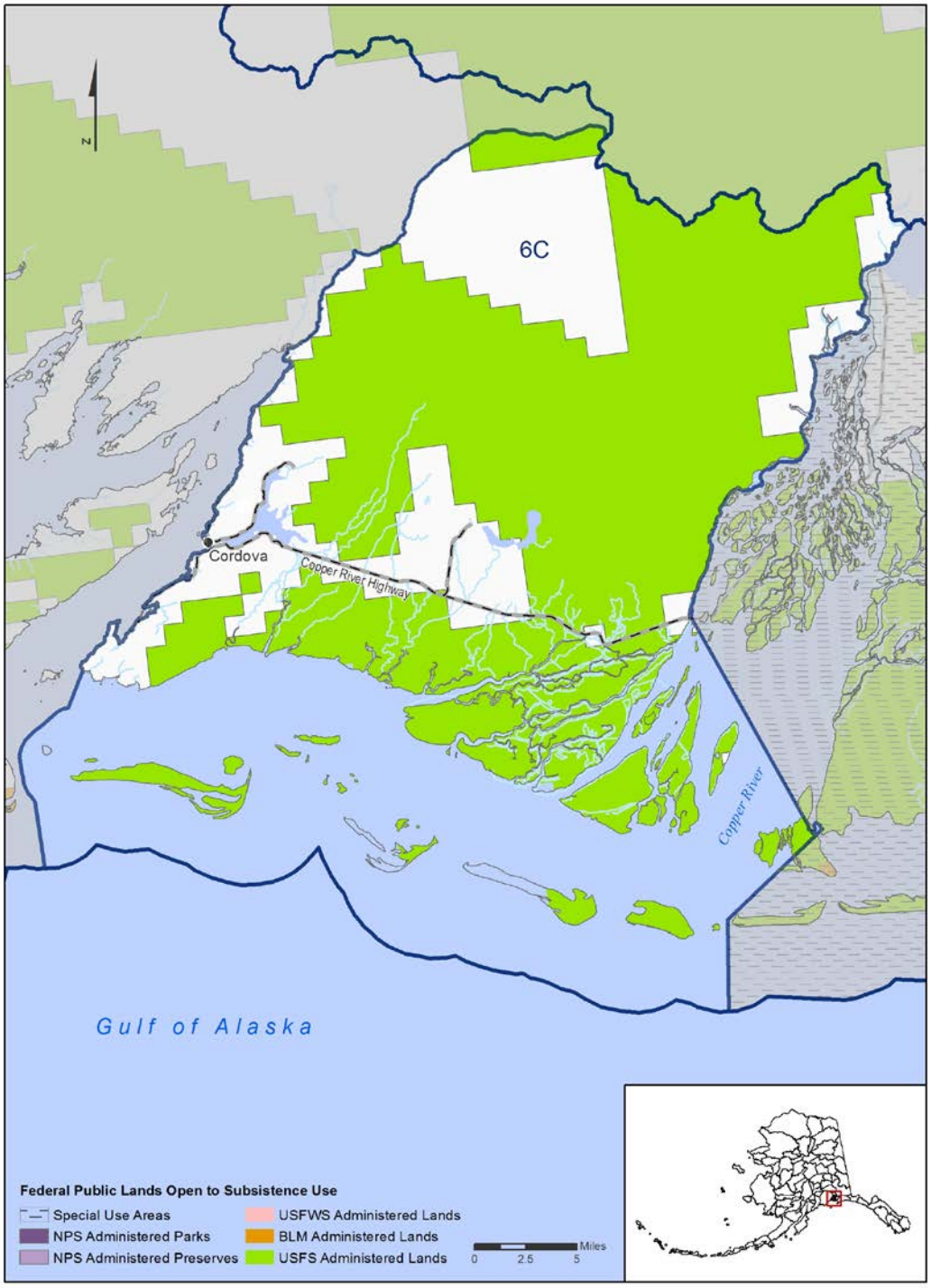
One bull by permit	*Sept 1 – Oct 31*

Extent of Federal Public Lands

Federal public lands comprise approximately 72% of Unit 6C and consists of 71.87% U.S. Forest Service (USFS) managed lands and 0.56% Bureau of Land Management (BLM) managed lands (**Map 1**).

Customary and Traditional Use Determinations

Rural residents of Units 6A, 6B, and 6C have a customary and traditional use determination for moose in Unit 6C.



Map 1. Federal public lands and State lands in Unit 6C.

Regulatory History

Prior to 2000, State residents could take one moose by drawing permit in Unit 6C Sept. 1-Oct. 31, under State regulation. In 2000, the Native Village of Eyak submitted Proposal P00-17 to establish a Federal subsistence hunt for moose in both Units 6B and 6C. The Federal Subsistence Board (Board) adopted the modified proposal, allowing drawing permits to be issued for 5 cow moose in Unit 6C under the Federal subsistence management program (the total allowable cow moose harvest at that time), but left the rest of the State-managed moose harvest in place for both Units 6B and 6C.

In 2002 the Board received Proposal WP02-48, this time requesting that 100% of the bull moose harvest in Unit 6C come from Federal subsistence draw permits and a change in season start date from August 15 to September 1. The Board adopted the proposal with modification, allocating 75% of the allowable bull moose harvest for Unit 6C, and 100% of the allowable cow moose harvest for Unit 6C, to Federally qualified subsistence users. Additionally, the cow moose season closing date was changed from December 31 to October 31. The Board's decision to split the bull moose harvest allocation in Unit 6C with the State (75% and 25% of allowable harvest in Federal and State management programs, respectively) was, in part, in recognition of the presence of non-Federal lands within the unit.

In 2007 the Board received Proposal WP07-19, requesting that the harvest limit for the Unit 6C Federal draw permit hunt be changed from 1 cow moose to 1 antlerless moose. The Cordova Ranger District submitted the proposal in order to allow Federal hunters to continue to target female moose without the possibility of unintentional violation should an antlerless bull be harvested. The Board adopted the proposal.

At its Southcentral Regional meeting in Kenai, March 15-19, 2013, the Alaska Board of Game adopted amended Proposal 129 to authorize a State registration hunt for moose in Unit 6C, with a bag limit of 1 moose, Nov. 1 – Dec. 31, at the request of the Alaska Department of Fish and Game (ADF&G). This amendment to Proposal 129 was unanimously rejected by the State's Copper River/Prince William Sound Fish and Game Advisory Committee on February 1, 2013. The State's proposal was intended to allow the harvest of moose allocated to the Federal quota that may not be taken during the Federal subsistence hunt.

In 2014 the Board received proposal WP14-18, requesting Federal public lands in Unit 6C be closed to the harvest of moose except by Federally qualified subsistence users with a Federal permit Nov. 1 – Dec. 31 and allow Federally qualified subsistence users an opportunity to harvest antlerless moose that were not harvested during the early season (Sept. 1 – Oct. 31) during the late season (Nov. 1–Dec. 31), if needed to control the population. The Board adopted WP14-18 as recommended by the Council.

At the Interior/Northeast Arctic Regional meeting in Fairbanks, February 17-25, 2017, the Alaska Board of Game adopted Proposal 145 to allow the State to reauthorize the antlerless moose season in Unit 6C.

In Unit 6C, subsistence hunters currently have the opportunity to harvest moose on Federal public lands under either the State or Federal seasons and on private and other non-Federal ownership under the State season.

Biological Background

The moose population in Unit 6 originated from 24 moose calves that were transplanted to the west Copper River Delta from 1949 through 1958, as a cooperative effort of the Cordova Chapter of the Isaac Walton League, other local citizens, and the U.S. Fish and Wildlife Service (Nowlin 1998). This introduced population rapidly expanded eastward, reaching a high of 1,600 moose in 1988 (Griese 1990). In addition, there has probably been immigration of moose from surrounding areas as habitat has become more suitable following the 1964 earthquake. The first moose hunt was held in 1960 and has occurred yearly since 1962. The Unit 6C moose hunt became a State drawing permit hunt in 1984 (Stratton 1989).

During the 1990s, the Copper River-Prince William Sound Fish and Game Advisory Committee, local residents, and ADF&G developed a cooperative moose management plan. The resulting plan encompassed the long-term needs of the community (Cordova), population biology, maximizing hunting opportunity, and the variable access in Unit 6. The current management strategies in Unit 6 are a direct result of this moose management plan. Current cooperative moose management objectives in Unit 6C are to maintain a post-hunting population of 600-800 moose with a minimum bull:cow ratio of 25:100 (Westing 2017).

Population surveys, which are dependent on snow cover and weather conditions for flying, are usually conducted between mid-January and mid-March. From 1991 to 2012 the study design was based on stratified random sampling using the Gasaway technique. Since 2013 the sampling design has used the Geospatial Population Estimate (GSPE). Moose population estimates have ranged between 296 and 609 moose from 2005 to 2013 (**Table 1**). In 2013, the moose population in Unit 6C was above the State management objective of 400-500 moose. There is little or no indication of nutritional stress due to habitat loss despite a relatively high moose density of 1,250 to 1,900/1000 km^2 since 2005 (Westing 2014).

Composition surveys to determine the potential effects of selective hunting pressure are conducted during the fall. Similar to the population estimates survey methods, the composition surveys are dependent on adequate snow cover and weather conditions for flying. The survey method used prior to 2013 focused on maximizing the number of moose observations but was not standardized (Crowley 2010, Westing 2014). In 2013, the GPSE survey protocol was adopted. The GPSE survey protocol, which uses a random sample of units is less biased but can also be less efficient (Westing 2014). From 2006 to 2008, the number of bulls, including large bulls, declined due to heavy harvest (Crowley 2012). Harvest adjustments implemented in 2009 have resulted in an increase in adult bulls and the number of large bulls in the population. The bull:cow ratio, calf:cow ratio, and % of calves observed increased in 2013 with the increasing moose population (**Table 2**).

Table 1. Moose population estimates in Unit 6C 2005-2013 (Crowley 2006, 2010, 2012; Westing 2014).

Year	Calves (%)	Adult Estimate	Moose Observed	Population Estimate	90% CI
2005/06	10	438	361	488	423-553
2006/07	20	310	409	560	453-667
2007/08	15	273	361	430	389-471
2008/09	19	314	269	388	334-443
2009/10	17	200	251	296	164-426
2010/11	17	248	308	398	324-471
2011/12	22	361	535	601	536-666
2012/13	-	-	-	-	-
2013/14	25	232	291	609	483-734

Table 2. Moose composition estimates in Unit 6C 2005-2013 (Crowley 2006, 2010, 2012; Westing 2014).

Year	Bulls	Cows	Calves	Total Moose	Bulls:100 Cows	Calves: 100 Cows	Calves (%)
2005/06	32	151	44	240	30	29	18
2006/07							
2007/08	16	83	14	129	36	17	11
2008/09							
2009/10	15	230	34	298	14	15	11
2010/11	12	183	35	258	22	19	14
2011/12	-	-	-	-	-	-	-
2012/13	-	-	-	-	-	-	-
2013/14	50	129	63	255	49	49	25

Customary Knowledge and Traditional Practices

The community of Cordova is situated on the eastern shores of Prince William Sound just west of the Copper River Delta and is the only community within the customary and traditional use determination for moose in Unit 1C. Travel to and from the community takes place by airplane via multiple daily flights,

by ferry, or by private craft. The Copper River Highway is the only road out of the community and transects the entirety of Unit 6C. While its terminus is Miles Lake approximately 50 miles from Cordova, a portion of the road washed out at Bridge No. 339 in 2011 and is now closed at Mile 36. The community of Cordova includes residents living within the city limits and extending out to the Merle K Smith Airport, along Power Creek Road on the northwest shore of Eyak Lake, and those residences along Whitshed Road to its terminus at Whitshed Point. According to the 2010 Federal Census, Cordova had a total population of 2,239 residents (U.S. Census 2010).

Alaska Department of Fish and Game recently conducted a comprehensive subsistence survey with Cordova residents for 2014 (Fall and Zimpleman 2016). During the study year, the community harvested a total of 302,404 lb of wild food, or approximately 116 lb per capita. Salmon made up the majority of the harvest (38% or 44 lb per capita), large land mammals were the second (35% or 40 lb per capita) and nonsalmon fish was the third largest category contributing to the total community harvest (15% or 18 lb per capita). Other resource categories contributing to the community harvest included vegetation, marine invertebrates, and birds and eggs. Salmon was the most widely used resource category in 2014, but moose contributed the most weight to the community harvest as a single resource (30 lb per capita) in comparison to Sockeye Salmon (19 lb per capita), Coho Salmon (16 lb per capita), or Chinook Salmon (8 lb per capita). Moose is also widely shared throughout the community. About 67% of households reported using moose while only 15% reported actually harvesting moose, 22% of the households reported giving moose and a large number of households (54%) reported receiving moose. All moose harvested by Cordova residents during 2014 was reported to take place locally in Units 6C, 6B, and 6A.

Harvest History

Because of relatively easy access to Unit 6C, especially by road and airboat, hunter success often approaches 100% for moose permit holders. Between 25 and 122 moose permits were issued each season between 2001 and 2012, depending on the relationship of the estimated moose population to the management objective. Beginning in 2006, the number of harvest permits was increased to account for the growing population. However, this appears to have resulted in overharvest of the population by 2010, especially the bull moose component (**Table 3**). Reduced permit numbers beginning in 2008 have allowed the population to grow to current levels (**Tables 1 and 3**). Over 90% of the moose taken in Unit 6C are by residents of Cordova (Crowley 2012).

Table 3. State and Federal moose harvest in Unit 6C 2011-2012 (Crowley 2006, 2008, 2010, 2012; Westing 2014, 2017; FWS 2017; WinfoNet 2017).

	Permits Issued				Harvest			
	Bull		Antlerless		Bull		Antlerless	
Regulatory Year	Federal	State	Federal	State	Federal	State	Federal	State
2001	0	20	5	0	0	19	5	0
2002	16	5	5	0	16	5	4	0
2003	15	5	5	0	15	5	5	0
2004	26	9	5	0	26	8	5	0
2005	26	9	5	0	25	9	4	0
2006	26	9	40	0	24	9	40	0
2007	54	18	50	0	52	13	45	0
2008	38	13	25	0	35	12	22	0
2009	40	13	10	0	31	11	10	0
2010	18	6	39	0	13	4	13	0
2011	15	13	50	0	9	6	10	0
2012	21	7	35	0	16	6	33	0
2013	23	7	35	0	22	7	45	0
2014	36	12	35	0	35	10	33	0
2015	36	12	35	0	33	11	29	0
2016	36	12	35	0	31	10	31	0
2017	45	15	35	0	na	na	na	na

[a] na=not applicable

Effects of the Proposal

If this proposal was adopted, Federally qualified subsistence users would be considered ineligible to enter into the drawing for or receive a Federal permit to harvest moose in Unit 6C if they successfully obtained a permit under either State or Federal regulations the previous year. Such an action would constitute an allocation of a subsistence resource among Federally qualified subsistence users. Allocation cannot occur without first determining if there is a conservation concern or a threat to the continuation of subsistence uses based on the number of people eligible to harvest the resource. Section 804 of ANILCA is then implemented to prioritize among eligible subsistence users.

If this proposal is not adopted, the random drawing administered by the U.S. Forest Service in Cordova would continue as is. Some Federally qualified subsistence users may receive permits over consecutive years. Some Federally qualified subsistence users may not have their application drawn for many years.

OSM CONCLUSION

Oppose Proposal WP18-15.

Justification

Eliminating sequential application opportunities to harvest moose in Unit 6C would constitute an allocative action that cannot take place without implementing Section 804 of ANILCA. Currently there is no indication of the need to prioritize further among Federally qualified subsistence users.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Southcentral Alaska Subsistence Regional Advisory Council

Oppose WP18-15. There is no conservation concern for the moose population in Unit 6C, and no need to restrict local users at this time.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-15: This proposal, submitted by Tom Carpenter of the Southcentral Alaska Regional Subsistence Advisory Council, would make recipients of a federal or state Unit 6C moose permit ineligible to receive a federal permit the following year.

Introduction: In Unit 6C, moose hunting opportunity is provided on federal public lands under state and federal regulations and on non-federal lands under state regulations. State permits are issued to any Alaska resident through a drawing permit system. Successful applicants for Unit 6C state moose permits (DM167) are ineligible to receive a permit for the same hunt the following year.

Impact on Subsistence Uses: If adopted, there would be a reduction in subsistence opportunity for some hunters, but household impact may be mitigated by harvest sharing. Because the restriction would only apply to an individual, other members of the same household would be able to receive a permit, which could satisfy that household's needs. Additionally, adoption of this proposal may increase the likelihood that other federally qualified users will successfully draw a permit by reducing the number of eligible permit applicants.

Impact on Other Uses: Adoption of this proposal will have no impact on other uses.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has determined that there are no customary and traditional uses of moose in Unit 6.

Amounts Reasonably Necessary for Subsistence: Due to the negative C&T finding, no ANS has been established for Unit 6C moose.

		Open Season (Permit/Hunt)	
Unit/Area	Bag Limit	Resident	Nonresident
Unit 6C	One bull by permit	September 1- October 31 (Drawing permit DM167 only)	No open season

Special instructions: The bull quota is primarily administered through the federal system (75%). The remaining 25% of the quota is administered through DM167.

Conservation Issues: Due to the quota system, this proposal will not alter the number of moose harvested, and no conservation concerns have been identified for this proposal.

Enforcement Issues: None.

Recommendation: The department is **NEUTRAL** on the allocation of moose hunting opportunity between federally qualified subsistence users.

WP18–16/50 Executive Summary	
General Description	Proposal WP18-16 requests a one month extension of the winter moose season in the southern portion of Unit 11 (FM1107) from Nov. 20 – Dec. 20 to Nov. 20 - Jan. 20. *Submitted by: Keith Rowland of McCarthy.* Proposal WP18-50 requests a one month extension of the winter moose season in the southern portion of Unit 11 (FM1107) from Nov. 20 – Dec. 20 to Nov. 20 - Jan. 20. *Submitted by: Eastern Interior Alaska Subsistence Regional Advisory Council.*
Proposed Regulation	**Unit 11—Moose** *Unit 11—that portion draining into the east bank of the Copper River upstream from and including the Slana River drainage—1 antlered bull by joint State/Federal registration permit.* — *Aug.20–Sept. 20* *Unit 11—that portion south and east of a line running along the north bank of the Chitina River, the north and west banks of the Nizina River, and the west bank of West Fork of the Nizina River, continuing along the western edge of the West Fork Glacier to the summit of Regal Mountain – 1 bull by Federal registration permit. However, during the period Aug. 20-Sept. 20, only an antlered bull may be taken.* — *Aug. 20–Sept. 20* *Nov. 20–~~Dec 20~~* ***Jan. 20*** *Unit 11 remainder—1 antlered bull by Federal registration permit only* — *Aug. 20–Sept. 20*
OSM Conclusion	**Support**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council	**Support**

WP18–16/50 Executive Summary	
Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	**Support**

WP18–16/50 Executive Summary	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Neutral**
Written Public Comments	**1 Oppose**

STAFF ANALYSIS
WP18-16/50

ISSUES

Proposal WP18-16, submitted by Keith Rowland of McCarthy, and Proposal WP18-50, submitted by the Eastern Interior Alaska Subsistence Regional Advisory Council, requests a one month extension of the winter moose season in the southern portion of Unit 11 (FM1107) from Nov. 20 – Dec. 20 to Nov. 20 - Jan. 20. Since these proposals are identical they will be combined into one analysis WP18-16/50.

DISCUSSION

The proponents state that the winter moose season has been in effect from 2014 to 2016 and that access to this area is difficult. Most of the hunt area is within Wrangell-St. Elias National Park and Preserve (WRST) is designated as national park lands, and therefore, the use of aircraft for hunting access is not permitted (36 CFR 13.450). Due to warm winters and climate change, ice has been forming later on rivers and there is insufficient snow cover by December 20 for travel. The proponents state that extending the hunt by one month will allow more time for conditions to become suitable for cross-country travel to the hunt area, and that moose harvest during the past three seasons has been very limited, so there is no potential conservation concern associated with the proposed season change.

Existing Federal Regulation

Unit 11—Moose

Unit 11—that portion draining into the east bank of the Copper River upstream from and including the Slana River drainage—1 antlered bull by joint State/Federal registration permit.	*Aug. 20–Sept. 20*
Unit 11—that portion south and east of a line running along the north bank of the Chitina River, the north and west banks of the Nizina River, and the west bank of West Fork of the Nizina River, continuing along the western edge of the West Fork Glacier to the summit of Regal Mountain – 1 bull by Federal registration permit. However, during the period Aug. 20-Sept. 20, only an antlered bull may be taken.	*Aug. 20–Sept. 20* *Nov. 20–Dec. 20*
Unit 11 remainder—1 antlered bull by Federal registration permit only	*Aug. 20–Sept. 20*

Proposed Federal Regulation

Unit 11—Moose

Unit 11—that portion draining into the east bank of the Copper River upstream from and including the Slana River drainage—1 antlered bull by joint State/Federal registration permit.	*Aug.20–Sept. 20*
Unit 11—that portion south and east of a line running along the north bank of the Chitina River, the north and west banks of the Nizina River, and the west bank of West Fork of the Nizina River, continuing along the western edge of the West Fork Glacier to the summit of Regal Mountain – 1 bull by Federal registration permit. However, during the period Aug. 20-Sept. 20, only an antlered bull may be taken.	*Aug. 20–Sept. 20* *Nov. 20–~~Dec 20~~* ***Jan. 20***
Unit 11 remainder—1 antlered bull by Federal registration permit only	*Aug. 20–Sept. 20*

Existing State Regulation

Unit 11 – Moose

Unit 11– that portion east of the east bank of the Copper River upstream from and east of the east bank of the Slana River	*Residents: One bull by permit per household, available only by application. See Subsistence Permit Hunt Supplement for details*	*CM300*	*Aug. 10–Sept.20*
	OR		
	Residents: One bull with spike-fork antlers or 50-inch antlers or antlers with 3 or more brow tines on at least one side by permit in person in Anchorage, Fairbanks, Glennallen, Palmer, Slana Ranger Station and Tok beginning Aug. 3	*RM291*	*Aug. 20–Sept. 17*

	Nonresidents: One bull with 50-inch antlers or antlers with 3 or more brow tines on at least one side by permit available in person in Anchorage, Fairbanks, Glennallen, Palmer, Slana Ranger Station and Tok beginning Aug. 3	*RM291*	*Aug. 20–Sept. 17*
Unit 11–remainder	*Residents: One bull by permit per household, available only by application. See Subsistence permit Hunt Supplement for details*	*CM300*	*Aug. 10–Sept.20*
	Residents and nonresidents: One bull with spike-fork antlers or 50-inch antlers or antlers with 3 or more brow tines on at least one side	*HT*	*Aug. 20–Sept. 20*

Extent of Federal Public Lands

Federal public lands comprise approximately 87% of Unit 11 and consist of approximately 84% National Park Service (NPS) managed lands, 3% U.S. Forest Service (USFS) managed lands, and 0.1% Bureau of Land Management (BLM) managed lands (See **Unit Map**).

Customary and Traditional Use Determinations

Residents of Units 11, 13A-D, and Chickaloon have a customary and traditional use determination for moose in Unit 11 remainder.

Under the guidelines of the Alaska National Interest Lands Conservation Act, National Park Service regulations identify qualified local rural residents in National Parks and Monuments by: 1) identifying resident zone communities which include a significant concentration of people who have customarily and traditionally used subsistence resources on park lands; and 2) identifying and issuing subsistence use (13.440) permits to individuals residing outside of the resident zone communities who have a personal or family history of subsistence use. In order to engage in subsistence in Wrangell-St. Elias National Park, the National Park Service requires that subsistence users either live within the Park's resident zone (36 CFR 13.430, 36 CFR 13.1902) or have a subsistence permit (36 CFR 13.440) issued by the Park Superintendent.

Regulatory History

In 1992, the Federal Subsistence Board (Board) added 10 days to the moose season in Unit 11, aligning it with Aug. 25-Sept. 20 seasons in adjoining Units 6, 12, and 13 (OSM 1992). In 1999, Healy Lake was added to communities having a customary and traditional use determination for moose in the portion of Unit 11 north of the Sanford River (OSM 1999a). In 1999, the Board adopted Proposal P99-16 with modification to allow five day extension at the beginning of the moose season in Unit 11 to provide additional opportunity for subsistence harvest while protecting the moose population from disruption during the breeding season, and to align Federal and State seasons (OSM 1999b).

In 2000, the Board rejected Proposal P00-19/21 to include the residents in Unit 6C to those with customary and traditional use for moose (P00-19) and sheep (P00-21) in the portion of Unit 11 remainder because Cordova previously failed to qualify as a resident zone community for WRST, based on percentage of qualifying individuals (OSM 2000a).

In 2000, the Board adopted Proposal P00-20 modifying general regulations requiring evidence of sex. The regulation was modified to allow hunters in Units 11 and 13 to possess either sufficient portions of the external sex organs, still attached to a portion of the carcass, or the head (with or without the antlers attached) to indicate the sex of the harvested moose, however this did not apply to the carcass of an ungulate that has been butchered and placed in storage or otherwise prepared for consumption upon arrival at the location where it is to be consumed (OSM 2000b).

In 2002, the Board adopted Proposal WP02-19 to allow for the harvest of a moose without a calf in either Unit 11 or Unit 12 for the annual Batzulnetas Culture Camp by two hunters designated by the Mt. Sanford Tribal Consortium (OSM 2002). The Board adopted this proposal because it was an established, well-known culture camp and the change streamlined the process for issuing permits to the Mt. Sanford Tribal Consortium.

In 2007, the Board rejected Proposal WP07-20 to change the season dates from Aug. 20-Sept. 20 to Sept. 1–Sept. 30 to reduce spoilage due to warm weather, because the moose population was low and shifting the season had the potential to increase moose harvest, which would have detrimental effects for the conservation of the population (OSM 2007).

In 2012, the Board adopted Proposal WP12-70 with modification, dividing Unit 11 into two hunt areas and creating a single, joint State/Federal registration permit to administer the hunt area in Units 11 and 12 along the Nabesna Road, and a Federal registration permit for Unit 11 remainder. The season dates for Unit 12 remainder were also modified. These changes aligned the Federal seasons within the area of the joint State/Federal registration permit and helped to improve harvest reporting. In addition, the moose population was healthy enough to allow for the potential increase in bull harvest (OSM 2012).

In 2014, the Board adopted Proposal WP14-16 with modification to establish a winter moose season from Nov. 20 to Dec. 20 in Unit 11, south and east of a line running along the north bank of the Chitina River, the north and west banks of the Nizina River, and the west bank of West Fork of the Nizina River, continuing along the western edge of the West Fork Glacier to the summit of Regal Mountain. The board also

delegated authority to the WRST Superintendent to open and close any portion of the winter season and to establish a harvest quota (OSM 2014). Moose in the area south of the Chitina River (**Map 1**) typically stay at higher elevations during the fall where they are largely inaccessible to subsistence users. In addition, there is limited access during the fall moose season due, in part, to having to cross the Chitina River. The winter hunt provides subsistence hunters more opportunity to hunt moose when they are more accessible by snowmachine and allows them to store meat without freezers.

Current Events

The Ahtna Intertribal Resource Commission submitted two proposals for the 2018-2020 wildlife regulatory cycle that pertains to moose in this area. Proposal WP18-17, requests that the moose season on Federal public lands in Unit 11, that portion draining into the east bank of the Copper River upstream from and including the Slana River drainage, and Unit 11-remainder be changed from Aug. 20-Sept. 20 to Aug. 20-Mar. 31. Proposal WP18-18 similarly requests that the moose season on Federal public lands in Unit 13 be changed from Aug. 1-Sept. 20 to Aug. 1 to Mar. 31.

Biological Background

The moose population in Unit 11, which initially increased in the 1950s, has experienced two peaks, one in the early 1960s and the other in 1987, and two lows in 1979 and 2001 (Tobey 2010). Predation on moose calves by bears and wolves has been shown to be an important limiting factor in moose populations (Tobey 2010). High brown bear and wolf numbers in Unit 11 may be contributing to the low calf:cow ratios observed in this unit, as well as the overall low, but stable density moose population (Tobey 2008).

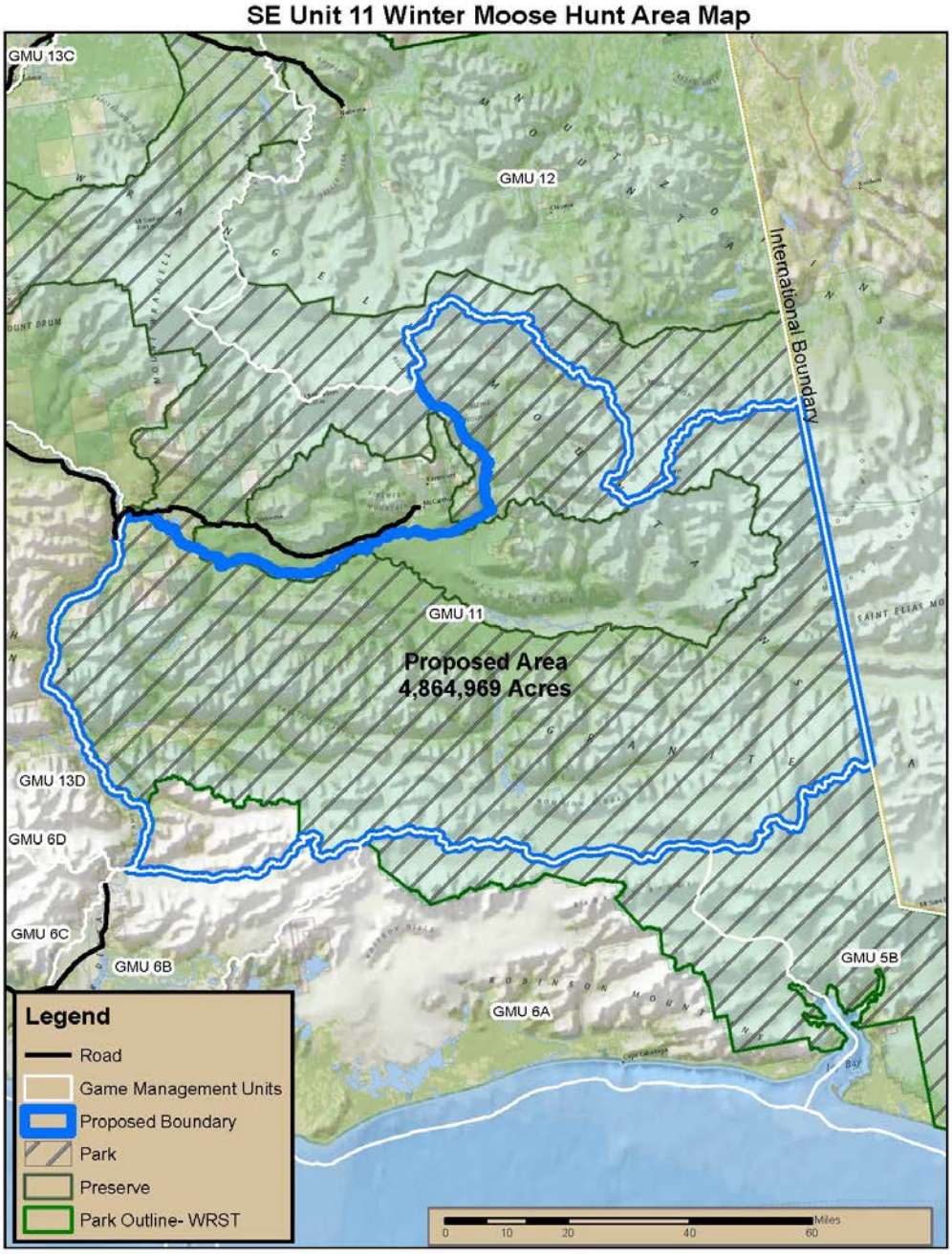
State management goals for moose in Unit 11 are (Tobey 2010):

- To allow the populations to fluctuate based on the available habitat and predation rates.
- Maintain a population with a post hunt age/sex composition of 30 bulls (of which 10-15 are adult bulls) per 100 cows

Three main moose survey efforts have been conducted in Unit 11. The first are ongoing surveys conducted by the Alaska Department of Fish and Game (ADF&G) in the Mount Drum area, the second were surveys conducted by WRST in the north end of Unit 11 from 2003 – 2008, and the third were Geospatial Population Estimator (GSPE) surveys conducted in 2007, 2010, 2011, and 2013 by WRST staff throughout Unit 11 (**Map 2**). The scheduled moose survey for 2016 was not conducted due to inadequate snow conditions (Putera et al. 2017). No moose surveys have been conducted in the winter hunt area in Unit 11.

Aerial population and composition trend surveys are usually conducted by ADF&G every other year during late fall along the western slopes of Mount Drum (Count Area CA11). The survey indicator area on Mt. Drum includes 212 mi^2 which is approximately 1.7% of Unit 11 (12,470 mi^2). The total number of moose counted in CA11 averaged 170 moose per regulatory year between 1998 and 2015 (**Table 1**). Density estimates from 1999 to 2012 ranged from 0.3 to 1.0 moose/mi^2 in CA11 (**Table 1**) (Tobey 2004, 2010). The bull:cow ratio averaged 95 bulls:100 cows from 1998 through 2015 (Tobey 2010, Schwanke 2013,

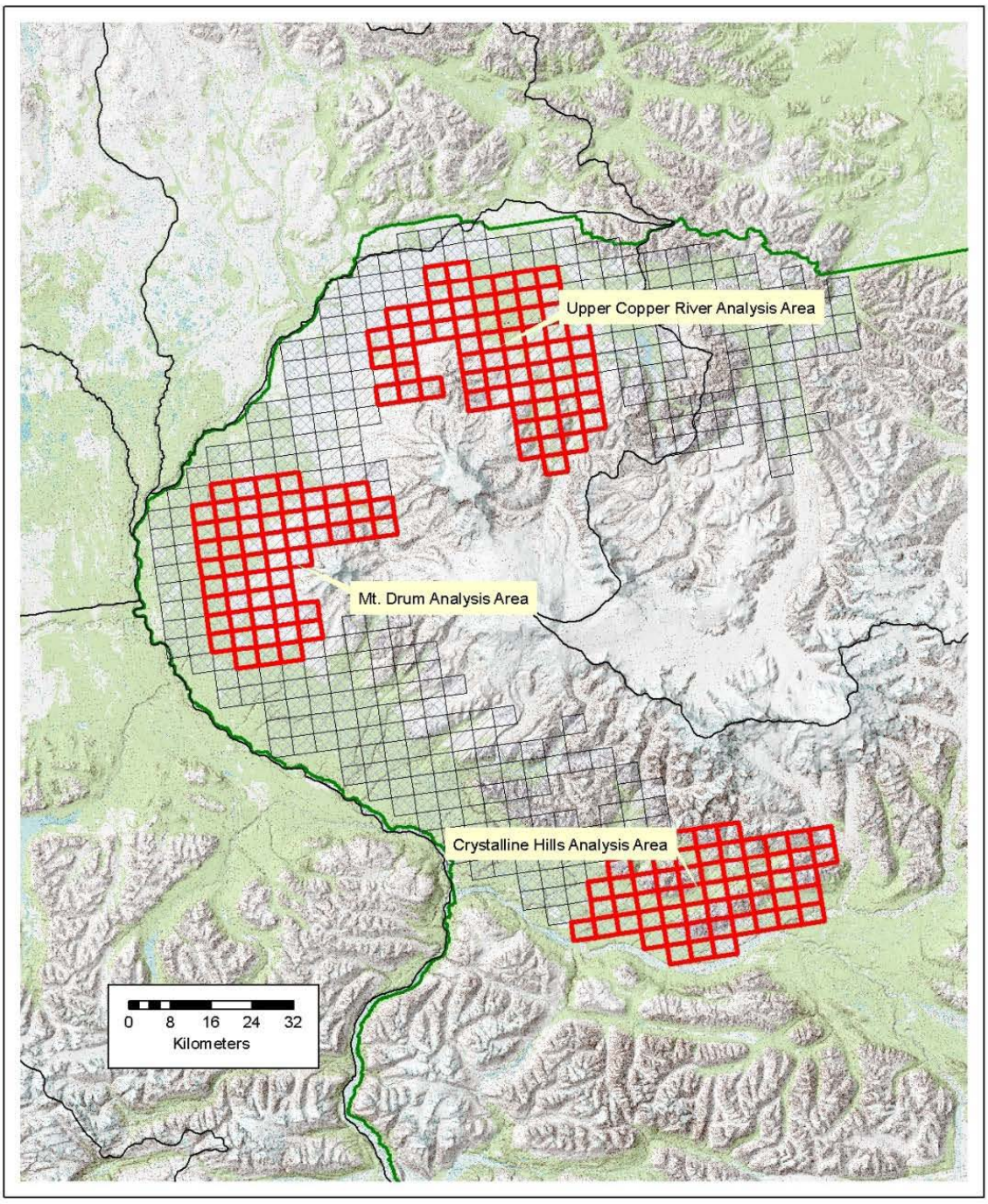
pers. comm., Hatcher 2014, Robbins 2017, pers. comm.), which exceeds current State management goals. The average number of calves:100 cows in Unit 11 between 1998 and 2015 was 21 (range 9-48) (Tobey 2010, Schwanke 2013, pers. comm., Hatcher 2014, Robbins 2017, pers. comm.).



Map 1. Location of the winter moose hunt area in Unit 11 (Putera 2013, pers. comm.). The proposed area on this map was accepted by the Federal Subsistence Board in 2014.

The Upper Copper River Analysis Area (UCR) is part of WRST's GSPE moose survey that is located near the north end of Unit 11 and covers the Boulder Creek drainage east to Copper Lake (**Table 2**). Although a portion of this survey area is accessible using all-terrain vehicles from the Nabesna Road, the western portion of the survey area is accessible only by aircraft. Between 2003 and 2008 (excluding 2007), an average of 297 moose were counted annually in the UCR moose survey area (**Table 2**) (Reid 2007, pers. comm.). Results from the sex and age composition counts found that the calf:cow ratio was fairly stable, averaging 12 calves:100 cows with calves accounting for about 7% of the population. Bull:cow ratios remained fairly stable as well, averaging 46 bulls:100 cows; well above the management objective.

Although a moose population census for all of Unit 11 has never been conducted, population estimates from GSPE surveys conducted in 2007, 2010, 2011, and 2013 by WRST staff represent the most comprehensive moose population data for Unit 11 (Putera 2013, pers. comm.). GSPE, developed by ADF&G is an accepted method for estimating moose populations in large areas such as Unit 11 (Ver Hoef 2001). Population estimates for the total survey area, bull:cow ratios, and calf:cow ratios increased slightly from 2007 to 2013 (**Table 3**) (Reid 2008, Putera 2010, Putera 2013, pers.comm.). Separate population estimates were also determined for three analysis areas that cover previous trend count survey areas. For the Mt. Drum area, bull:cow ratios continued to remain high at 118:100 in 2007, 55:100 in 2010, and 79:100 in 2013 (**Table 3**). Moose density increased slightly in 2013 from the 2010 survey. Results of the 2007 and 2010 GSPE surveys for the UCR area are consistent with previous trend surveys, with 2-3 times more moose observed than in the Mt. Drum and Crystalline Hills survey areas. Calf:cow ratios were slightly higher in 2013 (**Table 3**) than ratios from surveys conducted in 2012 (**Table 1**). The Crystalline Hills and Mt Drum count areas had the greatest increase between 2010 and 2013 (**Table 3**). In cooperation with ADF&G, WRST staff conducted a GSPE survey in 2011 along the Nabesna Road corridor, an area that receives relatively high hunting pressure. The population estimate was 1,272 moose with an estimated density of 0.79 moose/mi^2, a bull:cow ratio of 34:100 and a calf:cow ratio of 27:100. The bull:cow ratio along the Nabesna Road corridor (34:100 cows) in 2011 was lower than bull:cow ratios from the 2007 and 2010 GSPE surveys in the UCR area (**Table 3**).



Map 2. Analysis areas within the count area. These areas were selected to allow comparisons with historical survey areas (Putera 2010).

Table 1. Unit 11 moose population demographics on the western slopes of Mount Drum, Wrangell-St Elias National Park and Preserve, AK, 1998-2015 – a lightly hunted population (Tobey 2004, 2008; Schwanke 2013, Hatcher 2014, Robbins 2017, pers comm.).

Year	Number of Bulls	Number of Cows	Number of Calves	Total Moose	Bulls:100 Cows	Calves/ 100 Cows	% Calves	Moose /hour	Density Moose/ mi^2
1998-99	51	46	7	104	111	15	7	24	0.4
1999-00	58	53	11	122	109	21	9	28	0.4
2000-01	58	37	9	104	157	24	9	23	0.4
2001-02	43	46	4	93	94	9	4	19	0.3
2002-03	----	----	----	----	----	---	--	---	----
2003-04	69	60	9	138	115	15	7	30	0.5
2004-05	----	----	----	----	----	----	----	----	----
2005-06	----	----	----	----	----	----	----	----	----
2006-07	57	62	30	149	92	48	20	32	0.5
2007-08	----	----	----	----	----	----	----	----	----
2008-09	63	86	15	164	73	17	9	38	0.6
2009-10	----	----	----	----	----	----	----	----	----
2011-12	98	138	29	265	71	21	11	46	0.9
2012-13	120	143	19	282	84	13	7	46	1.0
2013-14	91	103	27	221	88	26	12	45	0.8
2015-16	67	133	30	230	50	23	13	45	0.8
Mean	70	82	17	170	95	21	10	32	0.56

Table 2. Unit 11 moose population demographics in the Upper Copper River survey area, Boulder Creek to Copper Lake, Wrangell – St. Elias National Park and Preserve, AK, 2003-2008 – a relatively heavily hunted population accessible by aircraft and all-terrain vehicles (Reid 2007, pers. comm. 2007; Reid 2008, Putera 2010).

Year	Number of Bulls	Number of Cows	Number of Calves	Total Moose	Bulls:100 Cows	Calves/ 100 Cows	% Calves
2003	97	215	21	333	45	10	6
2004	78	142	25	245	55	18	10
2005	92	183	11	286	50	6	4
2006	86	218	31	335	39	14	9
2008	77	186	22	285	41	12	8
Total	430	944	110	1,484			
Mean	86	189	22	297	46	12	7

Table 3. Moose Population Estimates for selected areas of Unit 11, from GSPE surveys conducted in 2007, 2010, and 2011 (Reid 2008, Putera 2010, Putera 2013, pers. comm.).

Area	Year	Population Estimate	Moose Observed	Calf:100 Cows	Bull:100 Cows	No. Units Surveyed	Density (mi²)
Total Survey 3,170 mi²	2007	1,576 ± 244	500	19	52	87	0.49
	2010	1,584 ± 214	623	17	50	94	0.50
	2013	2,107 ± 307	725	18	64	83	0.70
Upper Copper 524 mi²	2007	403 ± 70	170	16	38	25	0.76
	2010	539 ± 106	220	14	49	19	1.02
	2013	515 ± 121	155	16	61	16	1.0
Mt. Drum 349 mi²	2007	232 ± 65	82	11	118	8	0.66
	2010	186 ± 51	66	35	55	11	0.53
	2013	225 ± 56	94	25	79	9	0.70
Crystalline Hills 349 mi²	2007	260 ± 93	63	29	42	9	0.74
	2010	259 ± 55	134	17	50	16	0.74
	2013	380 ± 78	179	19	70	13	1.10
Nabesna 1,602 mi²	2011	1,272 ± 134	551	27	34	107	0.79

Habitat

In 2009, the Chakina fire burned approximately 56,000 acres in the accessible portion of Unit 11 south of the Chitina River. A portion of that area (approximately 20,000 acres) re-burned in the Steamboat Creek fire in 2016 (WRST 2016). Typically within 10 –15 years following fires or disturbance (Loranger et al. 1991), early seral forest habitat becomes the most productive area for moose because it supports high density of forage species such as paper birch (*Betula papyrifiera*), aspen (*Populus tremuloides*), and willow (*Salix sp.*). The severity and frequency of fires will determine how productive an area becomes for moose (Loranger et al. 1991; Johnstone and Kasischke 2005; Brown and Johnstone 2012). For instance, peak moose density during winter occurred approximately 15 years after the 1947 fire on the Kenai Peninsula (Loranger et al. 1991).

Cultural Knowledge and Traditional Practices

Reference to the harvest and use of moose by the people of the Eastern Interior and the Copper River Basin begin as early as the 1800s and continue to the present day (Simeone 2006). Archeological evidence and historical accounts suggest that large land mammals were an important subsistence resource for the Ahtna Athabascans of the upper Copper River watershed (Simeone 2006). Russian explorer, Rufus Sereberinikoff, noted that Ahtna families along the Tazlina River had fresh moose meat when he visited the

Copper Basin in May of 1848. De Laguna and McClennan (1981) reported that, "caribou and moose were caught either in drag-pole snares or in snares set 200-300 feet apart in long brush fences." Winter moose hunting took place on foot with the use of snowshoes and the aid of bow and arrows (Reckord 1983; Simeone 2006; Haynes and Simeone 2007). The traditional practices of drying and freezing meat, as well as the proper and respectful treatment of harvested resources such as moose, are described in several ethnographic accounts of the Ahtna and people of the upper Tanana (de Laguna and McClellan 1981; Haynes and Simeone 2007; Reckord 1983; Simeone 2006).

In recent comprehensive subsistence surveys conducted by the ADF&G, reported large land mammal harvest is high and ranged between 21% and 88% of the total harvest by weight in the communities surveyed (Holen, et al. 2015; Kukkonen and Zimpleman 2012; La Vine et al. 2013; La Vine and Zimpleman 2014). In the communities with the closest proximity to the southern portion of Unit 11 moose was harvested at 13 lb per capita in McCarthy and 8 lb per capita in Chitina. Additionally, use was high with 67% of households reporting use in Chitina and 62% households reporting use in McCarthy (La Vine and Zimpleman 2014).

During each study year, communities within the Copper River Basin harvested or hunted for moose in Units 11, 12, and 13. While many communities documented harvest and search areas for moose in Unit 11 in general, Chitina, Copper Center, Glennallen, Kenny Lake/Willow Creek, and McCarthy reported harvest and search areas in the southern portion specifically (Holen et al. 2015, La Vine and Zimpleman 2014, La Vine et al. 2013). Harvest and search areas documented in the southern portion of Unit 11 include the 60 mile stretch of McCarthy Road, and Dan Creek across the Nizina River from McCarthy (Holen, et al. 2015; La Vine, et al. 2013; La Vine and Zimpleman 2014).

Harvest History

Moose harvest from 1963 to 1974 averaged 164 moose per year in Unit 11. During this time there was both a fall and winter season and cows made up as much as 50% of the harvest (Tobey 2010). In response to declining moose numbers, seasons were shortened, the winter season was eliminated, and harvest was restricted to bulls only from 1975 to 1989. The average annual bull harvest was 45 (range 21-58) between 1975 and 1989. In 1990 the State season was shortened to Sept. 5 - Sept. 9 to align the season with adjacent Unit 13 and because of population declines due to increased mortality during the severe winter of 1989/1990 (Tobey 1993, 2010). During the 1990s, the average harvest was 34 bulls (range 22-42). Since 2000, the mean harvest has been 58 bulls, which includes an estimated 10 unreported moose being harvested each year (**Table 4**) (Tobey 2010, FWS 2017). One moose was harvested in Unit 11 under the State's Copper Basin Community Permit Hunt (CM300) in 2009 (FWS 2017). Sixty nine permits were issued between for the winter hunt (FM1107) between 2014 and 2016. During that period 10 individuals hunted and one moose was reported harvested in the winter hunt area largely south of the Chitina River (Putera et al. 2017).

Table 4. State and Federal Moose harvest in Unit 11 from 2000-2015 (Tobey 2010, Hatcher 2014, FWS 2017, ADF&G 2017).

Year	M	F	Unk	Estimate of Unreported Kill	Federal Total	State Total	Total
2000/2001	52	0	1	10	23	30	63
2001/2002	43	1	1	10	14	31	55
2002/2003	40	0	1	10	8	33	51
2003/2004	45	0	0	10	15	30	55
2004/2005	56	0	1	10	27	30	67
2005/2006	47	1	0	10	24	24	58
2006/2007	41	0	1	10	20	22	52
2007/2008	47	2	0	10	25	24	59
2008/2009	53	0	0	10	28	25	63
2009/2010	64	0	2	10	20	36	66
2010/2011	38	0	0	10	20	18	48
2011/2012	74	0	0	10	27	37	74
2012/2013	48	0	0	10	9[a]	39	58
2013/2014	61	0	0	10	12[a]	39	61
2014/2015	39	0	0	10	10[a]	30	49
2015/2016	47	0	0	10	13[a]	34	57
2016/2017	62	0	0	10	17[a]	45	72

[a] Harvests by Federally qualified subsistence users under the joint State/Federal permit established in 2012 are included in the "State Total" column

Effects of the Proposal

If this proposal is adopted, it would extend the winter moose season from Dec. 20 to Jan. 20 in a portion of Unit 11 south of the Chitina River. This season would provide Federally qualified subsistence users with an additional 31 days of harvest opportunity in areas that are difficult to access during the fall season. The two-month season would allow hunters to take advantage of periods of good weather and ice conditions that would allow them to safely cross the Nizina and/or the Chitina River.

Although no moose population surveys have been conducted in the area south of the Chitina River, moose populations in other areas of Unit 11 have remained stable to slightly increasing through 2012/2013. Even

though the hunt season is restricted to bulls, many of the bulls will have shed their antlers by January so the potential of inadvertently harvesting a cow would increase. In addition, WRST has delegated authority to open and close the winter moose season and establish quotas in Unit 11. Conducting GSPE surveys in the winter hunt area in Unit 11 would provide additional information for biologists and managers to determine a quota that is biologically sustainable.

OSM CONCLUSION

Support Proposal WP18-16/50.

Justification

Extension of the winter moose season in Unit 11 will allow Federally qualified subsistence hunters to be able to cross the Chitina and Nizina Rivers when the rivers are more likely to be frozen thus providing access and more opportunity to harvest a moose. The hunt would also occur later in the winter when the temperatures are expected to be colder, thus making it easier for subsistence users, who live off the electrical grid and do not have freezers, to keep the meat from spoiling.

Moose populations in surveyed areas of Unit 11 have remained relatively stable to slightly increasing through 2012/2013. The population should be able to sustain an additional harvest of bulls during the proposed one month winter harvest season extension. Winter moose harvest is likely to be low and will be controlled by quotas set by the WRST. Extending the hunt beyond December would increase the likelihood of some cows being taken.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Southcentral Alaska Subsistence Regional Advisory Council

Support WP18-16/50. No conservation concerns exist for the moose population in Unit 11 (Southern Portion) and the proposal, if adopted, would provide additional opportunity for subsistence users, and allow users to safely cross the Chitina River and access the winter hunt area.

Eastern Interior Alaska Subsistence Regional Advisory Council

Support WP18-16/50. The Council noted that extending the winter moose season into January would directly benefit local residents. The extension would provide easier access to the resource when the weather conditions are better for travel and will help to keep meat from spoiling. The Council felt that the adjustment of seasons to follow the changes in climate conditions is very reasonable. The Council also noted that, according to the provided biological information, there are no conservation concerns.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposals WP18-16 and WP18-50: These proposals, submitted by Keith Rowland (WP18-16) and the Eastern Interior Alaska Federal Subsistence Regional Advisory Council (WP18-50), would extend the winter bull moose hunting season in Unit 11 (FM1107) by one month from November 20–December 20 to November 20–January 20.

Introduction: In 2014, the Federal Subsistence Board established a winter moose hunt (FM1107) with a season of November 20–December 20 and a bag limit of one bull. The hunt area encompasses approximately 5 million acres, primarily south of the Chitina River. The intent of the hunt was to provide federally qualified hunters with an opportunity to hunt moose during the winter after moose had moved down from higher elevations, making them more accessible to hunters. Only one bull has been reported harvested since the season was established in 2014.

Impact on Subsistence Uses: If this proposal is adopted, the extended season would provide federal subsistence hunters with an additional month to hunt moose and the opportunity to hunt during January when winter conditions could allow for easier travel. Hunters would also be able to target moose inhabiting accessible lower elevation winter range.

Impact on Other Uses: The low number of participating hunters and the low harvest is not likely to impact other users.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for moose in Unit 11.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for moose in Unit 11 is 30-40 animals. The reported resident moose harvest Unit 11 was 49 in RY2012; 51 in RY2013; 40 in RY2014; 48 in RY2015; and 63 in RY2016. The 5-year mean harvest is 50.2 moose, well within ANS.

Unit/Area	Bag Limit	Open Season (Permit/Hunt #) Resident	Nonresident
Unit 11 east of the east bank of the Copper River, upstream from and east of the east bank of the Slana River	one bull, or one bull with spike-fork antlers or 50 inch antlers or 3 brow tines on at least one side	August 10–September. 20 (Community subsistence hunt permit CM300) August 20-September17 (RM291)	August 20-September 17 (RM291)
Unit 11 Remainder	one bull, or one bull with spike-fork antlers or 50 inch antlers or 3 brow tines on at least one side	August. 10–September 20 (Community subsistence harvest permit CM300) August 20–September 20 (Harvest ticket)	August 20–September 20 (Harvest ticket)

Special instructions: None

Conservation Issues: There is no current moose population estimate for the FM1107 hunt area. However, only one bull has been harvested on an FM1107 permit since 2014. Decreased daylight and cold temperatures in January will make hunting difficult, resulting in only a minimal increase in harvest. Because bulls will have dropped antlers prior to the proposed January 20 season closure, it is possible that there will be some accidental cow harvest.

Enforcement Issues: Hunters who accidentally harvest cows could face law enforcement action.

Recommendation: ADF&G is **NEUTRAL** on this proposal because it does not create a biological concern for the moose population. There has been very low participation in this hunt, mainly from residents in the McCarthy area. While snow and frozen rivers will aid access in the hunt area, cold temperatures and short days will likely limit harvest.

Written Public Comments

Ahtna Intertribal Resource Commission
dba/Copper River-Ahtna Inter-Tribal
Resource Conservation District
PO Box 613
Glennallen, Alaska 99588
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July 26, 2017

Chairperson of Federal Subsistence
Board or his Designated Field Officer
Office of Subsistence Management
1011 E. Tudor Road, MS-121
Anchorage, Alaska 99503-6199

Dear Mr. Christensen or Designated Field Officer:

Enclosed are Ahtna Inter-Tribal Resource Commission's (AITRC) comments on 2018-2020 Federal Wildlife proposals. Please consider our viewpoint on wildlife proposals, when decsions are made on federal wildlife regulations.

Sincerely,

Shirley Smelcer, Chairperson of CRITR

Comments on 2018-2020 Federal Wildlife Proposals

Southcentral Subsistence Regional Advisory Council

WP18-14 Change season dates for wolverine hunting and trapping

We support Proposal WP18-14 to extending Unit 11 Wolverine hunting season to February 28th, and extending Unit 13 Wolverine hunting and trapping seasons to February 28th.

Wolverine population is in Unit 11 and Unit 13 is considered to be healthy and abundant. There isn't a conservation concern for wolverine in these two game management units.

Other Federally qualified subsistnece users and Ahtna People will be able to hunt and trap longer in these two GMUs, allowing more opportunity to harvest a wolverine for peronal use or to sell for extra income.

Wolverine is commonly used for clotheing, ruff, or for moccasins, coats or jackets. Wolverine fur is also sold to acquire extra income, which supplements cash, food cost and bills.

WP18-16 Extend winter season [Unit 11 moose]

We do not support WP18-16. See comments under WP18-17.

WP18-17 Extend season [Unit 11 moose] (CRITR)

We suppport Proposal WP18-17 to extend moose hunting season and to allow Ahtna Intertribal Resource Commission to distribute moose permits on federal public lands in Unit 11.

Moose population in Unit 11 can sustain a moose hunt from August 1 to March 31. Moose population will not be depleted or over harvested by Ahtna tribal members who are federally qualified hunters. An increase of moose harvest on federal public lands will not occur with the newly established tribal moose hunt.

AITRC has management capability to distribute Unit 11 moose federal permits to Ahtna tribal members. A permitting system will be set up to allow proof of residency within the Copper Basin and Cantwell communitie before moose permits are distrbuted to federally qualified tribal members. AITRC staff will monitor moose permit and hunting by tribal members. AltRC has a wildlife biologist on staff to help with moose hunt. AITRC has management capbility to distribute Unit 11 moose permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since 2009. AITRC has experienced staff to distribute moose permits and ensure tribal hunters will return moose permits.

WP18-18 Extend season [Unit 13 mooose] (CRITR)

We support WP18-18 to extend moose season and to allow AITRC to distribute mooose permits. Moose population in Unit 13 can sustain a moose hunt from August 1 to March 31. Moose population will not be depleted or over harvested by Ahtna tribal members who are federally qualified hunters. Bureau of Land Management Biologist reported in 2016 1,384 moose permits wree distributed, 681 moose permits were used and 99 moose were harvested by federally qualified subsistence hunters. An increase of moose harvest on federal public lands will not occur with the newly established tribal moose hunt.

AITRC has management capability to distribute Unit 13 moose federal permits to Ahtna tribal members. A permitting system will be set up to allow proof of residency within the Copper Basin and Cantwell communitie before moose permits are distrbuted to federally qualified tribal members. AITRC staff will monitor moose permit and hunting by tribal members. AItRC has a wildlife biologist on staff to help with moose hunt. AITRC has management capbility to distribute Unit 13 moose permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since 2009. AITRC has experienced staff to distribute moose permits and ensure tribal hunters will return moose permits.

WP18-19 Caribou – Revise permitting system [Unit 13 caribou] (CRITR)

We support WP18-19 to allow AITRC to distribute Unit 13 Nelchina Caribou hunting permits to Ahtna tribal members, who are federally qualifed customary and traditional use hunters.

AITRC has management capbility to distribute Unit 13 Nelchina Cariobu permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since the year 2009. AITRC has experienced staff to distribute Nelchina Caribou permits and ensure tribal hunters return caribou permits.

Eastern Interor Subsistence Regional Advisory Council

WP18-50 Extend season [Unit 11 moose]

We do not support WP18-50, we support WP18-17. See comments under WP18-17.

WP18-51 Statewide – Modify baiting restrictions to align State regulations

We support WP18-51 to modify bait regulations to align with State regulations. Federal regulations are more restrictive than State regulations. Adding skinned carcasses of furbearers and fur animals, small game, with the exception of the meat of birds, to bait bear regulations will align State and Federal regulations, provide more opportunities for federal subsistence hunters who use bait stations to harvest bears.

Traditional use of grease, parts of wild game, and other methods of harvesting bears at bait stations would occur, hunters who use bait stations would have an imporoved chance of harvesting a bear with more options to choose from to use as bait.

WP18-54 – Increase harvest limit and Delegate Authority to set harvest limit for [Unit 12 caribou] to be announced winter season

We do not support WP18-54 to change Unit 12 Caribou regulations to "up to 3 caribou" may be taken with a federal registration permit. This will increase the take of caribou beyond sustainable limits and will stress the herd in its winter range. We have seen overharvest of caribou in the past with liberal bag limit that has taken decades to recover. This is not a wise proposal and we oppose it..

WP18-55 Extend Winter and fall season [Unit 12 moose]

Unit 12 Moose

That portion within Tetlin National Wildlife Refuge and those lands within the Wrangell-St. Elias National Preserve north and east of a line formed by the Pickeral Lake Winter Trail from the Canadian border to Pickerel Lake – 1 antlered bull by Federal registration permit (FM1203) Aug. ~~24~~ **20** - Sept. ~~20~~ **30**

Nov. 1 - ~~Feb. 28~~ **Apr. 30**

We are neutral on WP18-55 to extend Unit 12 Moose season to allow longer hunting opportunity.

WP18–17 Executive Summary	
General Description	Proposal WP18–17 requests that the moose season on Federal public lands in Unit 11, that portion draining into the east bank of the Copper River upstream from and including the Slana River drainage, and Unit 11 remainder be changed from Aug. 20-Sept. 20 to Aug. 20-Mar. 31. *Submitted by: Ahtna Intertribal Resource Commission.*
Proposed Regulation	**Unit 11—Moose** *Unit 11—that portion draining into the east bank of the Copper River upstream from and including the Slana River drainage—1 antlered bull by joint State/Federal registration permit.* — *Aug.20 ~~Sept. 20~~* ***Mar. 31*** *Unit 11— that portion south and east of a line running along the north bank of the Chitina River, the north and west banks of the Nizina River, and the west bank of West Fork of the Nizina River, continuing along the western edge of the West Fork Glacier to the summit of Regal Mountain – 1 bull by Federal registration permit. However, during the period Aug. 20-Sept. 20, only an antlered bull may be taken.* — *Aug. 20–Sept. 20* *Nov. 20–Dec 20* *Unit 11 remainder—1 antlered bull by Federal registration permit only* — *Aug. 20 ~~Sept. 20~~* ***Mar. 31*** ***Ahtna Inter-Tribal Resource Commission will distribute Unit 11 moose State/Federal registration permits and (FM1106) moose permits to federally qualified tribal members only. Wrangell-St. Elias National Park and Preserve will distribute Unit 11 moose State/Federal registration permits and (FM1106) moose permits to other federally qualified subsistence users.***
OSM Conclusion	**Oppose**

WP18–17 Executive Summary	
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	**Take no Action** on the permit portion of WP18-17 and **Oppose** season change on WP18-17.
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	

WP18–17 Executive Summary	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	**Take No Action** on permits on WP18-17 and **Oppose** extension of the season on WP18-17.
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Opposed** to the season extension and **Neutral on issuing of Federal permits.**
Written Public Comments	**1 Support**

STAFF ANALYSIS
WP18-17

ISSUES

Proposal WP18–17, submitted by the Ahtna Intertribal Resource Commission (AITRC), requests that the moose season on Federal public lands in Unit 11, that portion draining into the east bank of the Copper River upstream from and including the Slana River drainage, and Unit 11 remainder be changed from Aug. 20-Sept. 20 to Aug. 20-Mar. 31. In addition AITRC requests authorization to distribute (FM1106) permits to Federally qualified tribal members only. Wrangell- St. Elias National Park and Preserve (WRST) will distribute (FM1106) permits to other Federally qualified subsistence hunters.

DISCUSSION

The proponent requests the extension of the moose season to provide more opportunity for Ahtna Tribal members to harvest a moose during the fall and winter months according to customary and traditional practices. In explaining why the regulatory change should be made, the proponent states that per the Memorandum of Agreement between the United States Department of Interior and the AITRC, Federal wildlife proposals are to be written to accommodate Ahtna customary and traditional ways of harvesting large wild game.

The Office of Subsistence Management (OSM) is only evaluating the season extension aspects in this proposal. Discussion/evaluation of permit issuance is addressed in Proposal WP18-19.

Existing Federal Regulation

Unit 11—Moose

Unit 11—that portion draining into the east bank of the Copper River upstream from and including the Slana River drainage—1 antlered bull by joint State/Federal registration permit.	*Aug. 20–Sept. 20*
Unit 11— that portion south and east of a line running along the north bank of the Chitina River, the north and west banks of the Nizina River, and the west bank of West Fork of the Nizina River, continuing along the western edge of the West Fork Glacier to the summit of Regal Mountain – 1 bull by Federal registration permit. However, during the period Aug. 20-Sept. 20, only an antlered bull may be taken.	*Aug. 20–Sept. 20* *Nov. 20–Dec. 20*

Unit 11 remainder—1 antlered bull by Federal registration permit only	*Aug. 20–Sept. 20*

Proposed Federal Regulation

Unit 11—Moose

Unit 11—that portion draining into the east bank of the Copper River upstream from and including the Slana River drainage—1 antlered bull by joint State/Federal registration permit.	*Aug.20 ~~Sept. 20~~* ***Mar. 31***
Unit 11— that portion south and east of a line running along the north bank of the Chitina River, the north and west banks of the Nizina River, and the west bank of West Fork of the Nizina River, continuing along the western edge of the West Fork Glacier to the summit of Regal Mountain – 1 bull by Federal registration permit. However, during the period Aug. 20-Sept. 20, only an antlered bull may be taken.	*Aug. 20–Sept. 20* *Nov. 20–Dec 20*
Unit 11 remainder—1 antlered bull by Federal registration permit only	*Aug. 20 ~~Sept. 20~~* ***Mar. 31***

Existing State Regulation (Effective on or after July 1, 2018)

Unit 11 – Moose

Unit 11– that portion east of the east bank of the Copper River upstream from and including the Slana River drainage	*Residents: 1 bull per harvest report by community harvest permit only; however, no more than 100 bulls that do not meet antler restrictions for other resident hunts in the same area may be taken by Tier II permit in the entire community harvest area during the Aug. 20 – Sept. 20 season, up to 350 Tier II permits may be issued;* *OR*	*CM300*	*Aug. 20–Sept.20* *Dec. 1-Dec. 31 (Subsistence hunt only)*

	Residents: 1 bull with spike-fork antlers or 50-inch antlers or antlers with 3 or more brow tines on at least one side by registration permit only	*RM291*	*Aug. 20–Sept. 17*
	Nonresidents: 1 bull with 50-inch antlers or antlers with 3 or more brow tines on at least one side by registration permit only	*RM291*	*Aug. 20–Sept. 17*
Remainder of Unit 11	*Residents: 1 bull per harvest report by community harvest permit only; however, no more than 100 bulls that do not meet antler restrictions for other resident hunts in the same area may be taken by Tier II permit in the entire community harvest area during the Aug. 20-Sept. 20 season, up to 350 Tier II permits may be issued;*	*CM300*	*Aug. 20–Sept.20*
	OR		
	Residents and nonresidents: 1 bull with spike-fork antlers or 50-inch antlers or antlers with 3 or more brow tines on at least one side	*HT*	*Aug. 20–Sept. 20*

Extent of Federal Public Lands

Federal public lands comprise approximately 87% of Unit 11 and consist of approximately 84% National Park Service (NPS) managed lands, 3% U.S. Forest Service (USFS) managed lands, and 0.1% Bureau of Land Management (BLM) managed lands (See **Unit Map**).

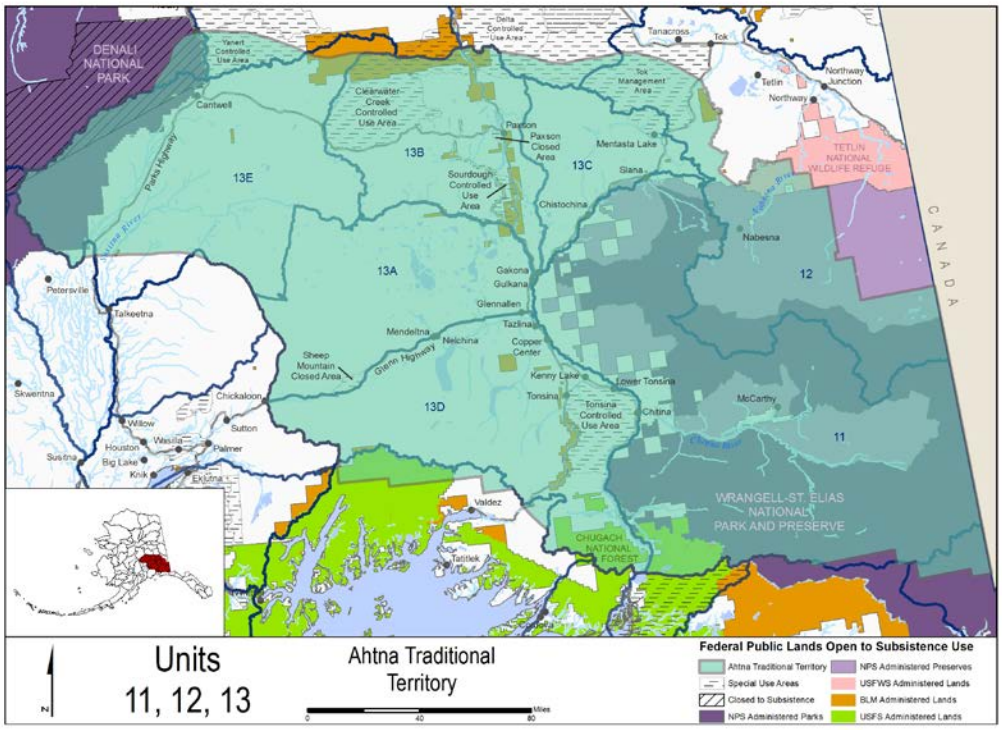
Lands customarily and traditionally used by the Ahtna people extend from the Canadian border in the east to Denali National Park in the west and encompass most of Units 11, 12, and 13 (**Map 1**).

Customary and Traditional Use Determinations

Residents of Units 11, 12, 13A-D, Chickaloon, Healy Lake, and Dot Lake have a customary and traditional use determination for moose in Unit 11 north of the Sanford River.

Residents of Units 11, 13A-D, and Chickaloon have a customary and traditional use determination for moose in Unit 11 remainder.

Under the guidelines of ANILCA, National Park Service regulations identify qualified local rural subsistence users in National Parks and Monuments by: 1) identifying resident zone communities, which include a significant concentration of people who have customarily and traditionally used subsistence resources on park lands; and 2) identifying and issuing subsistence use (13.440) permits to individuals residing outside of the resident zone communities who have a personal or family history of subsistence use. In order to engage in subsistence in Wrangell St. Elias National Park, the National Park Service requires that subsistence users either live within the park's resident zone (36 CFR 13.430, 36 CFR 13.1902) or have a subsistence permit (36 CFR 13.440) issued by the park superintendent.



Map 1. Location of areas customarily and traditionally used for subsistence by the Ahtna people.

Regulatory History

In 1992, the Federal Subsistence Board (Board) added 10 days to the moose season in Unit 11, aligning it with seasons in adjoining subunits in Units 6, 12, and 13 (OSM 1992). In 1999, Healy Lake was added to communities having a customary and traditional use determination for moose in the portion of Unit 11 north

of the Sanford River (OSM 1999a). In 1999, the Board adopted Proposal P99-16 with modification to allow a five day extension to the starting date in Unit 11 moose season to provide additional opportunity for subsistence harvest while protecting the moose population from disruption during the breeding season, and to align Federal and State seasons (OSM 1999b).

In 2000, the Board rejected Proposal P00-19/21 to include the residents in Unit 6C into those with customary and traditional use for moose (P00-19) and sheep (P00-21) in the portion of Unit 11 remainder because Cordova previously failed to qualify as a resident zone community for Wrangell-St Elias National Park (WRST), based on percentage of qualifying individuals (OSM 2000a).

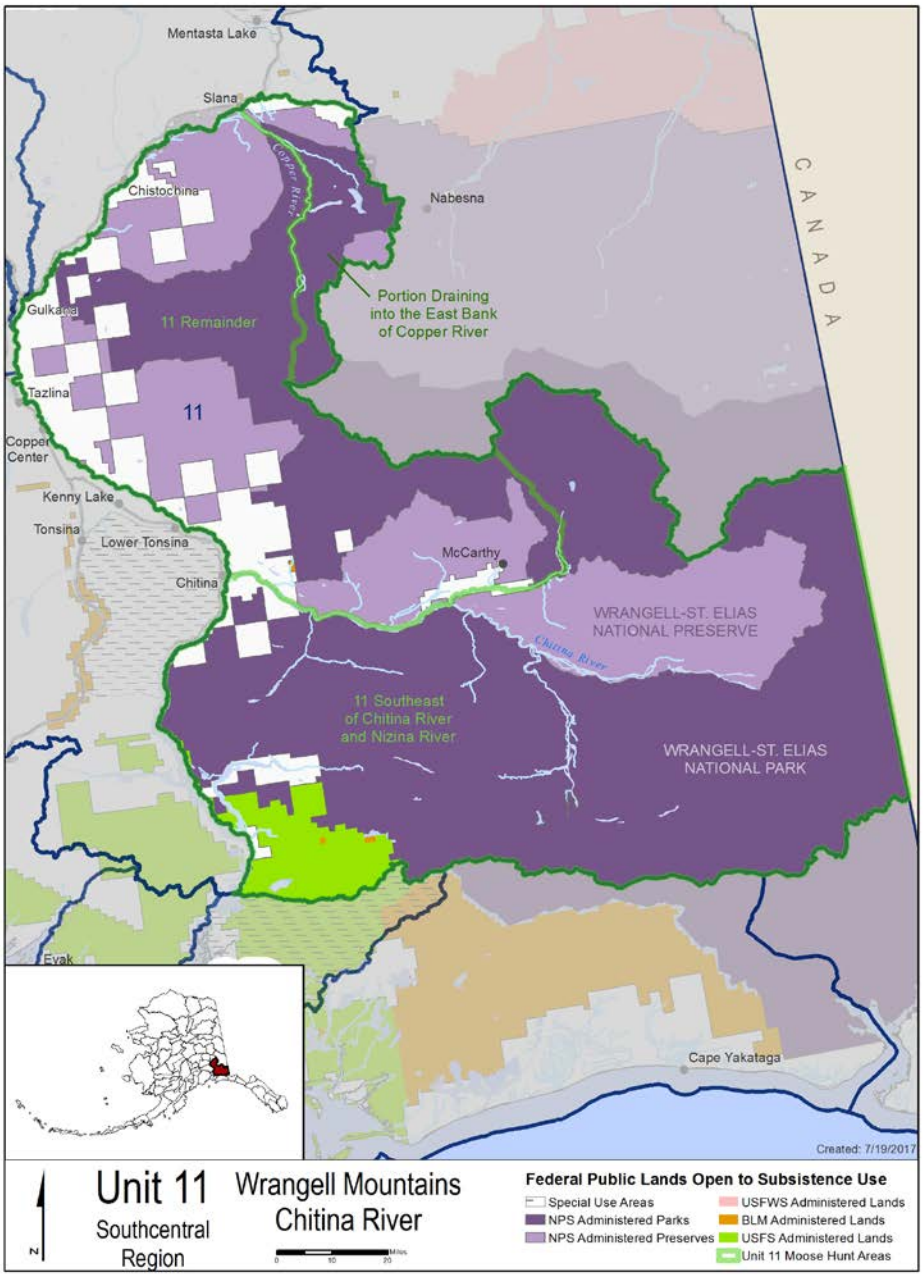
In 2000, the Board adopted Proposal P00-20 modifying general regulations requiring evidence of sex. The regulation was modified to allow hunters in Units 11 and 13 to possess either sufficient portions of the external sex organs, still attached to a portion of the carcass, or the head (with or without the antlers attached) to indicate the sex of the harvested moose; however this does not apply to the carcass of an ungulate that has been butchered and placed in storage or otherwise prepared for consumption upon arrival at the location where it is to be consumed (OSM 2000b).

In 2002, the Board adopted Proposal WP02-19 to allow for the harvest of a moose without a calf in either Unit 11 or Unit 12 for the annual Batzulnetas Culture Camp by two hunters designated by the Mt. Sanford Tribal Consortium (OSM 2002). The Board adopted this proposal because it was an established, well known culture camp and the change streamlined the process for issuing permits.

In 2007, the Board rejected Proposal WP07-20 to change the season dates from Aug. 20-Sept. 20 to Sept. 1–Sept. 30 to reduce spoilage due to warm weather, because the moose population was low and shifting the season had the potential to increase moose harvest, which would have detrimental effects for the conservation of the population (OSM 2007).

In 2012, the Board adopted Proposal WP12-70 with modification, dividing Unit 11 into two hunt areas and creating a single, joint Federal/State registration permit to administer the hunt area in Units 11 and 12 along the Nabesna Road, and a Federal registration permit for Unit 11 remainder. The season dates for Unit 12 remainder were also modified. These changes aligned the Federal seasons within the area of the joint State/Federal registration permit and helped to improve harvest reporting. In addition, the moose population was healthy enough to allow for the potential increase in bull harvest (OSM 2012).

In 2014, the Board adopted Proposal WP14-16 with modification to establish a winter moose season from Nov. 20 to Dec. 20 in Unit 11, south and east of a line running along the north bank of the Chitina River, the north and west banks of the Nizina River, and the west bank of West Fork of the Nizina River, continuing along the western edge of the West Fork Glacier to the summit of Regal Mountain. The Board also delegated authority to the WRST Superintendent to open and close any portion of the winter season and to establish a harvest quota (OSM 2014). Moose in the area south of the Chitina River (**Map 2**) typically stay at higher elevations during the fall where they are largely inaccessible to subsistence users. In addition, there is limited access during the fall moose season due, in part, to having to cross the Chitina River. The winter hunt provides subsistence hunters with more opportunity to hunt moose when they are more accessible by snowmachine and allows them to store meat without freezers.



Map 2. Federal hunt areas in Unit 11.

Current Events

Two identical proposals WP18-16 and WP18-50, submitted for the 2018-2020 regulatory cycle, requested a one month extension of the winter moose season in the southern portion of Unit 11 (FM1107) from Nov. 20 – Dec. 20 to Nov. 20 - Jan. 20.

Biological Background

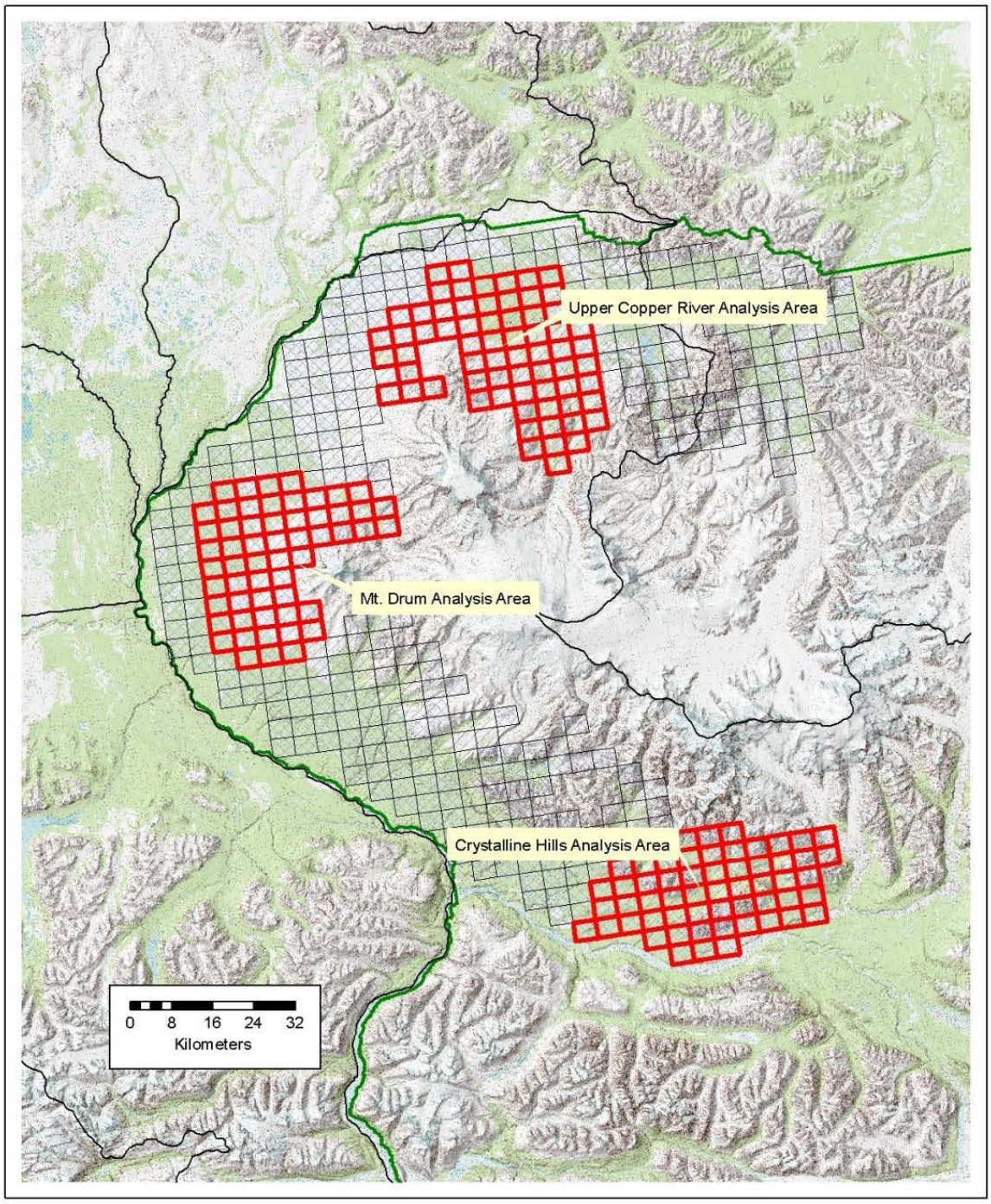
The moose population in Unit 11, which initially increased in the 1950s, has experienced two peaks, one in the early 1960s and the other in 1987, and two lows in 1979 and 2001 (Tobey 2010). Predation on moose calves by bears and wolves has been shown to be an important limiting factor in some moose populations (Tobey 2010). High brown bear and wolf numbers in Unit 11 may be contributing to the low calf:cow ratios observed in this unit, as well as the overall low, but stable density moose population (Tobey 2008).

State management goals for moose in Unit 11 are (Tobey 2010):

- To allow the populations to fluctuate based on the available habitat and predation rates.
- Maintain a population with a post hunt age/sex composition of 30 bulls (of which 10-15 are adult bulls) per 100 cows

Three main moose survey efforts have been conducted in Unit 11. The first are ongoing surveys conducted by the Alaska Department of Fish and Game (ADF&G) in the Mount Drum area, the second were surveys conducted by WRST in the north end of Unit 11 from 2003 – 2008, and the third were Geospatial Population Estimator (GSPE) surveys conducted in 2007, 2010, 2011, and 2013 by WRST staff throughout Unit 11 (**Map 3**). The scheduled GSPE moose survey for 2016 was not conducted due to inadequate snow conditions (Putera et al. 2017). No moose surveys have been conducted in the winter hunt area in Unit 11 (FM 1107). Aerial population and composition trend surveys are usually conducted by the Alaska Department of the Fish and Game (ADF&G) every other year during late fall along the western slopes of Mount Drum (Count Area CA11). The survey indicator area on Mt. Drum includes 212 mi^2 which is approximately 1.7% of Unit 11 (12470 mi^2). The total number of moose counted in CA11 averaged 170 moose per regulatory year between 1998 and 2015 (**Table 1**). Density estimates from 1999 to 2015 ranged from 0.3 to 1.0 moose/mi^2 in CA11 (**Table 1**) (Tobey 2004, 2010). The bull:cow ratio averaged 95 bulls:100 cows from 1998 through 2015 (Tobey 2010, Schwanke 2013, pers. comm., Hatcher 2014, Robbins 2017, pers. comm.), which exceeds current State management goals. The average number of calves: 100 cows in Unit 11 between 1998 and 2015 was 21 (range 9-48) (Tobey 2010, Schwanke 2013, pers. comm., Hatcher 2014, Robbins 2017, pers. comm.).

The Upper Copper River Analysis Area (UCR) is part of WRST's GSPE moose survey is located near the north end of Unit 11 and covers the Boulder Creek drainage east to Copper Lake (**Table 2**). Although a portion of this survey area is accessible using all-terrain vehicles from the Nabesna Road, the western portion of the survey area is accessible only by aircraft. Between 2003 and 2008 (excluding 2007), an average of 297 moose were counted annually in the Upper Copper River moose survey area (**Table 2**) (Reid 2007, pers comm.). Results from sex and age composition counts found that the calf:cow ratio was fairly stable, averaging 12 calves:100 cows with calves accounting for about 7% of the population. Bull:cow ratios remained fairly stable as well, averaging 46 bulls:100 cows; well above the management objective.



Map 3. Analysis areas within the count area. These areas were selected to allow comparisons with historical survey areas (Putera 2010).

Although a moose population census for all of Unit 11 has never been conducted, population estimates from the GSPE surveys conducted in 2007, 2010, 2011, and 2013 by WRST staff represent the most comprehensive moose population data for Unit 11 (Putera 2013, pers. comm). GSPE developed by ADF&G is an accepted method for estimating moose populations in large areas such as Unit 11 (Ver Hoef

2001). Population estimates for the total survey area, bull:cow ratios, and calf:cow ratios increased slightly from 2007 to 2013 (**Table 3**) (Reid 2008, Putera 2010, 2013). Separate population estimates were also determined for three analysis areas that cover previous trend count survey areas. For the Mt. Drum area, bull:cow ratios continued to remain high at 118:100 in 2007, 55:100 in 2010, and 79:100 in 2013 (**Table 3**). Moose density increased slightly in 2013 from the 2010 survey. Results of the 2007 and 2010 GSPE surveys for the UCR area are consistent with previous trend surveys, with 2-3 times more moose observed than in the Mt. Drum and Crystalline Hills survey areas. Calf:cow ratios were slightly higher in 2013 (**Table 3**) than surveys conducted in 2012 (**Table 1**). The Crystalline Hills and Mt. Drum count areas had the greatest increase from 2010 to 2013 (**Table 3**). In cooperation with ADF&G, WRST staff conducted a GSPE survey in 2011 along the Nabesna Road corridor, an area that receives relatively high hunting pressure. The population estimate was 1,272 moose with an estimated density of 0.79 moose/mi^2, a bull:cow ratio of 34:100 and a calf:cow ratio of 27:100. The bull:cow ratio along the Nabesna Road corridor was substantially lower than bull:cow ratios from the 2007 and 2010 GSPE surveys (**Table 3**).

Habitat

In 2009, the Chakina fire near McCarthy burned 52,000 acres in Unit 11 south of the Chitina River and should produce forage for the next 20 years (Hatcher 2014). A portion of that area (approximately 20,000 acres) re-burned in the Steamboat Creek fire in 2016 (WRST 2016). Typically within 10 –15 years following fires or disturbance (Loranger et al. 1991), early seral forest habitat becomes the most productive area for moose because it supports high density of forage species such as paper birch (*Betula papyrifiera*), aspen (*Populus tremuloides*), and willow (*Salix sp.*). The severity and frequency of fires will determine how productive an area becomes for moose (Loranger et al. 1991; Johnstone and Kasischke 2005; Brown and Johnstone 2012). For instance, peak moose density during winter occurred approximately 15 years after the 1947 fire on the Kenai Peninsula (Loranger et al. 1991).

Table 1. Unit 11 moose population demographics on the western slopes of Mount Drum, Wrangell-St Elias National Park and Preserve, AK, 1998-2009 – a lightly hunted population (Tobey 2004, 2008; Schwanke 2013, Hatcher 2014, Robbins 2017, pers.comm.).

Year	Number of Bulls	Number of Cows	Number of Calves	Total Moose	Bulls:100 Cows	Calves/ 100 Cows	% Calves	Moose /hour	Density Moose/ mi^2
1998-99	51	46	7	104	111	15	7	24	0.4
1999-00	58	53	11	122	109	21	9	28	0.4
2000-01	58	37	9	104	157	24	9	23	0.4
2001-02	43	46	4	93	94	9	4	19	0.3
2002-03	----	----	----	----	----	---	--	---	----
2003-04	69	60	9	138	115	15	7	30	0.5
2004-05	----	----	----	----	----	----	----	----	----
2005-06	----	----	----	----	----	----	----	----	----
2006-07	57	62	30	149	92	48	20	32	0.5
2007-08	----	----	----	----	----	----	----	----	----
2008-09	63	86	15	164	73	17	9	38	0.6
2009-10	----	----	----	----	----	----	----	----	----
2011-12	98	138	29	265	71	21	11	46	0.9
2012-13	120	143	19	282	84	13	7	46	1.0
2013-14	91	103	27	221	88	26	12	45	0.8
2014-15	67	133	30	230	50	23	13	45	0.8
Mean	70	82	17	170	95	21	10	32	0.56

Table 2. Unit 11 moose population demographics in the Upper Copper River survey area, Boulder Creek to Copper Lake, Wrangell – St. Elias National Park and Preserve, AK, 2003-2008 – a relatively heavily hunted population accessible by aircraft and all-terrain vehicles (Reid 2007, 2008; Putera 2010).

Year	Number of Bulls	Number of Cows	Number of Calves	Total Moose	Bulls:100 Cows	Calves/ 100 Cows	% Calves
2003	97	215	21	333	45	10	6
2004	78	142	25	245	55	18	10
2005	92	183	11	286	50	6	4
2006	86	218	31	335	39	14	9
2008	77	186	22	285	41	12	8
Total	430	944	110	1,484			
Mean	86	189	22	297	46	12	7

Table 3. Moose Population Estimates for selected areas of Unit 11, from GSPE surveys conducted in 2007, 2010, 2011 and 2013 (Reid 2008, Putera 2010, 2013).

Area	Year	Population Estimate	Moose Observed	Calf:100 Cows	Bull:100 Cows	No. Units Surveyed	Density (mi²)
Total Survey 3170 mi²	2007	1576 ± 244	500	19	52	87	0.49
	2010	1584 ± 214	623	17	50	94	0.50
	2013	2107 ± 307	725	18	64	83	0.70
Upper Copper 524 mi²	2007	403 ± 70	170	16	38	25	0.76
	2010	539 ± 106	220	14	49	19	1.02
	2013	515 ± 121	155	16	61	16	1.0
Mt. Drum 349 mi²	2007	232 ± 65	82	11	118	8	0.66
	2010	186 ± 51	66	35	55	11	0.53
	2013	225 ± 56	94	25	79	9	0.70
Crystalline Hills 349 mi²	2007	260 ± 93	63	29	42	9	0.74
	2010	259 ± 55	134	17	50	16	0.74
	2013	380 ± 78	179	19	70	13	1.10
Nabesna 1602 mi^2	2011	1272 ± 134	551	27	34	107	0.79

Cultural Knowledge and Traditional Practices

Reference to the harvest and use of moose by the people of the Eastern Interior and the Copper River Basin begin as early as the 1800s and continue to the present day (Simeone 2006). Archeological evidence and historical accounts suggest that large land mammals were an important subsistence resource for the Ahtna Athabascans of the upper Copper River watershed (Simeone 2006). Russian explorer, Rufus Sereberinikoff, noted that Ahtna families along the Tazlina River had fresh moose meat when he visited the Copper Basin in May of 1848. De Laguna (1981) reported that, "caribou and moose were caught either in drag-pole snares or in snares set 200-300 feet apart in long brush fences." Winter moose hunting took place on foot with the use of snowshoes and the aid of bow and arrows (Reckord 1983; Simeone 2006; Haynes & Simeone 2007). The traditional practices of drying and freezing meat, as well as the proper and respectful treatment of harvested resources such as moose, are described in several ethnographic accounts of the Ahtna and people of the upper Tanana (de Laguna & McClellan 1981; Haynes & Simeone 2007; Reckord 1983; Simeone 2006).

In recent comprehensive subsistence surveys conducted by the Alaska Department of Fish and Game (ADF&G), it was noted that while salmon composed a majority of the harvest in most communities along the upper Copper River drainage, large land mammal harvest is high and ranged between 21% and 88% of the total harvest by weight in the communities surveyed (Holen, et al. 2012; Kukkonen & Zimpleman 2012; La Vine, et al. 2013; La Vine & Zimpleman 2014). During each study year, communities within the Copper River Basin harvested or hunted for moose in Units 11, 12, and 13.

Harvest History

Moose harvest from 1963 to 1974 averaged 164 moose per year in Unit 11. During this time there was both a fall and winter season and cows made up as much as 50% of the harvest (Tobey 2010). In response to declining moose numbers, seasons were shortened, the winter season was eliminated, and harvest was restricted to bulls only from 1975 to 1989. The average annual bull harvest was 45 (range 21-58) between 1975 and 1989.

In 1990 the State season was shortened to Sept. 5 - Sept. 9 to align the season with the adjacent Unit 13 and because of the population decline following the severe winter in 1988/1989 (Tobey 1993 2010). During the 1990s, the average harvest was 34 bulls (range 22-42). Since 2000, the mean harvest has been 58 bulls, which includes an estimated 10 unreported moose being harvested each year (**Table 4**) (Tobey 2010, FWS 2017). One moose was harvested in Unit 11 under the State Copper Basin Community Permit Hunt (CM300) in 2009 (FWS 2017). The mean annual moose harvest under Federal and State regulations in Unit 11 from 2000 to 2012 was 21 and 28, respectively (**Table 4**). Under the joint State/Federal permit from 2012 to 2016 the annual Federal and State moose harvest was 59 (**Table 4**) (Timmerman and Buss 2007). Hunting pressure has typically been low in Unit 11, in part because moose densities are greater and access is easier in the adjacent Unit 13. Increasing the harvest season by approximately six months in two areas within Unit 11 has the potential to significantly increase harvest on Federal public lands. The majority of the moose harvest in Unit 11 occurs on Federal public lands. The impact of such an increase of harvest is likely to be much greater in Unit 11 than in adjacent Unit 13, where moose populations are larger and the majority of lands are non-Federal.

Other Alternative Considered

One alternative considered was to extend the moose harvest season on Federal public lands in Unit 11 by a month from Nov. 1 – Dec. 1. Although the increase in the moose harvest would be less than the 6 month extension requested by the proponent, this alternative was not chosen due the low density of moose populations in Unit 11 (< 1.0 mi^2).

Table 4. State and Federal Moose harvest in Unit 11 from 2000-2015[a] (Tobey 2010, Hatcher 2014, FWS 2017, ADF&G 2017).

Year	M	F	U	Estimate of Unreported Kill	Federal Total	State Total	Total
2000/2001	52	0	1	10	23	30	63
2001/2002	43	1	1	10	14	31	55
2002/2003	40	0	1	10	8	33	51
2003/2004	45	0	0	10	15	30	55
2004/2005	56	0	1	10	27	30	67
2005/2006	47	1	0	10	24	24	58
2006/2007	41	0	1	10	20	22	52
2007/2008	47	2	0	10	25	24	59
2008/2009	53	0	0	10	28	25	63
2009/2010	64	0	2	10	20	36	66
2010/2011	38	0	0	10	20	18	48
2011/2012	74	0	0	10	27	37	74
2012/2013	48	0	0	10	9[a]	39	58
2013/2014	61	0	0	10	12[a]	39	61
2014/2015	39	0	0	10	10[a]	29	49
2015/2016	47	0	0	10	13[a]	34	57
2016/2017	62	0	0	10	17[a]	45	72

[a] Harvests by Federally qualified subsistence users under the joint State/Federal permit established in 2012 are included in the "Total State" column

Effects of the Proposal

If this proposal is adopted, it would lengthen the moose season on Federal public lands in a portion of Unit 11 by approximately 6 months. A seven month hunting season would give Federally qualified subsistence users more opportunity to harvest moose according to their customary and traditional practices, as requested by the proponent.

Moose populations in Unit 11, which occur at relatively low densities, are subject to population fluctuations due to severe winters and predation from bears and wolves. Hunting mortality combined with increased predation during severe winters can severely reduce moose populations (Walters et al. 1981). Prime breeding bulls and cows are particularly vulnerable during the rut and early winter aggregations.

OSM CONCLUSION

Oppose Proposal WP18-17.

Justification

Extending the moose season in two primary hunting areas in Unit 11 to March 31 would provide more opportunity for Federally qualified subsistence users to harvest moose according to their traditional and cultural practices, but could also present some potentially serious conservation concerns.

Although moose populations in surveyed areas of Unit 11 have remained relatively stable to slightly increasing through 2012/2013, they still occur at relatively low densities. Although moose surveys have been planned, the last moose survey was in 2013. Increasing the harvest could reverse the current population trend. Under the current harvest regime moose populations in Unit 11 have been able to grow slowly. Extending the moose season in Unit 11 by approximately six months is not recommended at this time.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Southcentral Alaska Subsistence Regional Advisory Council

Take No Action on the permit portion of WP18-17 and **Oppose** the season change. The Council took no action on permit portion of this proposal based on the actions taken on WP18-19. The Council opposed the season extension due to low moose densities and conservation concerns.

Eastern Interior Alaska Subsistence Regional Advisory Council

Take No Action on the permit portion of WP18-17 and **Opposed** the extension of the season on WP18-17. The Council briefly considered opposing the proposal due to the conservation reasons outlined by OSM, but then decided to take no action due to their vote on WP18-19 and preferred to defer to the home region on this proposal because the area does not affect the Eastern Interior Alaska Region.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-17: This proposal, submitted by the Ahtna Inter-Tribal Resource Commission (AITRC), would extend the closing date of the federal moose seasons (FM1106 and RM291) in Unit 11 from September 20 to March 31. AITRC also asks to distribute state/federal registration (RM291) and federal moose (FM1106) permits to federally qualified tribal members only while the Wrangell-St. Elias National Park and Preserve would issue permits to other federally qualified users.

Introduction: The proponent requests more accommodation of Ahtna customary and traditional ways of harvesting large wild game, and a longer opportunity for Ahtna tribal members to harvest moose during the fall and winter by extending the moose season to March 31 in Unit 11.

Between 2012 and 2016 an average of 152 hunters obtained FM1106 permits, and the annual harvest averaged 12 bull moose. During the same period an average of 94 RM291 hunters reported harvesting 12 bulls annually within the Unit 11 portion of the hunt area. General season hunters reported harvesting an average of 25 bulls between 2012 and 2016, with an average of 74 hunters reporting.

Impact on Subsistence Uses: If adopted this proposal would give federally qualified users an additional six months to harvest moose on federal public lands in Unit 11. The Bureau of Land Management (BLM) would presumably continue to issue the FM1106 moose permits to federally qualified subsistence hunters who are not Ahtna shareholders. Glennallen ADF&G and Wrangell-St. Elias National Park would continue to issue the joint RM291 permits.

Impact on Other Uses: A significant increase in harvest by federal hunters could potentially impact the future success of state hunters (resident and nonresident) accessing federal land in Unit 11.

Opportunity Provided by State: Community subsistence harvest hunt CM300 (subsistence hunt), registration hunt RM291, drawing hunts DM324 and .DM325 (cow), HT.and harvest ticket huntsHT.

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for moose in Unit 11.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for moose in Unit 11 is 30-40 animals. The reported resident moose harvest Unit 11 was 49 in RY2012; 51 in RY2013; 40 in RY2014; 48 in RY2015; and 63 in RY2016. The 5-year mean harvest is 50.2 moose, well within ANS.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
Unit 11- that portion east of the east bank of the Copper River upstream from and east of the east bank of the Slana River	1bull	August 20–September 20 (CM300)	None
Unit 11- that portion east of the east bank of the Copper River upstream from and east of the east bank of the Slana River	1bull with spike-fork antlers or 50-inch antlers or antlers with 3 or more brow tines on at least one side.	August 20–September 17 (RM291)	August 20-September 17 (RM291)
Unit 11- remainder	1 bull	August 10–September 20 (CM300)	None
Unit 11- remainder	1bull with spike-fork antlers or 50-inch antlers or antlers with 3 or more brow tines on at least one side	August 20 – September 20 (HT)	August 20 – September. 20 (HT)

Special instructions:

Additional hunt conditions for RM291

REPORTING: All hunters must report within 15 days of close of season. Complete permit hunt report online (http://hunt.alaska.gov) or return completed permit report card in person or by mail (postage required) to Tok ADF&G.

REMEMBER: Evidence of sex must remain attached to the hindquarters.

WHO QUALIFIES: Alaska residents, nonresidents, and federally qualified subsistence hunters. Only federally qualified subsistence hunters are allowed to hunt in the National Park.

PENALTY FOR FAILURE TO REPORT: If you fail to report, you will not be eligible to receive any permits (Draw, Targeted, Tier II, or Registration, including Tier I Nelchina Caribou) during the next regulatory year. In addition, your name will be turned over to the Alaska Wildlife Troopers for enforcement action.

PROXY HUNTING PROHIBITED: Proxy hunting is prohibited in RM291. Federal designated hunter permits are available from Wrangell-St. Elias National Park and Preserve.

MOTORIZED VEHICLE USE RESTRICTED: Contact National Park Service at 907-822-7401.

Additional hunt conditions for CM300

• When quotas are reached by CSH hunters (state and federal harvest combined), the bag limit will revert to the general/registration season antler restrictions for that area for the remainder of the season. It is the hunter's responsibility to be aware of antler restrictions and EOs issued for this hunt. Call the CSH Hotline 822-6789 before you hunt for current harvest numbers and antler restriction information. EO information can also be view online at http://www.adfg.alaska.gov (see News and Events). An unlimited number of bulls that meet general/registration season antler restrictions may be taken.

• Evidence of sex must remain naturally attached to the meat.

• Copper Basin CSH moose hunters must salvage for human consumption all edible meat from the forequarters, hindquarters, ribs, neck, and backbone, as well as the head, heart, liver, kidneys, stomach, and hide; and

• Meat of the forequarters, hindquarters, and ribs must remain naturally attached to the bone until delivered to the place where it is processed for human consumption when taken prior to 1 October.

• Successful harvest reports are due to the Glennallen ADF&G (907-822-3461) within 24 hours of kill, or you may report online within 24 hours of kill, no exceptions. If unsuccessful or did not hunt, reports are due within 15 days of the close of season online at http://www.adfg.alaska.gov, by phone or mail.

• Any member of the community/group may hunt on behalf of another member as a designated hunter. In the field, designated hunters must carry a signed harvest ticket of any CSH beneficiary they are hunting for, along with their own CSH harvest ticket.

Conservation Issues: Moose occur at relatively low densities in Unit 11, and weather and predators contribute to sporadic declines. While there are limited data on the abundance of moose in Unit 11, an average of 0.8 moose mi^2 were observed in Count Area 11 between 2008 and 2015. The majority of moose harvested in Unit 11 are taken on federal land. Hunting pressure is lower in Unit 11 than Unit 13 because access is more difficult. However, there is a limited amount of moose habitat that can be hunted on the perimeter of Wrangell-St. Elias National Park. Increasing the moose season by six months will likely drastically increase the harvest of moose on an already low density moose population.

The federal season currently closes on September 20 before the peak of the moose rut. An extension of the federal season would allow hunters to hunt bulls when they are most susceptible to harvest, resulting in a potentially significant increase in harvest. Bull moose would also be more susceptible to harvest because they will have moved from higher elevations to areas that are more easily accessible, where they often aggregate. This movement typically occurs after the first snowfall, providing hunters snowmobile access to the post-rut moose aggregations. In addition, because bull moose begin dropping their antlers during the month of December, the season extension beyond December would likely result in the accidental harvest of some cow moose.

Enforcement Issues: None.

Recommendation: ADF&G is **OPPOSED** to extending the moose season six months because it would likely increase the harvest considerably. The impact of increased harvest could be significant on the low-density moose population in Unit 11, where the majority of land is under federal administration and there is limited amount of moose habitat. **The ADF&G is neutral on issuing federal permits**. AITRC asks to distribute state/federal registration permit RM291. State permits can only be issued by the State of Alaska or a licensed vendor as long as they issue permits to all interested users.

Written Public Comments

Ahtna Intertribal Resource Commission
dba/Copper River-Ahtna Inter-Tribal
Resource Conservation District
PO Box 613
Glennallen, Alaska 99588
907-822-8154
contact@ahtnatribal.org

July 26, 2017

Chairperson of Federal Subsistence
Board or his Designated Field Officer
Office of Subsistence Management
1011 E. Tudor Road, MS-121
Anchorage, Alaska 99503-6199

Dear Mr. Christensen or Designated Field Officer:

Enclosed are Ahtna Inter-Tribal Resource Commission's (AITRC) comments on 2018-2020 Federal Wildlife proposals. Please consider our viewpoint on wildlife proposals, when decsions are made on federal wildlife regulations.

Sincerely,

Shirley Smelcer, Chairperson of CRITR

Comments on 2018-2020 Federal Wildlife Proposals

Southcentral Subsistence Regional Advisory Council

WP18-14 Change season dates for wolverine hunting and trapping

We support Proposal WP18-14 to extending Unit 11 Wolverine hunting season to February 28th, and extending Unit 13 Wolverine hunting and trapping seasons to February 28th.

Wolverine population is in Unit 11 and Unit 13 is considered to be healthy and abundant. There isn't a conservation concern for wolverine in these two game management units.

Other Federally qualified subsistnece users and Ahtna People will be able to hunt and trap longer in these two GMUs, allowing more opportunity to harvest a wolverine for peronal use or to sell for extra income.

Wolverine is commonly used for clotheing, ruff, or for moccasins, coats or jackets. Wolverine fur is also sold to acquire extra income, which supplements cash, food cost and bills.

WP18-16 Extend winter season [Unit 11 moose]

We do not support WP18-16. See comments under WP18-17.

WP18-17 Extend season [Unit 11 moose] (CRITR)

We suppport Proposal WP18-17 to extend moose hunting season and to allow Ahtna Intertribal Resource Commission to distribute moose permits on federal public lands in Unit 11.

Moose population in Unit 11 can sustain a moose hunt from August 1 to March 31. Moose population will not be depleted or over harvested by Ahtna tribal members who are federally qualified hunters. An increase of moose harvest on federal public lands will not occur with the newly established tribal moose hunt.

AITRC has management capability to distribute Unit 11 moose federal permits to Ahtna tribal members. A permitting system will be set up to allow proof of residency within the Copper Basin and Cantwell communitie before moose permits are distrbuted to federally qualified tribal members. AITRC staff will monitor moose permit and hunting by tribal members. AltRC has a wildlife biologist on staff to help with moose hunt. AITRC has management capbility to distribute Unit 11 moose permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since 2009. AITRC has experienced staff to distribute moose permits and ensure tribal hunters will return moose permits.

WP18-18 Extend season [Unit 13 mooose] (CRITR)

We support WP18-18 to extend moose season and to allow AITRC to distribute mooose permits. Moose population in Unit 13 can sustain a moose hunt from August 1 to March 31. Moose population will not be depleted or over harvested by Ahtna tribal members who are federally qualified hunters. Bureau of Land Management Biologist reported in 2016 1,384 moose permits wree distributed, 681 moose permits were used and 99 moose were harvested by federally qualified subsistence hunters. An increase of moose harvest on federal public lands will not occur with the newly established tribal moose hunt.

AITRC has management capability to distribute Unit 13 moose federal permits to Ahtna tribal members. A permitting system will be set up to allow proof of residency within the Copper Basin and Cantwell communitie before moose permits are distrbuted to federally qualified tribal members. AITRC staff will monitor moose permit and hunting by tribal members. AItRC has a wildlife biologist on staff to help with moose hunt. AITRC has management capbility to distribute Unit 13 moose permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since 2009. AITRC has experienced staff to distribute moose permits and ensure tribal hunters will return moose permits.

WP18-19 Caribou – Revise permitting system [Unit 13 caribou] (CRITR)

We support WP18-19 to allow AITRC to distribute Unit 13 Nelchina Caribou hunting permits to Ahtna tribal members, who are federally qualifed customary and traditional use hunters.

AITRC has management capbility to distribute Unit 13 Nelchina Cariobu permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since the year 2009. AITRC has experienced staff to distribute Nelchina Caribou permits and ensure tribal hunters return caribou permits.

Eastern Interor Subsistence Regional Advisory Council

WP18-50 Extend season [Unit 11 moose]

We do not support WP18-50, we support WP18-17. See comments under WP18-17.

WP18-51 Statewide – Modify baiting restrictions to align State regulations

We support WP18-51 to modify bait regulations to align with State regulations. Federal regulations are more restrictive than State regulations. Adding skinned carcasses of furbearers and fur animals, small game, with the exception of the meat of birds, to bait bear regulations will align State and Federal regulations, provide more opportunities for federal subsistence hunters who use bait stations to harvest bears.

Traditional use of grease, parts of wild game, and other methods of harvesting bears at bait stations would occur, hunters who use bait stations would have an imporoved chance of harvesting a bear with more options to choose from to use as bait.

WP18-54 – Increase harvest limit and Delegate Authority to set harvest limit for [Unit 12 caribou] to be announced winter season

We do not support WP18-54 to change Unit 12 Caribou regulations to "up to 3 caribou" may be taken with a federal registration permit. This will increase the take of caribou beyond sustainable limits and will stress the herd in its winter range. We have seen overharvest of caribou in the past with liberal bag limit that has taken decades to recover. This is not a wise proposal and we oppose it..

WP18-55 Extend Winter and fall season [Unit 12 moose]

Unit 12 Moose

That portion within Tetlin National Wildlife Refuge and those lands within the Wrangell-St. Elias National Preserve north and east of a line formed by the Pickeral Lake Winter Trail from the Canadian border to Pickerel Lake – 1 antlered bull by Federal registration permit (FM1203) Aug. ~~24~~ **20** - Sept. ~~20~~ **30**

Nov. 1 - ~~Feb. 28~~ **Apr. 30**

We are neutral on WP18-55 to extend Unit 12 Moose season to allow longer hunting opportunity.

WP18–24 Executive Summary	
General Description	Proposal WP18-24 requests that Federally qualified subsistence users be allowed to use a snowmachine to position caribou, wolves, and wolverines for harvest in Unit 17, provided the animals are not shot from a moving vehicle. *Submitted by: Kenneth Nukwak of Manokotak.*
Proposed Regulation	**§____.4 Definitions** *Take or taking as used with respect to fish or wildlife, means to pursue, hunt, shoot, trap, net, capture, collect, kill, harm, or attempt to engage in any such conduct.* **§____.26 Subsistence taking of wildlife** . . . *(b) Except for special provisions found at paragraphs (n)(1) through (26) of this section, the following methods and means of taking wildlife for subsistence uses are prohibited:* *(4) Taking wildlife from a motorized land or air vehicle when that vehicle is in motion, or from a motor-driven boat when the boat's progress from the motor's power has not ceased;* *(5) Using a motorized vehicle to drive, herd, or molest wildlife.* **§_____.26(n)(17)(iii) Unit 17—Unit-specific regulations** . . . ***(D) A snowmachine may be used to position a caribou, wolf, or wolverine for harvest, provided that the animals are not shot from a moving snowmachine.***
OSM Conclusion	**Support**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	

WP18–24 Executive Summary	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	**Oppose**
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	

WP18–24 Executive Summary	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Neutral**
Written Public Comments	**2 Oppose**

STAFF ANALYSIS
WP18-24

ISSUES

Proposal WP18-24, submitted by Kenneth Nukwak of Manokotak, requests that Federally qualified subsistence users be allowed to use a snowmachine to position caribou, wolves, and wolverines for harvest in Unit 17, provided the animals are not shot from a moving vehicle.

DISCUSSION

The Alaska National Interest Lands Conservation Act (ANILCA) provides for the appropriate use of snowmobiles, motorboats, and other means of surface transportation for subsistence purposes on Federal lands; however, current agency-specific regulations are prohibitory. The proponent states that the requested regulatory change is needed to prevent hunters from shooting into a herd of animals and to provide better guidelines to hunters for the method of harvest.

Existing Federal Regulation

50 CFR 100.4 and 36 CFR 242.4 Definitions

Take or taking as used with respect to fish or wildlife, means to pursue, hunt, shoot, trap, net, capture, collect, kill, harm, or attempt to engage in any such conduct.

§____.26 Subsistence taking of wildlife

. . .

(b) Except for special provisions found at paragraphs (n)(1) through (26) of this section, the following methods and means of taking wildlife for subsistence uses are prohibited:

(4) Taking wildlife from a motorized land or air vehicle when that vehicle is in motion, or from a motor-driven boat when the boat's progress from the motor's power has not ceased;

(5) Using a motorized vehicle to drive, herd, or molest wildlife.

Proposed Federal Regulation

50 CFR 100.4 and 36 CFR 242.4 Definitions

Take or taking as used with respect to fish or wildlife, means to pursue, hunt, shoot, trap, net, capture, collect, kill, harm, or attempt to engage in any such conduct.

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. . .

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(5) Using a motorized vehicle to drive, herd, or molest wildlife.

§_____.26(n)(17)(iii) Unit 17—Unit-specific regulations

. . .

(D) A snowmachine may be used to position a caribou, wolf, or wolverine for harvest, provided that the animals are not shot from a moving snowmachine.

Existing State Regulation

5 AAC 92.080. Unlawful methods of taking game; exceptions

The following methods of taking game are prohibited:

. . .

(4) unless otherwise provided in this chapter, from a motor-driven boat or a motorized land vehicle, unless the motor has been completely shut off and the progress from the motor's power has ceased, except that a

. . .

(B) motorized land vehicle may be used as follows:

(iii) notwithstanding any other provision in this section, in Units 9(B), 9(C), 9(E), 17, 18, 19, 21, 22, 24, 25(C) and 25(D), except on any National Park Service or National Wildlife Refuge lands not approved by the federal agencies, a snowmachine may be used to position a hunter to select an individual wolf for harvest, and wolves may be shot from a stationary snowmachine;

(5) except as otherwise specified, with the use of a motorized vehicle to harass game or for the purpose of driving, herding, or molesting game.

Note: The full text of 5 AAC 92.080(4)(B), above, is in **Appendix A**.

Relevant Federal Regulations

ANILCA Title VIII §811. Access.

(a) The Secretary shall ensure that rural residents engaged in subsistence uses shall have reasonable access to subsistence resources on the public lands.

(b) Notwithstanding any other provision of this Act or other law the Secretary shall permit on the public lands appropriate use for subsistence purposes of snowmobiles, motorboats, and other means of surface transportation traditionally employed for such purposes by local residents, subject to reasonable regulation.

There is a difference between the proposed regulation and agency-specific regulations. Adoption of this proposal may require clarification between new regulation and conflicting agency-specific regulations. Federal subsistence and agency-specific regulations are as follows:

§_____.26(n)(17)(ii) Unit 17—In the following areas, the taking of wildlife for subsistence uses is prohibited or restricted on public lands:

(A) Except for aircraft and boats and in legal hunting camps, you may not use any motorized vehicle for hunting ungulates, bear, wolves, and wolverine, including transportation of hunters and parts of ungulates, bear, wolves, or wolverine in the Upper Mulchatna Controlled Use Area consisting of Unit 17B, from Aug. 1-Nov. 1.

50 CFR 36.12 (Alaska National Wildlife Refuges) Use of snowmobiles, motorboats, dog teams and other means of surface transportation traditionally employed by local rural residents engaged in subsistence uses.

(a) Notwithstanding any other provision of subchapter C of title 50 CFR the use of snowmobiles, motorboats, dog teams and other means of surface transportation traditionally employed by local rural residents engaged in subsistence uses is permitted within Alaska National Wildlife Refuges except at those times and in those areas restricted or closed by the Refuge Manager.

. . .

(d) Snowmobiles, motorboats, dog teams and other means of surface transportation traditionally employed by local rural residents engaged in subsistence uses shall be operated (1) in compliance with applicable State and Federal law, (2) in such a manner as to prevent waste or damage to the refuge, and (3) in such a manner as to prevent the herding, harassment, hazing or driving of wildlife for hunting or other purposes.

36 CFR 13.460 (Alaska National Park System) Use of snowmobiles, motorboats, dog teams, and other means of surface transportation traditionally employed by local rural residents engaged in subsistence uses.

(a) Notwithstanding any other provision of this chapter, the use of snowmobiles, motorboats, dog teams, and other means of surface transportation traditionally employed by local rural residents engaged in subsistence uses is permitted within park areas except at those times and in those areas restricted or closed by the Superintendent.

…

(d) Motorboats, snowmobiles, dog teams, and other means of surface transportation traditionally employed by local rural residents engaged in subsistence uses shall be operated:

(1) In compliance with applicable State and Federal law;

(2) In such a manner as to prevent waste or damage to the park areas; and

(3) In such a manner as to prevent the herding, harassment, hazing or driving of wildlife for hunting or other purposes.

43 CFR 8341.1 (Bureau of Land Management)

(f.) No person shall operate an off-road vehicle on public lands: ... (4) In a manner causing or likely to cause significant, undue damage to or disturbance of ... wildlife

Extent of Federal Public Lands

Federal public lands comprise approximately 28% of Unit 17 and consist of 20.97% U.S. Fish and Wildlife Service (USFWS) managed lands, 3.55% Bureau of Land Management (BLM) managed lands, and 3.28% National Park Service (NPS) managed lands (**Unit 17 Map**).

Regulatory History

In 1995, Proposal 95-52 requested that snowmachines and motor-driven boats be used to take caribou and moose in Unit 25 during established seasons with the knowledge that shooting from a snowmachine in motion was prohibited. There was no existing regulation on the use of motorized vehicles in Unit 25 prior to that time. The Federal Subsistence Board (Board) adopted the proposal on the consent agenda as recommended by both the Eastern Interior and Southcentral Subsistence Regional Advisory Councils who supported the proposal in recognition that methods change over time and because it supports subsistence needs.

In 2000, the Board adopted Proposal 00-53 with modification, allowing the use of snowmachines to position a hunter and select individual caribou for harvest in Units 22 and 23. The Board did this to recognize a longstanding customary and traditional practice in the region (FWS 2000). In Proposal 00-53, the proponent asked to position a caribou, not a hunter. The Board provided a rationale for the modification:

> Following the Regional Council winter meetings, the Deputy Regional Director of the U.S. Fish and Wildlife Service (FWS), Alaska Region, met with the Assistant Regional Director for Law Enforcement, the Staff Committee member for FWS, the Refuge Supervisor for Northern Refuges, and the Native Liaison and, after lengthy discussion, agreed to recommend substituting "a hunter" for "caribou" in the proposal language. They agreed that this is consistent with conservation principles and existing agency regulations as long as herding does not occur and shooting from a moving snowmachine is prohibited (FWS 2000:13).

In 2012, WP12-53 was submitted by the Yukon Delta National Wildlife Refuge, and requested unit specific regulation prohibiting a hunter in Unit 18 from pursuing with a motorized vehicle an ungulate that is "fleeing". The Board adopted the proposal with modification and prohibited the pursuit with a motorized vehicle of an ungulate that was "at or near a full gallop" in Unit 18, providing greater clarity of allowable methods of harvest (FWS 2012).

At its March 2014 meeting, the Alaska Board of Game adopted Proposal 177, which allowed a hunter to use a snowmachine in Units 22, 23 and 26(A) to position a caribou, wolf, or wolverine for harvest, so long as these animals were shot from a stationary snowmachine (Appendix A). The purpose of the proposal was to change hunting restrictions to allow the use of snowmachines to track and pursue these animals without the prohibition against driving, herding, harassing, or molesting game in Unit 23 while hunting these species.

In 2016, Proposal WP16-48, submitted by the Native Village of Kotzebue, requested that Federally qualified subsistence users be allowed to use snowmachines to position a caribou, wolf, or wolverine for harvest in Unit 23. The Board adopted the proposal with modification to allow this method of harvest only on those lands managed by the BLM. The Board recognized use of snowmachine to position animals as customary and traditional practice. However, positioning animals by snowmachine is prohibited on NPS and USFWS lands under agency-specific regulations. BLM regulatory language does not specifically prohibit the use of snowmachines to position animals for hunting and the harvest method is allowed on State managed lands.

Cultural Knowledge and Traditional Practices

During his study years of 1964 and 1965, VanStone (1967:134) documented winter travel along the Nushagak River as occurring almost exclusively by dog team. During the winter months dog teams were used to harvest caribou, access trap lines, and provide for the transportation of supplies and people throughout the region. At the time of his study, VanStone was only aware of a few Bristol Bay residents that possessed snowmachines. Approximately 10 years later, when the Alaska Department of Fish and Game (ADF&G) first began conducting research on subsistence harvest activities, dog teams were barely mentioned. Instead it was noted that the communities of Nushagak Bay and Unit 17 were using mostly boat, aircraft, and snowmachine to access animals for harvest (Coiley-Kenner et al. 2003; Evans et al. 2013; Fall et al. 1986; Holen et al. 2012; Holen et al. 2005; Kreig et al. 2009; Schinchnes and Chythlook 1988; Seitz 1996; Wright, Morris and Schroeder 1985).

In the past, prior to the use of snowmachines, people in the region were more nomadic. Residents of Southwest Alaska practiced an annual round of harvest activities that allowed them to effectively position themselves in proximity to important resources that supported their families through extended travel to seasonal subsistence camps. In a 2003 report, elders describe a harvest year that began at fish camp in the early summer, moved up the river to hunting and trapping camps for the fall and winter, traveled through mountain passes and down rivers to bays and estuaries for the spring harvest of migratory waterfowl and eggs, finally returning to fish camp once again in time for the salmon runs of early summer (La Vine and Lisac 2003). A trip such as this required travel by boat, sled, and foot and took the family hundreds of miles and 12 months to complete. This seasonal cycle is consistent with regulation in other parts of the state that allows for the positioning of a hunter in order to select individual animals for harvest. As village life solidified around schools and economic opportunities, technological advances like boats with outboard motors and snowmachines allowed people to travel further over shorter periods of time in order to access the resources they once had to follow over seasons instead of hours.

Similarly, in north western Alaska where caribou harvest is an essential part of the subsistence way of life, Alaska Native people have also transitioned from dog team to snowmachine as a necessary continuance of their subsistence practice (Anderson et al. 1998). Some of the practice described in the following provides greater detail on how hunters might position themselves in order to strategically harvest an animal, but it also describes practices that can be identified as positioning an animal. In winter, there were advantages to using dog teams, and now snowmachines, for hunting caribou. When caribou were not present near a village or hunt camp, hunters needed to be mobile and travel long distances to locate bands of caribou. Sleds and snowmachines are now used together and allow transport of more hunters, gear, meat, and hides.

Anderson et al. (1998:203) described winter caribou hunts with dog teams:

> The usual technique was to drive across open, wind-packed areas and stop on rises to scan the terrain. If trees, brush, or large rocks were within a half mile of caribou, the hunter usually took his [dog] team there, secured it, and stalked the animals on foot. . . . Occasionally, circumstances did not allow tethering the dogs or stalking on foot, so the man drove his team directly at the herd, hoping to come close enough for firing. Some teams ran to within 150 yards of a herd. Just before the animals started to run, the hunter would stop his dogs, anchor the sled, and fire a few shots. As the caribou ran away, he pulled up the sled anchor and gave chase. Caribou can easily outdistance a dog team. However, they tend to run away at an angle and will stop once or twice to look back, so the hunter could guide his team to intersect their path of flight. . . . when the caribou paused, the driver would again stop his team and fire.

Anderson et al. (1998:209) described winter caribou hunts using snowmachines:

> Today, well over 90 percent of all winter caribou hunting . . . is done with snowmachines. Whereas in the past this was largely an individualistic affair, men now prefer to travel in pairs or small groups. . . . Under most circumstances, using two or more machines will greatly increase the chances of success in a hunt. In open areas, hunters generally spread

> out as they travel but keep each other in view, so they can survey the greatest area possible. When game is spotted the drivers come together and decide the best approach. If the terrain, number of caribou, and number of machines warrants it, one group of hunters circles behind the caribou while the other group moves ahead. Usually this maneuver causes the caribou to run directly across the path of the forward hunters. Another way to hunt most effectively is by having two men on each machine, so the driver can concentrate on maneuvering close to the caribou while the other (who usually rides behind on the sled) can shoot as soon as the machine stops.

Discussion from the analysis of WP16-48 is relevant here, even if it describes characteristics or terms for hunting from more northern communities, as it can be a starting point for potential Council discussions and public testimony on similar practices within Unit 17. In the context of caribou hunting, the Iñupiaq word *inillak* means "the *hunter positions himself* close to where the caribou would pass or cross depending on the way the wind is blowing . . . to the Iñupiat, *inillak* is quite different from herding and it is used specifically in caribou hunting. Herding means to gather animals such as reindeer into an enclosed area" (FWS 2000:19). Iñupiaq hunters position both themselves and caribou during a hunt. During the discussions in 2000, Mike Patkotak from the North Slope Subsistence Regional Advisory Council said, "When you are *positioning caribou*, you're out in the open; you're not putting them into an enclosed corral. . . . You're not trapping them into an enclosed area." (FWS 2000:19).

Whether using dog team, snowmachine, or stalking, it is customary for "a hunter to go on one side of the herd and *unu* them towards the hunter waiting on the other side. This is also called *unuraq*, driving the caribou. This gives them a better position to be successful in their harvesting of the caribou that they want" (FWS 2000:22). The Iñupiaq word *unu* means to "cooperatively push or move the caribou. One or more hunters wait on one section of the hunting area and young runners go around behind the herd to make them head in the shooters' direction" (FWS 2000:19). This remains a common practice in Unit 23, and the current preferred method of positioning both hunters and animals in winter is by snowmachine.

In wildlife proposal WP12-53, contemporary practice of snowmachine use in Unit 18 was defined as follows:

> Hunters from some lower Yukon River villages described hunting in the Andreafsky Mountains in the 1980s. It was unclear if the group was hunting caribou of reindeer from the nearby heard at Stebbins. Caribou/reindeer roamed in small groups, difficult to approach my snowmachine. Several hunters attempted to herd a group to locations where shots could be taken, such as up a cul-de-sac or toward a heavy bush line. In this description, the high speed chase was considered "a relatively risky, dare-devil technique" (Wolfe and Pete 1984: 9). Kwethluk hunters in the 1980s hunting with snowmachines reported hunting in upper Kwethluk and Kisaralik River valleys. "The high hills and low mountains scattered throughout the area provided lookouts where hunters car watch for caribou" (Coffing 1991:157)(FWS 2012).

The level of detail described by Anderson et al. (1998) and within the analysis of P00-53 (FWS 2000) was not found within accessible literature or transcripts for Unit 17.

Wolves and Wolverine

Across Alaska, both wolves and wolverine are highly prized for their fur which is used to trim locally made parkas and other items of clothing or handicrafts. While not as prominent an activity as in the past, rural residents still participate in trapping as a source of income in the Bristol Bay region, particularly for wolverine, which continues to fetch a high price for quality fur (Woolington 2013). Snowmachines were the primary form of transportation used by hunters and trappers for taking wolves and furbearers in Unit 17 from 2008 through 2012 (Woolington 2012; Woolington 2013). Most wolves were harvested by firearm between the regulatory years of 1992 and 2010 while wolverines were more frequently taken by trap or snare.

Biological Background

Caribou

Two distinct caribou populations are present in Unit 17. The Nushagak Peninsula Caribou Herd (NPCH) primarily occupies the ~425 mi^2 Nushagak Peninsula, which is the portion of Units 17A and 17C south of the Igushik River, the Tuklung River, and the Tuklung Hills. The Mulchatna Caribou Herd (MCH) ranges across ~60,000 square miles, primarily within Units 9B, 9C, 17A, 17B, 17C, 18 19A and 19B (Woolington 2013).

Caribou were absent from the Nushagak Peninsula for more than 100 years prior to reintroduction of caribou from the Northern Alaska Peninsula Herd in 1988. Following reintroduction, the NPCH grew from 146 animals to over 1,200 caribou by 1998. Subsequently, calf recruitment and adult female survival decreased and the population fell below 600 caribou by 2006. Since then, improvements in calf recruitment and adult survival have resulted in a population increase (Aderman 2015).

The most recent population survey occurred in June 2017, when a minimum of 786 caribou were observed. This is down 36% from the 2016 count of 1,230 caribou but it is near the upper end of the Nushagak Peninsula Caribou Management Plan's population objective, which is to maintain a population of 400–900 caribou and an optimum of 750 caribou (Aderman 2015). The large decrease in population is due to the increased harvest of caribou during the 2016/17 regulatory year. The most recent composition surveys were conducted in October 2016. These surveys estimated 51 bulls:100 cows and 40 calves:100 cows (Aderman 2017, pers. comm.).

Like the NPCH, the MCH has experienced dramatic changes in population size, as well as in distribution. In the early 1980s, the MCH was estimated to include ~20,000 caribou and its range was mostly limited to the area east of the Mulchatna River between the Bonanza Hills and Iliamna Lake. By the mid-1990s, the herd had grown to its peak size of ~200,000 caribou and had begun wintering in southern Unit 18 and southwestern Unit 19B. Subsequently, the herd began a period of decline that persisted until recently. (Woolington 2013).

Recent population surveys indicate that the MCH was at its smallest in 2013, with 18,308 caribou, and has varied between 26,000 and 31,000 caribou since then. The most recent estimate is 27,242 caribou (Barten

2016), which is approaching the lower bound of the State's population objective of 30,000 – 80,000 caribou.

In 2016, the bull:cow ratio was 39 bulls:100 cows. This is the highest estimate since 2000, which is above the State's management objective of 35 bulls:100 cows. The proportion of bulls classified as large in 2016 was 28%, which is among the highest estimates on record and is well above the long-term average of 19% (Barten 2016). Calf:cow ratios have been variable, as is typical of caribou herds occupying interior and southwest Alaska. In 2016, the overall calf:cow ratio was 22 calves:100 cows, a decrease relative to 2014 and 2015, but within the range of variability observed in recent years (Barten 2016).

Research on winter recreation and hunting has documented evidence of both positive and negative biological effects in ungulates related to snowmachine use in caribou habitat (Harris et al. 2014; Webster 1997). Results of these studies and similar recreational use studies may not be directly relevant to winter caribou hunting in Unit 17 because the majority of Federally qualified subsistence users do not operate snowmachines during subsistence hunts in the same manner as recreational users or sport hunters.

Wolves

Wolves are present throughout Unit 17C. As with other furbearers in Alaska, relative abundance of wolves is estimated using trapper questionnaires, rather than population surveys or other objective measures. These records indicate that the wolf population has rebounded from a population decline that occurred in the late 1980s and early 1990s, and is widely distributed and relatively abundant (Woolington 2012; ADF&G 2013; Barten 2017, pers. comm.).

Wolverines

Wolverines, whose habitat most commonly consists of boreal forest and tundra ecosystems (Copeland and Whitman 2003), occur throughout Unit 17 (Woolington 2013). Though formal assessments of population status have not been undertaken in this area, trapper reports suggest that they are common (ADF&G 2013) and that the wolverine population in this area is relatively stable (Woolington 2013). Within Unit 17, the population objective established by ADF&G is to maintain a population sufficient to sustain an average annual harvest of 50 wolverines.

Harvest History

Caribou

Typically, annual harvest of the NPCH has increased as the population has grown and harvest limits have increased. Prior to the 2016 regulatory year, annual reported harvest ranged from zero when the population was small and harvest was heavily regulated, to over 125 when caribou were abundant and regulations were liberalized. Overall, harvest has averaged 62 caribou annually since 1994, the first year harvest was authorized under Federal regulation. Until 2015, all caribou hunting on the Nushagak Peninsula was limited to Federally qualified subsistence users, due to the Federal lands closure that has been in place since harvest was authorized (Aderman 2015, Aderman 2017, pers. comm.).

In recent years, total reported harvest has been lower than expected, given the NPCH size. This is likely due to poor winter travel conditions resulting from low snowfall and warm temperatures. In 2016/17, good travel conditions combined with liberal harvest regulations (including temporary rescission of the Federal lands closure, generous harvest limits, and allowance of same day airborne hunting for Federally qualified subsistence users) resulted in a record high harvest of 371 caribou (Aderman 2017, pers. comm.).

Like the NPCH, harvest of the MCH is affected by caribou abundance, environmental conditions, and harvest restrictions. Reported harvest of the MCH has decreased significantly since the early 2000s, when the herd was very large. Total reported caribou harvest declined from 3,949 caribou in 2000 to 307 caribou in 2016. Harvest among all user groups declined during this period, but the decline was especially pronounced among non-local residents and nonresidents, owing to reduction of State harvest limits in 2006 and elimination of the nonresident season in 2009 (ADF&G 2017; Barten 2017, pers. comm.). In 2016, 84% of the reported harvest, across the range of the herd, was taken by Federally qualified subsistence users. However, underreporting is a known problem in this region and it is likely that reported harvest underestimates total harvest by local users. Among Federally qualified subsistence users, 64% of the total reported harvest was taken Jan. – Mar. and 25% of the total reported harvest was taken in Unit 17.

Wolves

According to sealing records kept by ADF&G, wolf harvest averaged 70 wolves annually between 1991 and 2010. Seventy-five percent, or 52 wolves annually, were harvested by firearm during this time period. By contrast, only 16 wolves annually were trapped or snared (Woolington 2012). There is considerable variation in annual harvest rates. For instance, in regulatory year 2002, just 30 wolves were sealed. The following year, 141 wolves were sealed. Local biologists attribute much of this variation to winter travel conditions which provide ease of access by snowmachine rather than availability of wolves. Typically, most wolf harvest occurs between January and April, when travel conditions are more favorable. However, harvest has occurred in August and September too, incidental to caribou and moose hunting (Woolington 2012).

Wolverines

Sealing records indicate that wolverine harvest in Unit 17 averaged 42 wolverines annually between 1992 and 2011. The majority of wolverines are taken with traps and snares. On average, 27%, or 11 wolverines annually, were taken by firearm (Woolington 2013). Wolverine harvest in Unit 17 has remained relatively stable since 1976, despite annual fluctuations. These fluctuations likely reflect trapper effort, which varies with travel conditions. Historically, wolverine harvest was highest in January and February, but March has become an important time for harvesting wolverine as well (Woolington 2013).

Effects of the Proposal

If adopted, Proposal WP18-24 would allow hunters to use a snowmachine to position caribou, wolves, and wolverine for selection and harvest, as long as they are not shot from a moving snowmachine. This proposal would address the need for Federally qualified subsistence users to be able to use the most efficient and effective methods to take wild resources important for their livelihood. The proposed

regulation is not expected to result in significant population changes for caribou, wolves, or wolverines as snowmachines are already extensively utilized in Unit 17 to access hunting grounds and trap lines and harvest numbers will continue to be managed by season and limits within regulation. However, adopting this Federal regulatory change would emphasize the difference between ANILCA Section 811 and existing agency-specific regulations on NPS and USFWS lands.

The biological effects of winter hunting with snowmachines on caribou, wolves and wolverine in Unit 17 are largely unknown. If this proposal were adopted any biological effects, positive or negative, that may occur in these species related to traditional winter hunting practices are anticipated to remain mostly unchanged as snowmachine are already extensively utilized in this manner, in order to bring hunters within close proximity to the animals they harvest.

OSM CONCLUSION

Support Proposal WP18-24.

Justification

The proposed regulatory changes would ensure that Federally qualified subsistence users are provided the opportunity to use snowmachines as an efficient and effective means to harvest caribou, wolves, and wolverines during winter months in Unit 17.

The proposed changes would have little to no effect on current hunting behavior, and any changes in the population status of caribou, wolves, and wolverines are anticipated to continue to be addressed through season and bag limits.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Bristol Bay Subsistence Regional Advisory Council

Oppose WP18-23. The Council noted confusion over the definition of "positioning" and "chasing." Current regulations are not clearly defined for positioning and chasing of an animal. Snowmachine use is currently allowed to access resources in Unit 17. The Council discussed a need for public education in video format to explain what the differences between chasing and positioning are.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-24: This proposal requests that federally qualified subsistence users be allowed to use a snowmachine to position caribou, wolves, and wolverines for harvest provided the animals are not shot from a moving vehicle in Unit 17.

Introduction: This proposed was submitted by Kenneth Nukwak of Manokotak with the intent to prevent shooting into a herd and to provide better guidelines to hunters for the method of harvest.

Impact on Subsistence Uses: Allowing snowmachines to be used to position caribou, wolves and wolverines would increase harvest success for federally qualified users.

Impact on Other Uses: This change could negatively affect the harvest success rate for other non-federally qualified users.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for the Mulchatna caribou herd in Units 9A, 9B, 17, 18, 19A south of the Kuskokwim River, and 19B. The Board of Game has also made positive C&T findings for wolves in Unit 17, and for wolverines in Unit 17.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for Mulchatna caribou is 2,100-2,400 animals. The ANS for wolves and wolverines is 90% of the harvestable portion.

Existing State Regulation

Sec. 16.05.940. Definitions.

(34) "take" means taking, pursuing, hunting, fishing, trapping, or in any manner disturbing, capturing, or killing or attempting to take, pursue, hunt, fish, trap, or in any manner capture or kill fish or game.

5 AAC 92.080. Unlawful methods of taking game; exceptions

The following methods of taking game are prohibited:

. . .

(4) unless otherwise provided in this chapter, from a motor-driven boat or a motorized land vehicle, unless the motor has been completely shut off and the progress from the motor's power has ceased, except that a

. . .

(B) motorized land vehicle may be used as follows:

(iii) notwithstanding any other provision in this section, in Units 9(B), 9(C), 9(E), 17, 18, 19, 21, 22, 24, 25(C) and 25(D), except on any National Park Service or National Wildlife Refuge lands not approved by the federal agencies, a snowmachine may be used to position a hunter to select an individual wolf for harvest, and wolves may be shot from a stationary snowmachine;

(5) except as otherwise specified, with the use of a motorized vehicle to harass game or for the purpose of driving, herding, or molesting game.

5 AAC 92.990. Definitions

(a) In addition to the definitions in AS 16.05.940 , in 5 AAC 84 – 5 AAC 92, unless the context requires otherwise,

. . .

(70) "harass" means to repeatedly approach an animal in a manner which results in the animal altering its behavior.

Special instructions: None

Conservation Issues: Because caribou often aggregate in groups, adoption of this proposal would likely lead to multiple animals being disturbed in the process of positioning any single animal. In places like the Nushagak Peninsula where caribou are confined to a relatively small area, using snowmachines to position caribou would have the potential to repeatedly stress the same individuals if many hunters utilize the technique.

Enforcement Issues: This proposed regulatory change would likely make enforcement easier by relaxing restrictions on how snowmachines can be used.

Recommendation: ADF&G is **NEUTRAL** on WP18-24 because it does not create a biological concern for the caribou, wolf or wolverine populations; however, seasons and bag limits may need to be adjusted if mortality increases significantly.

WRITTEN PUBLIC COMMENTS

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: comments on proposal WP 18-51, 18-03,18-04, 18-05, 18-24

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 1:55 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Sharon Alden** <fwxsca@yahoo.com>
Date: Fri, Aug 4, 2017 at 1:52 PM
Subject: comments on proposal WP 18-51, 18-03,18-04, 18-05, 18-24
To: "subsistence@fws.gov" <subsistence@fws.gov>

To: Office of Subsistence Management
Attention: Theo Matuskowitz
From: Sean McGuire
Re: comments on proposal WP 18-51, 18-03, 18-4, 18-5, 18-24

I am opposing proposal WP 18-51 There should be no human food or any human substance to bait any animals. This is so basic. The last thing we want is to habituate bears or any wild animal to human food. This is an ethical as well as a safety issue. The last thing we want to see is the federal baiting regulations aligned with the state of Alaska's. The State baiting regulations are painfully out dated and present a glaring safety issue.

I am opposing proposal WP 18-03 the extended hunting and trapping season in game unit one. Over kill.

I am really opposed to proposal WP 18-04. Why in the world would you want to put more pressure on a wolf population that's already in trouble this appears to be contrary to the basic concept of wildlife management?

I am also opposing proposal WP 18-05 relates to my opposition to WP18-04.

I am also opposing in the strongest possible terms proposal WP 18-24
To heard wildlife with snow machines is one of the most unethical things I can imagine and the backlash would be harsh.

Thank you for your attention
Sean McGuire
159 Kniffen Rd

Fairbanks, Ak.
ph 907-888-0124
email fwxsca@yahoo.com

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Comments on Proposals to the Federal Subsistence Board Attn. Theo Matuskowitz

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:51 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Francis Mauer** <fmauer@mosquitonet.com>
Date: Thu, Aug 3, 2017 at 9:02 PM
Subject: Comments on Proposals to the Federal Subsistence Board Attn. Theo Matuskowitz
To: subsistence@fws.gov

Comments Regarding Federal Subsistence Proposals: WP 18-03, 18-04, 1805, 18-24, and 18-51

Submitted to the Federal Subsistence Board by Fran Mauer, P.O. Box 80464, Fairbanks, AK 99708. August 3, 2017.

WP 18-03 I am opposed to extending the wolf hunting and trapping seasons in Unit 1. Wolves are highly vulnerable to harvest as it is, further extending of seasons is not justified, and would likely lead to excessive harvest of wolves as occurred on Prince of Wales Island last year which was supposed to be regulated by a quota, but even with quota rules in place the actual harvest exceeded the quota by 2.6 times. This proposal should be denied.

WP 18-04 This proposal would allow 30% of the wolf population on Prince of Wales Island to be harvested when existing harvest is 20%. As noted above, wolves are highly vulnerable to harvest, and last year's harvest exceeded the quota by 2.6 times! The extensive network of roads and trails on Prince of Wales render wolves exceptionally vulnerable. Expanding the harvest to 30% of the population following excessive harvest last year can not be justified given the failed management of this quota system last year. This proposal would lead to excessive harvest of an already depleted population and should be denied to conserve wolves on the Island.

WP 18-24 This proposal will open the door to harassment of wildlife by snow machines and violate a basic premise of hunting: respect for animals and fair chase principles. It would also result in excessive impacts to other animals that are not harvested due to disturbance associated with this "practice." Furthermore, it will exacerbate difficulty in enforcement of harassment rules. Approval of this proposal would give a black eye to subsistence in general, and certainly the Federal Subsistence Board, specifically for condoning such an inappropriate practice on the Federal public lands of

Alaska. Deny this proposal.

WP 18-51 This proposal would lower Federal standards for baiting to the lowest common denominator: State requirements. By allowing the use of human food items such as syrup, old dough nuts and other human refuse will habituate bears to humans and contribute to human – bear conflicts, and expose innocent people to risks from bears that no longer fear humans. Every spring the Alaska Dept of Fish and Game sponsors public service announcements advising folks to keep their garbage and bird feeder refuse secure from bears, clearly stating the danger to humans from habituated bears. There is absolutely no justification to also allow the use of human foods and scent to bait bears. I urge the Board to reject this proposal (18-51).

Thank you for the opportunity to comment.

Fran Mauer

Appendix A

5 AAC 92.080. Unlawful methods of taking game; exceptions

The following methods of taking game are prohibited:

. . .

(4) unless otherwise provided in this chapter, from a motor-driven boat or a motorized land vehicle, unless the motor has been completely shut off and the progress from the motor's power has ceased, except that a

. . .

(B) motorized land vehicle may be used as follows:

i) In Units 22, 23, and 26(A), a snowmachine may be used to position a caribou, wolf, or wolverine, for harvest, and caribou, wolves and wolverines may be shot from a stationary snowmachine.

(ii) notwithstanding any other provision in this section, in the wolf control implementation areas specified in 5 AAC 92.111 - 5 AAC 92.113, 5 AAC 92.118, and 5 AAC 92.121 - 5 AAC 92.124, a snowmachine may be used to position a hunter to select an individual wolf for harvest, and wolves may be shot from a stationary snowmachine;

(iii) notwithstanding any other provision in this section, in Units 9(B), 9(C), 9(E), 17, 18, 19, 21, 22, 24, 25(C) and 25(D), except on any National Park Service or National Wildlife Refuge lands not approved by the federal agencies, a snowmachine may be used to position a hunter to select an individual wolf for harvest, and wolves may be shot from a stationary snowmachine;

(iv) notwithstanding any other provision in this section, in the bear control implementation areas specified in 5 AAC 92.111 - 5 AAC 92.113, 5 AAC 92.118, and 5 AAC 92.121 - 5 AAC 92.124, a snowmachine may be used to position a hunter to select an individual bear for harvest, and bears may be shot from a stationary snowmachine;

(v) notwithstanding any other provision in this section, in Units 9(B), 9(C), 9(E), 17, 22 and 25(C), except on any National Park Service or National Wildlife Refuge lands not approved by the federal agencies, an ATV may be used to position a hunter to select an individual wolf for harvest, and wolves may be shot from a stationary ATV;

(vi) under authority of a permit issued by the department;

(vii) in Unit 18, a snowmachine may be used to position a wolf or wolverine for harvest, and wolves or wolverines may be shot from a stationary snowmachine;

WP18–25/26 Executive Summary	
General Description	Proposals WP18-25 and WP18-26 request the creation of a new moose hunt area in the portion of Unit 17C west of the Weary River, with modified season dates within the new area. Proposal WP18-25 requests that the current Dec. 1 – 31 season be restructured as a may-be-announced season that can be opened for up to 31 days between December 1 and the last day of February. Proposal WP18-26 requests that the current Aug. 20 – Sept. 15 season be shifted 5 days later to Aug. 25 – Sept. 20. It also requests that the current Sept. 1 – 15 season, which allows the harvest of one antlered bull with antler restrictions by harvest ticket, be extended to Sept. 1 – 20. *Submitted by: Kenneth Nukwak.*
Proposed Regulation	**Unit 17— Moose** *Unit 17A—1 bull by State registration permit* — *Aug. 25 – Sept. 20* *Unit 17A—up to 2 moose; 1 antlered bull by State registration permit, 1 antlerless moose by State registration permit* — *Up to a 31 – day season may be announced between Dec. 1 – last day of Feb.* ***Unit 17C, that portion west of the Weary River—1 bull. During the period Aug. 25 – Sept. 20—one bull by State registration permit;*** — ***Aug. 25 – Sept. 20*** ***or*** ***During the period Sept. 1 – 20—one bull with spike-fork or 50-inch antlers or antlers with three or more brow tines on at least one side with a State harvest ticket;*** ***or*** ***Unit 17C, that portion west of the Weary River—one antlered bull by State registration permit*** — ***Up to a 31 – day season may be announced between Dec. 1 – last day of Feb.***

WP18–25/26 Executive Summary	
	*Units 17B and 17C **remainder**—one bull.* *Aug. 20 – Sept. 15* *During the period Aug. 20 – Sept. 15—one bull by State registration permit; or During the period Sept. 1 – 15—one bull with spike-fork or 50-inch antlers or antlers with three or more brow tines on at least one side with a State harvest ticket; or During the period Dec. 1 – 31—one antlered bull by State registration permit* *Dec. 1 – 31*
OSM Conclusion	**Oppose**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	**Oppose**
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	**Take no action**
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	

WP18–25/26 Executive Summary	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Oppose**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-25/26

ISSUES

Proposals WP18-25 and WP18-26, submitted by Kenneth Nukwak of Manokotak, request the creation of a new moose hunt area in the portion of Unit 17C west of the Weary River, with modified season dates within the new area. Proposal WP18-25 requests that the current Dec. 1 – 31 season be restructured as a may-be-announced season that can be opened for up to 31 days between December 1 and the last day of February. Proposal WP18-26 requests that the current Aug. 20 – Sept. 15 season be shifted 5 days later to Aug. 25 – Sept. 20. It also requests that the current Sept. 1 – 15 season, which allows the harvest of one antlered bull with antler restrictions by harvest ticket, be extended to Sept. 1 – 20.

DISCUSSION

Currently, the portion of Unit 17C west of the Weary River is included in the Units 17B and 17C moose hunt area. In general, the proponent would like to the see the fall and winter moose season dates in the area align with those in the adjacent Unit 17A hunt area, which requires the establishment of a new hunt area. For the fall season, he believes that a slightly later season will allow more time during the early rut period to harvest moose near the Manokotak River. For the winter season, he believes that a flexible season, announced by the Togiak National Wildlife Refuge (Refuge) manager when travel conditions are suitable, provides better opportunity to harvest moose.

The request for a five day extension in the Sept. 1 – 15 season, which allows harvest of bulls with specific antler configurations by harvest ticket, is an exception to the proponent's request that seasons in the new hunt area align with Unit 17A seasons, since there is not a comparable season in Unit 17A. In addition, current winter harvest limits and restrictions are more generous in Unit 17A than in Units 17B and 17C, and the proponent does not request liberalization of these regulations in the new hunt area.

Existing Federal Regulation

Unit 17— Moose

Unit 17A—1 bull by State registration permit	*Aug. 25 – Sept. 20*
Unit 17A—up to 2 moose; one antlered bull by State registration permit, one antlerless moose by State registration permit	*Up to a 31 – day season may be announced between Dec. 1 – last day of Feb.*
Units 17B and 17C—one bull.	*Aug. 20 – Sept. 15*
During the period Aug. 20 – Sept. 15—one bull by State registra-	

tion permit; or During the period Sept. 1 – 15—one bull with spike-fork or 50-inch antlers or antlers with three or more brow tines on at least one side with a State harvest ticket; or During the period Dec. 1 – 31—one antlered bull by State registration permit	*Dec. 1 – 31*

Proposed Federal Regulation

Unit 17— Moose

Unit 17A—1 bull by State registration permit	*Aug. 25 – Sept. 20*
Unit 17A—up to 2 moose; 1 antlered bull by State registration permit, 1 antlerless moose by State registration permit	*Up to a 31 – day season may be announced between Dec. 1 – last day of Feb.*
Unit 17C, that portion west of the Weary River—1 bull. During the period Aug. 25 – Sept. 20—one bull by State registration permit;	***Aug. 25 – Sept. 20***
or	
During the period Sept. 1 – 20—one bull with spike-fork or 50-inch antlers or antlers with three or more brow tines on at least one side with a State harvest ticket;	
or	
Unit 17C, that portion west of the Weary River—one antlered bull by State registration permit	***Up to a 31 – day season may be announced between Dec. 1 – last day of Feb.***
Units 17B and 17C ***remainder****—one bull.*	*Aug. 20 – Sept. 15*
During the period Aug. 20 – Sept. 15—one bull by State registration permit; or During the period Sept. 1 – 15—one bull with spike-fork or 50-inch antlers or antlers with three or more brow tines on at least one side with a State harvest ticket; or During the period Dec. 1 – 31—one antlered bull by State registration permit	*Dec. 1 – 31*

Existing State Regulation

Unit 17— Moose

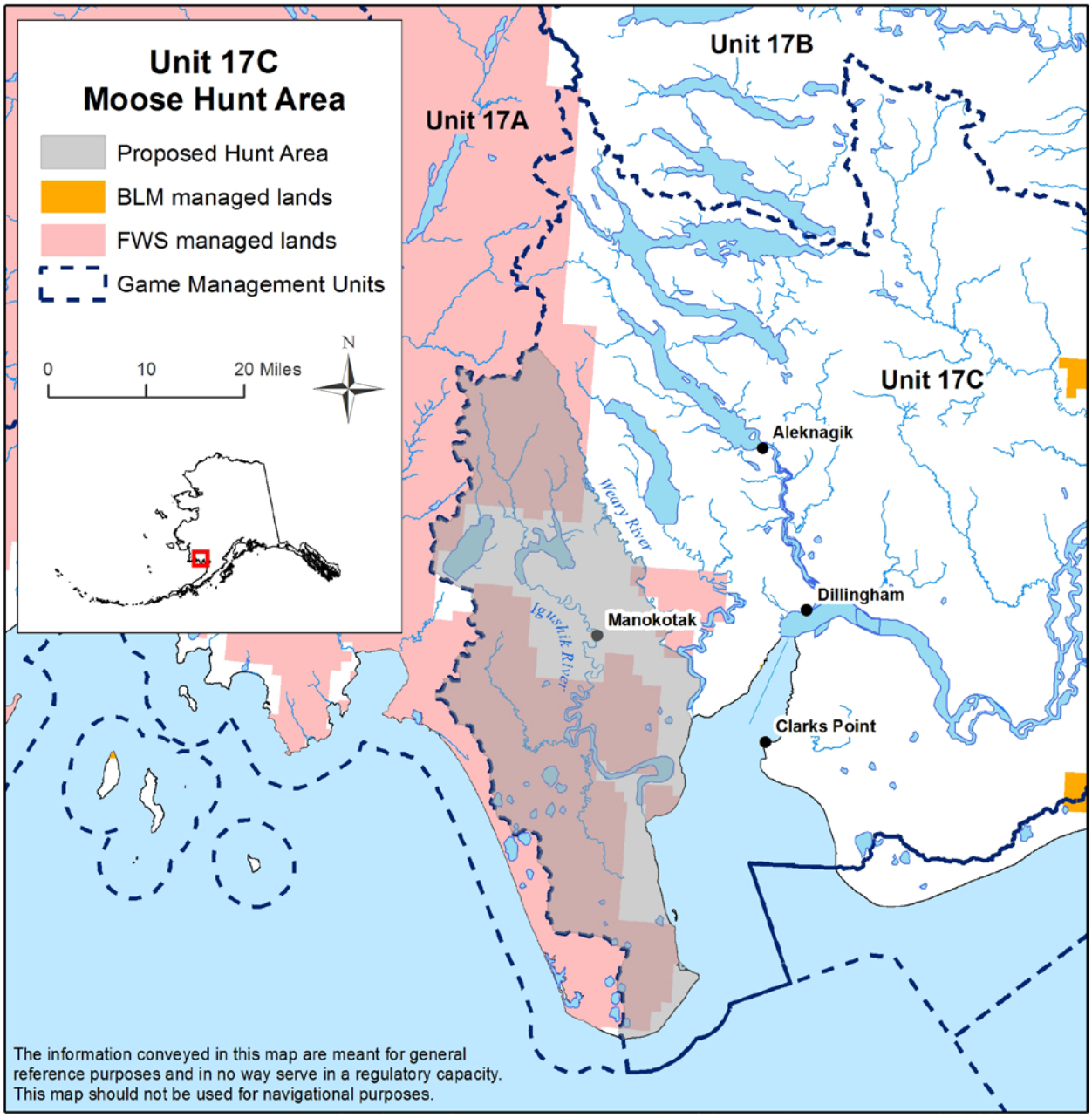
Residents: Unit 17A			
One bull by permit available in person in Dillingham and Togiak beginning Aug. 11. No aircraft use on, or within 2 miles of specific rivers and lakes. See hunt area map at http://hunt.alaska.gov for specifics		*RM573*	*Aug. 25 – Sept. 20*
Two moose by permit available in person in Dillingham and Togiak (Up to a 31 – day season may be announced between Dec. 1 – Feb. 28)	*One antlered bull* *One antlerless bull*	*RM575* *RM576*	*May be announced*
Residents: Unit 17C			
One bull by permit available in person in Dillingham July 14 – Aug. 30 and Nushagak River villages		*RM583*	*Aug. 20 – Sept. 15*
or			
One bull with spike-fork antlers or 50-inch antlers or antlers with three or more brow tines on at least one side		*HT*	*Sept. 1 – Sept. 15*
or			
One antlered bull by permit available in person in Dillingham beginning Oct. 25 and Nushagak River villages		*RM585*	*Dec. 1 – 31*

Extent of Federal Public Lands

Federal public lands comprise approximately 64% of the portion of Unit 17C west of the Weary River and consist of 64% U.S. Fish and Wildlife Service (USFWS) managed lands (**Map 1**).

Customary and Traditional Use Determinations

Residents of Unit 17, Goodnews Bay, Levelock, Nondalton, and Platinum have a customary and traditional use determination for moose in Unit 17B remainder and Unit 17C.



Map 1. Proposed hunt area in Unit 17C west of the Weary River.

Regulatory History

Prior to 2005, both State and Federal regulation had two hunt areas for moose in Unit 17C; the portion that includes the Iowithla drainage and Sunshine Valley and all lands west of Wood River and Aleknagik Lake, and Unit 17C remainder. In Federal and State regulations, both hunt areas had an Aug. 20 – Sept. 15 season limited to one bull by State registration permit. Within that season, in both hunt areas, the harvest of one antlered bull with antler size restrictions was allowed by harvest ticket Sept. 1 – 15. The remainder hunt area also had a Dec. 1 – 31 season, limited to one bull by State registration permit.

In 2005, the Alaska Board of Game (BOG) created a third hunt area that consisted of the western portion of the Iowithla hunt area. This area was described as the portion of Unit 17C west of Killian Creek, Nunavaugaluk Lake, and Snake River. The new hunt area had the same fall seasons as the existing hunt area, but included the addition of a Dec. 1 – Jan. 31 may-be-announced season, limited to one antlered bull by registration permit.

In 2009, through action on Proposal 62, the BOG consolidated the three State hunt areas in Unit 17C into a single hunt area. As a result, all of Unit 17A had an Aug. 20 – Sept. 15 season, limited to one antlered bull by registration permit. During the Sept. 1 – Sept. 15 period, harvest of one bull that met antler size restrictions was allowed by harvest ticket. The BOG's action also established a Dec. 1 – 31 season, limited to one antlered bull by registration permit. The expansion of this winter season to the entire unit represented an expansion of harvest opportunity for resident hunters.

In Federal regulation, there remained only two hunt areas in Unit 17C until 2012. The Federal Subsistence Board's (Board) adoption of Proposal WP12-39 that year resulted in the current Federal regulations for moose in this area. Submitted by the Refuge, WP12-39 requested that the two existing Unit 17C hunt areas be combined with the existing Unit 17B hunt areas into a single hunt area with uniform regulations. As a result of the Board's action, the Dec. 1 – Dec. 31 season that previously existed only in the Units 17B and 17C remainder hunt area was expanded to all of Units 17B and 17C.

In early 2014, the Board considered Emergency Special Action WSA13-09, submitted by the Bristol Bay Native Association. The proponent requested that the Board authorize a two week winter moose season in 2014 on Refuge lands within Unit 17C, citing low moose harvest by residents of Manokotak during the fall and winter seasons. The Board approved this request, resulting in a Jan. 18 – 31 antlered bull season that required the use of the Federal registration permit.

Biological Background

Moose are relative newcomers to the Bristol Bay region and, until recently, occurred in only low densities in Unit 17. Moose populations have grown substantially in the past 30 years however, and have continued to expand their range westward into western Unit 17A and southern Unit 18. They are now common wherever there is suitable habitat (Barten 2014).

Assessment of the Unit 17 moose population occurs through surveys conducted by the Alaska Department of Fish and Game (ADF&G) and the Refuge. Results of ADF&G surveys are available for 1999, 2004, 2008 and 2014 (Barten 2014; Barten 2017, pers. comm.). ADF&G's survey area included Unit 17C north of the Igushik River, an area that narrowly overlaps the proposed new hunt area. In 2014, the moose population in this area was estimated to be 4,053 ± 764 moose when corrected for sightability (**Table 1**), an estimate that spans the upper limit of the State's intensive management objective of 2,800 – 3,500 moose (Barten 2014).

The Refuge has been monitoring the moose population in an area that includes Unit 17A and adjacent lands in western Unit 17C and southern Unit 18, since 1998. In 2006 and 2011, minimum counts were generated for the total survey area as well as for Western Unit 17, the area most relevant to this proposal (**Table 1**;

Aderman 2014). At that time, the population in western Unit 17C appeared to be relatively stable. More recently, the Refuge has begun utilizing the geospatial population estimator (GSPE) technique to estimate population size. This approach results in a statistical estimate of abundance, taking into account spatial correlation among moose on the landscape (Kellie and DeLong 2006). The most recent estimate occurred in March, 2017. While estimates for the western Unit 17C section were not generated in 2017, these surveys indicate that the moose is likely increasing Refuge-wide. In Unit 17A, the area adjacent to the proposed new hunt area, the population is estimated to be 1,990 moose, or 0.26 moose/mi^2, which exceeds the State's management objective of 1,100 – 1,750 moose in Unit 17A (**Table 1**; Aderman 2017, pers. comm.).

Table 1. Unit 17 moose population estimates in various survey areas, 1999 – 2017 (Aderman 2014; Barten 2014; Aderman 2017, pers. comm.)

Survey area	Year	Population estimate ± 95% CI (moose)	Density estimate (per mi^2)	Survey method
Unit 17C North of Igushik R.	1999	2,955 ± 17%	0.54	Gassaway
	2004	3,670 ± 15%	0.67	Gassaway
	2008	3,235 ± 11%	0.59	Gassaway
	2014	4,053 ± 19%	0.74	Gassaway (w/SCF)*
Western Unit 17C	2006	243		Minimum count
	2011	259		Minimum count
Unit 17A	2006	1,023		Minimum count
	2011	1,166		Minimum count
	2017	1,990 ± 26%	0.26	Geospatial
Total Refuge Survey Area	2006	1,330		Minimum count
	2011	1,626		Minimum count
	2017	3,017 ± 25%	0.40	Geospatial

*Sightability Correction Factor

Composition data, which is typically collected in fall and relies on the occurrence of good survey conditions, including snow cover, prior to antler drop, has been difficult to obtain in this region. Consequently, detailed historical information on sex and age composition is not available. However, ADF&G successfully completed composition surveys in Units 17C in November and December 2016. At that time, in the southern portion of Unit 17C, the bull:cow ratio was 22:100 and the cow calf ratio was 16:100 (Barten 2017, pers. comm.), indicating that the potential for population growth is very low at this time (BBRAC 2017). In addition to composition surveys, biologists began monitoring radio collared cow moose in spring 2017. Early results from this study indicate that calf mortality is very high, with 44 of the 50 monitored calves dying by fall 2017, yielding a 12% survival rate to 6 months of age. Collectively, these results indicate that the Unit 17C moose population might be in the early stages of a decline (Barten 2017, pers. comm.; BBRAC 2017).

These results are in contrast to those within the Refuge survey area, where estimates of productivity are high. Between 1998 and 2013, radio collared cows produced an average of 128 calves:100 cows. During this time period, twin births accounted for 64% of total births (Aderman 2014). Forty-three percent of calves survived to spring, which resulted in a recruitment rate of 60 calves:100 cows (Aderman 2014).

Although the moose population metrics are favorable Refuge-wide, local biologists caution that conditions Unit 17A differ from those in Unit 17C (Barten 2017, pers. comm.). Moose are relatively newcomers to Unit 17A and are able to utilize previously unexploited habitat, which can result in higher productivity (Schwartz 2007). This is evident in the Unit 17A calving and recruitment estimates. Conversely, recent data show that moose in Unit 17C are less productive and thus more susceptible to overharvest, relative to the Unit 17A population.

Cultural Knowledge and Traditional Practices

Two Central-Yup'ik groups, the Kiatagmiut, and Aglurmiut, traditionally inhabited and hunted in subunit 17C (Fall et al. 1986; VanStone 1967; VanStone 1984). In historic times, the region supported a limited number of moose and as such the species accounted for a small portion of these groups overall diet (Hensel 1996). Moose were hunted opportunistically and were valued as a source of food as well as for clothing purposes (Holen et al. 2005; VanStone 1984). The occurrence of moose hunting and use among the Kiatagmiut, and Aglurmiut is limited in published literature. However, Hensel (1996) noted that moose were treated with respect and as the population increased the species became more important (Hensel 1996). Holen et al. (2005) stated that moose populations did not increase dramatically until the 1980s and 1990s.

The Russians constructed Fort Alexander in the vicinity of Nushagak Bay in 1820 (Michael 1967). It was the establishment of this fort that enabled the Russians and Europeans to branch out into the interior parts of Southwestern Alaska. Inland movement brought about more contact between the Russians, Europeans, and Central-Yup'ik groups which proved to bring about major changes to the Native way of life (Michael 1967; VanStone 1984). The fur trade was the first major disruptor; it altered the subsistence cycle and placed great emphasis on fur trapping which meant that more time was spent in the pursuit of animals that had little food value. Overtime the Central-Yup'ik groups became increasingly reliant on the trading posts for basic needs (VanStone 1984). The arrival of the Russian explorers and traders was followed by missions, schools, canneries, trappers, and prospectors (VanStone 1984).

The ADF&G recently conducted comprehensive subsistence surveys in the Bristol Bay region (Evans et al. 2009; Fall et al. 2006; Krieg et al. 2009; Holen et al. 2012). Over numerous study years it was noted that large mammals made up approximately 15% to 25% of the total harvest of the communities surveyed (Evans et al. 2013; Holen et al. 2012). Those participating communities in the area had a per capita moose harvest that ranged from 24 lb/person to 188 lb/person (Coiley-Kenner et al. 2003; Evans et al. 2009; Fall et al. 2006; Krieg et al. 2009; Holen et al. 2012).

During each study year, communities within subunit 17C searched or hunted for moose in Units 9B and17. Harvest and search areas specific to subunit 17C described travel locations south along the Nushagak

Peninsula, east to the Kvichak River, west of Lake Ualik, and north to the Nerka Lake region within Wood Tikchik State Park (Evans et al. 2009; Fall et al. 2006; Krieg et al. 2009; Holen et al. 2012).

Harvest History

Between 2000 and 2016, the reported moose harvest in Unit 17 averaged 311 moose per year. Of the total reported harvest during that time period, 10% was harvested in Unit 17A, 33% was harvested in Unit 17B, and 57% was harvest in Unit 17C. Within Unit 17C, 79% of the total reported harvest, or 140 moose annually, has been by local residents, defined as those with a customary and traditional use determination (**Figure 1**). Most moose within Unit 17C are harvested by residents of Dillingham, who report taking 97 moose annually, on average. Residents of New Stuyahok and Ekwok report taking 13 and 11 moose each year, respectively. All other communities report taking fewer than ten moose per year. Residents of Manokotak, the only community within the proposed hunt area, report harvesting six moose annually within Unit 17C (ADF&G 2017), although unreported harvest is believed to occur (Aderman 2017, pers. comm.).

Seventy-nine percent of the moose harvested by Federally qualified subsistence users within Unit 17C are taken in August and September (**Table 2**). However, winter harvest is not insignificant. On average, 54 moose are harvested annually within Unit 17C in either December or January by Federally qualified subsistence users (ADF&G 2017).

Among all users who harvest moose in September, as many or more moose are harvested Sept. 10 – 15 (the last six days of the season) than in the first ten days of the month. This is due to the onset of rut, a time when bulls become much more vulnerable to harvest Barten 2014).

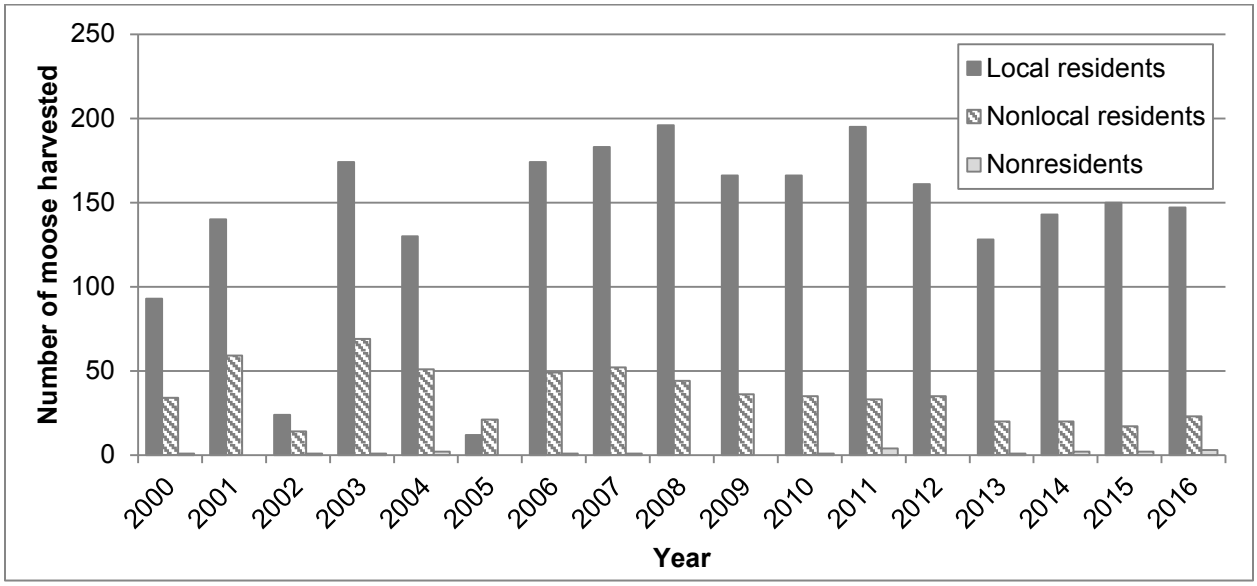


Figure 1. Total annual reported harvest in Unit 17C, 2000 – 2016, by residency (ADF&G 2017).

Effects of the Proposal

If this proposal is adopted, a new hunt area for moose will be created in Unit 17C, west of the Weary River. Within this new hunt area, all seasons will be modified. The fall harvest ticket season, which is currently open Sept. 1 – 15, will be lengthened by 5 days and be open Sept. 1 – 20. The fall permit hunt will be delayed by 5 days, resulting in an Aug. 25 – Sept. 20 season. The winter permit hunt, which is currently open Dec. 1 – 31, will become a may-be-announced season that can be opened for 31 days between December 1 and the last day of February. Harvest limits and restrictions will remain unchanged.

These changes will increase subsistence opportunity by increasing the number of days antlered bulls may be harvested in fall with a harvest ticket, by shifting the fall registration hunt to coincide with early rut, and by making the winter hunt available when conditions are likely to be favorable. This increase in opportunity is likely to result in increased harvest, which may have a negative effect on the Unit 17C moose population.

Table 2. Annual reported harvest by Federally qualified subsistence users in Unit 17C, 2000 – 2016, by month (ADF&G 2017).

Regulatory Year	Month						
	July	August	September	December	January	March	April
2000	0	47	39	6	1	0	0
2001	0	93	44	3	0	0	0
2002	0		8	16	0	0	0
2003	1	99	60	10	4	0	0
2004	0	58	46	24	2	0	0
2005	0	1	7	4	0	0	0
2006	0	95	51	27	1	0	0
2007	0	85	70	23	5	0	0
2008	0	79	53	51	13	0	0
2009	0	54	70	41	1	0	0
2010	0	60	62	43	1	0	0
2011	0	75	61	52	7	0	0
2012	0	47	72	35	5	1	1
2013	0	56	55	16	1	0	0
2014	0	56	54	25	7	0	1
2015	0	56	58	33	3	0	0
2016	0	39	82	22	4	0	0

OSM CONCLUSION

Oppose Proposal WP18-25/26.

Justification

The changes requested in these two proposals are likely to increase moose harvest within Unit 17C. In particular, changing the two permit hunts increases the potential for additional harvest, even though the requested changes for these hunts do not include lengthening the season. For the fall hunt, delaying the season by 5 days will allow hunters more access to moose as bulls enter the rutting season and become much more vulnerable to harvest. For the winter season, access to moose is likely to increase if the season occurs when conditions are favorable, rather than at a fixed time. The proximity of this hunt area to Dillingham, whose residents harvest most of the moose taken within Unit 17C, increases the likelihood of additional harvest.

It is not clear that the moose population in Unit 17C can sustain additional harvest without negative consequences. Given that the area west of the Weary River is adjacent to or overlapping both the survey areas in Unit 17C and those in 17A, there is some uncertainty regarding the population status in the specific area. However, considering that the Unit 17C population is, as a whole, much less productive than the Unit 17A population, moose seasons that are appropriate for Unit 17A may not be appropriate for Unit 17C. The most conservative approach, and one that ensures the best long term subsistence opportunity, is to maintain the status quo.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Bristol Bay Subsistence Regional Advisory Council

Oppose. The Council opposed the proposal due to conservation concerns of the herd and high calf mortality rates. The Alaska Department Fish and Game and its partners should be given the opportunity to finish its studies on the moose in Unit 17C. The proposal, if adopted, would increase competition that will concentrate use among subsistence users.

Yukon-Kuskokwim Delta Subsistence Regional Advisory Council

Take no action. The Council reviewed and discussed this proposal but took no action as it does not affect the Yukon-Kuskokwim region.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-25: This proposal, submitted by Kenneth Nukwak, requests the creation of a new moose hunt in that portion of Unit 17C that is west of the Weary River with modified season dates within the new area. The current winter season dates of December 1–31 would be replaced with "up to a 31 day season [that] may be announced between December 1 and the end of February".

Wildlife Proposal WP18-26: This proposal, also submitted by Kenneth Nukwak, also requests the creation of a new moose hunt in that portion of Unit 17C that is west of the Weary River with modified season dates within the new area. The current fall season dates of August 20–September 15 would be shifted 5 days later to August 25–September 20.

Introduction: The proponent's justification for changing the winter season structure is that the recent warm winters have not provided sufficient snow during December to allow hunters to access moose with snowmachines during the winter hunt. The proposed season structure and dates are patterned after the Unit 17A winter moose season that has been in effect since 2015.

The justification for shifting the fall season dates is that a slightly later season will allow more time to hunt during the early rut period when bull moose are more active and harvest opportunity is enhanced. The proposed season dates are patterned after the Unit 17A fall moose season that has been in effect since 2001.

ADF&G has ample data to suggest the moose population in Unit 17A is increasing, which supports maximizing the harvest opportunity and decreasing the abundance of moose in that area. In Unit 17C, however, there is not much moose abundance data. The available data do suggest that the population is stable or decreasing and likely cannot sustain additional harvest opportunity at this time.

If this proposal is adopted, a separate registration permit would need to be created to accommodate the new hunt since the defined hunt area would have different season dates than the remainder of Unit 17C.

Impact on Subsistence Uses: These changes would provide additional hunting opportunity for federally qualified subsistence users; however the new opportunities would not be sustainable in Unit 17C, and would be detrimental to subsistence uses in the future.

Impact on Other Uses: This proposed change could negatively affect the moose population which would have a negative impact on moose hunting opportunity for other nonfederally qualified users.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for moose in Unit 17.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The Board of Game has made a finding that 100–150 moose are reasonably necessary for subsistence uses in Unit 17. The reported resident moose harvest Unit 17 was 302 in RY2012; 254 in RY2013; 293 in RY2014; 295 in RY2015; and 352 in RY2016. The 5-year mean harvest is 299 moose, well within ANS.

Existing State Regulation

Residents: Unit 17C	
1 bull by permit (RM583) available in person in Dillingham July 14 – August 30 and Nushagak River villages	August 20-September 15
or	
1 bull by harvest ticket with spike-fork antlers or 50-inch antlers or antlers	September 1-15

with three or more brow tines on at least one side

or

1 antlered bull by permit (RM585) available in person in Dillingham beginning Oct. 25 and Nushagak River villages	December 1 – 31

Special instructions: None for this hunt.

Conservation Issues: The moose population in the affected area of Unit 17C appears to be stable or decreasing based on moose abundance surveys, and the bull:cow ratio cannot be measured due to the lack of snow cover prior to antler loss. The proposed season structure will attract a lot of hunters and would increase the moose harvest by providing more hunting opportunity when bull moose are most vulnerable to harvest. The likelihood of harvesting cows would also be increased during the late winter season. This combination of these factors will result in a harvest that may not be sustainable.

Enforcement Issues: The creation of this new hunt area with different season dates than adjacent areas within the same game management unit could be problematic in several ways. It would be difficult for hunters to know exactly where they are in order to know which regulations to follow (federal land and non-federal lands are not easily discerned from the ground), and it would be difficult for enforcement to discern whether moose were killed within the legal hunt area or in areas adjacent to those.

Recommendation: ADF&G is **OPPOSED** to the adoption of WP18-25 and WP18-26 due to biological concerns that would result from the additional moose harvest. Additionally, because survey conditions are typically poor in the fall, it would be difficult to monitor the effects of the hunt and take corrective actions.

WP18–27 Executive Summary	
General Description	Proposal WP18–27 requests the Federal Subsistence Board (Board) recognize the customary and traditional uses of muskoxen on Nunivak Island by the residents of Nunivak Island. *Submitted by: Yukon-Kuskokwim Delta Subsistence Regional Advisory Council.*
Proposed Regulation	**Customary and Traditional Use Determination—Muskoxen** ***Unit 18—Nunivak Island*** ***Residents of Nunivak Island.*** *Unit 18—**Remainder*** *No Federal subsistence priority.*
OSM Conclusion	**Support**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	**Oppose**
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	

WP18–27 Executive Summary	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Neutral**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-27

ISSUES

Proposal WP18-27, submitted by the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council (Council), requests the Federal Subsistence Board (Board) to recognize the customary and traditional uses of muskoxen on Nunivak Island in Unit 18 by residents of Nunivak Island.

DISCUSSION

The proponent states that residents of Nunivak Island have interacted with muskoxen since they were reintroduced and have hunted them under State regulations. The proponent continues that Nunivak Island consists of predominantly Federal public lands within the Yukon Delta National Wildlife Refuge and residents of the rural community of Mekoryuk on Nunivak Island would like to be recognized by the Board for their customary and traditional uses of muskoxen.

Only Nunivak Island residents' customary and traditional uses of muskoxen on Nunivak Island are described below; when a proposal requests adding a community or residents of an area to an existing customary and traditional use determination, only the customary and traditional uses in the area indicated in the proposal by that community are analyzed.

Existing Federal Regulation

Customary and Traditional Use Determination —Muskoxen

Unit 18	*No Federal subsistence priority.*

Proposed Federal Regulation

Customary and Traditional Use Determination—Muskoxen

Unit 18—Nunivak Island	***Residents of Nunivak Island.***
*Unit 18—**Remainder***	*No Federal subsistence priority.*

Extent of Federal Public Lands

Federal public lands comprise approximately 90% of Nunivak Island in Unit 18 and consist of U.S. Fish and Wildlife Service managed lands. These Federal public lands are within the Yukon Delta National Wildlife Refuge (see **Unit 18 Map**).

Regulatory History

At the beginning of the Federal Subsistence Management Program in Alaska in 1992, most existing State customary and traditional use determinations were adopted into permanent Federal regulations (72 Fed. Reg. 22961. [May 29, 1992]). The State did not recognize customary and traditional uses of muskoxen on Nunivak Island and the Board adopted a determination of "no subsistence priority."

In January 2014, the Alaska Board of Game (BOG) considered but did not adopt a customary and traditional use determination for muskoxen in Units 18 and 19 (Proposal 5). The proposal, submitted by the Association of Village Council Presidents, requested muskox "subsistence" hunts in Units 18 and 19. The Board of Game took no action (ADF&G 2014:1). The BOG determined that it will consider separate customary and traditional use determinations for each of three areas of Unit 18: Nunivak Island, Nelson Island, and the remainder of Unit 18.

The BOG does not recognize customary and traditional uses of muskoxen in Unit 18. Therefore, only sport hunting regulations apply. Because of this, ADF&G can limit the number of registration permits as well as limit the number of drawing permits available to hunters for the harvest of muskoxen on Nunivak Island. Most registration permits (RX060 and RX061) are distributed in Mekoryuk, and in most years a few are distributed at Bethel. Before 2014, bull hunts were only by drawing permit (DX001 and DX003). Beginning in 2010 and continuing through 2014, the population of muskoxen on Nunivak Island dropped below the management goal. Consequently, cows were conserved and the distribution of registration permits for the harvest of cows was severely limited compared to previous years. During this same period, the distribution of drawing permits for the harvest of bulls continued at previous levels. Since 2014 the BOG has allowed the distribution of registration permits for the harvest of bulls (RX062), in addition to registration permits for the harvest of cows, if less than 10 registration permits for the harvest of cows are available (Jones 2017, pers. comm.).

Perry (2017, pers. comm.) reported that the State is in the process of updating the 1992 *Nunivak Island Reindeer and Muskox Management Plan*. He said the revised plan will guide the number of muskoxen and reindeer the island will be managed for, and when and where muskox registration permits will be distributed. The State is consulting with the U.S. Fish and Wildlife Service and Native Village of Mekoryuk on the revised plan.

Community Characteristics

Nunivak Island sits about 25 miles from the Alaskan mainland and is located between the mouths of the Yukon and Kuskokwim Rivers. Nunivak Island is situated within the boundaries of the Yukon Delta National Wildlife Refuge that encompasses more than one million acres (Lantis 1984).

Yup'ik people self-recognize as belonging to a number of confederations of villages. People living on Nunivak Island are *Nuniwarmiut* (Drozda 2010). Russian explorer A.K. Etolin reported that there were 16 villages supported by a population totaling 400 on the island in 1821. Nuniwarmiut faced a number of epidemic outbreaks during the early-1900s, and a substantial portion of the island's population was affected. Population loss led to changes in settlement patterns, and people began concentrating in areas

where trade, services, and employment opportunities were available. In 1940, island residents were concentrated in seven winter villages each with less than 20 people. By the 1950s, Mekoryuk was the only permanent village on the island. United States Census records indicate that the total island population in 1980 was 160. In 2010 the population of Mekoryuk was 191 people (ADCCED 2017).

Nunivak Islanders rely primarily on marine resources, birds and eggs, and muskoxen for subsistence. Few species of land mammals are present on the island. Additionally, a herd of reindeer has been actively managed on the island since the early 1900s. The herd is locally owned and managed (Caldwell 2016). Nunivak Islanders have participated in local commercial herring and halibut fisheries (Drozda 2010, Pete 1984, Wolfe et al. 2012). Muskox bull hunters on Nunivak Island usually hunt with guides or transporters (Jones 2015a:1-7). According to ADF&G, four Nunivak businesses are currently licensed to guide and/or transport hunters (ADF&G 2017a).

Muskoxen were indigenous to Alaska until the 1860s (Lent 1995). In an effort to re-establish muskoxen in Alaska, the U.S. Biological Survey brought 31 muskoxen to Nunivak Island in 1935 and 1936 (Perry 2017, pers. comm.). Nunivak Islanders found muskoxen to be frightening and as such mainly avoided the animals until 1964 when Nunivak men were employed to catch young muskoxen for an experimental farm program at the University of Alaska Fairbanks. Women began knitting qiviut, fine soft wool from the undercoat of muskoxen, by 1973 (Lantis 1984). Outside hunting was not permitted until fall 1975 when ADF&G established fall and winter hunting seasons (Jones 2015a). In 1975 a few Nunivak Islanders started to commercially guide muskox hunts. Before 1972, they also guided people on walrus hunts. Guiding hunters has been a source of income and jobs to local residents (Perry 2017, pers. comm.).

Eight Factors for Determining Customary and Traditional Use

A community or area's customary and traditional use is generally exemplified through the eight factors: (1) a long-term, consistent pattern of use, excluding interruptions beyond the control of the community or area; (2) a pattern of use recurring in specific seasons for many years; (3) a pattern of use consisting of methods and means of harvest which are characterized by efficiency and economy of effort and cost, conditioned by local characteristics; (4) the consistent harvest and use of fish or wildlife as related to past methods and means of taking: near, or reasonably accessible from the community or area; (5) a means of handling, preparing, preserving, and storing fish or wildlife which has been traditionally used by past generations, including consideration of alteration of past practices due to recent technological advances, where appropriate; (6) a pattern of use which includes the handing down of knowledge of fishing and hunting skills, values, and lore from generation to generation; (7) a pattern of use in which the harvest is shared or distributed within a definable community of persons; and (8) a pattern of use which relates to reliance upon a wide diversity of fish and wildlife resources of the area and which provides substantial cultural, economic, social, and nutritional elements to the community or area.

The Board makes customary and traditional use determinations based on a holistic application of these eight factors (50 CFR 100.16(b) and 36 CFR 242.16(b)). In addition, the Board takes into consideration the reports and recommendations of any appropriate Regional Advisory Council regarding customary and traditional use of subsistence resources (50 CFR 100.16(b) and 36 CFR 242.16(b)). The Board makes customary and traditional use determinations for the sole purpose of recognizing the pool of users who

generally exhibit the eight factors. The Board does not use such determinations for resource management or for restricting harvest. If a conservation concern exists for a particular population of fish or wildlife, the Board addresses that concern through the imposition of harvest limits, season restrictions or Section 804 subsistence user prioritization rather than through adjustments to customary and traditional use determinations.

Ikuta and Park (2013) while working for the State Division of Subsistence conducted ethnographic interviews with residents of Nunivak Island in 2013, which were incorporated into a customary and traditional use determination worksheet for muskoxen (see Regulatory History). Documentation of Nunivak Islanders' harvest and use of muskoxen is sparse, and the following is an annotated representation of Ikuta and Park's (2013) worksheet.

Although muskoxen are an introduced species in Unit 18, local people utilize and incorporate them into the seasonal round of hunting activities and distribution and exchange networks. Subsistence fishing and hunting are central to the cultures, traditions, and economies in the region, and people rely on the subsistence-based economy (Fienup-Riordan 1986, Fienup-Riordan et al. 2000, Hensel 1996, Wolfe and Ellanna 1983, Wolfe et al. 1986, Wolfe et al. 2009, Wolfe and Walker 1987).

Most harvests by island residents occur during the winter hunting season (in February and March). During the fall hunting season (in September) most hunters use a boat, all-terrain vehicle, or small aircraft to access hunting areas, while most winter season access is by snow machine and all-terrain vehicles. Many hunters prefer winter over fall for muskox hunting due to the quality of the meat and easier access to animals. A hunter on Nunivak Island said: "[I prefer] spring hunt. That's the best time to hunt. . . . The meat is less fatty. More lean than fall hunt meat. They [muskoxen] are pretty rich in the fall time, the meat. Easier to hunt. We hunt on snowmachine. Easier than packing it from distance all the way to the boat. A lot easier trip in the spring by snowmachine" (Ikuta and Park 2013:6). In addition, muskoxen harvested in early spring provide local diets a taste of fresh meat, which is a break from the dried or frozen stored food used within the household. Key respondents have stated that muskoxen are a valuable addition to the local diet.

Island residents harvest muskoxen with high-powered rifles. A hunter on Nunivak Island explained: "I learned to hunt [muskoxen] in the way I learn . . . how to kill an animal. I don't shoot them on the body. I shoot them on the head or neck so I don't spoil the meat" (Ikuta and Park 2013:6). On Nunivak Island in winter, muskoxen are distributed throughout the island but are concentrated along the south and west sides of the island. In summer, muskoxen disperse throughout the interior of the island (Jones 2015a).

In spring, local women and children harvest *qiviut*, the inner wool of muskoxen. Every spring, a muskox sheds from four to six pounds of qiviut (Oomingmak Musk Ox Producers' Co-operative 2013). The word "qiviut" is a word in the Inupiaq language that means "down" or "muskox wool." Muskoxen have a two-layered coat, and qiviut refers specifically to the soft underwool beneath the longer outer wool. A man from Mekoryuk explained: "Some older folks start[ed] gathering wool that's been dropped off of the animals [muskoxen] on the sand dunes. . . . I believe it was before the hunts started [in 1975]" (Ikuta and Park 2013:6). While some women spin qiviut into yarn at home, others send it to a "co-op," the

Oomingmak Musk Ox Producers' Co-operative owned by approximately 250 Alaska Native women. The co-op processes and furnishes the yarn to co-op members, primarily in Nelson and Nunivak island communities, to be knitted into hats, scarves, and other products.

Muskox meat is primarily used as food for human consumption. It is eaten fresh, dried, or frozen for later use. A man from Nunivak Island said: "Dried. Dry the [muskox] meat. And freeze it sometimes, most of the time. It's real good when it's dried too. Like jerky . . . just slice it and wind dry it. Sun and wind, that's all. Sun and wind, that's how we dry it. When the weather stays dry, it is perfect when the meat is drying" (Ikuta and Park 2013:7). Hides are used as rugs or sitting pads when jigging for saffron cod through the ice. Long guard hairs and qiviut are used in various arts and crafts, such as hair for handmade dolls or masks. Some local artists use horns for carvings.

Traditionally, young boys in western Alaska learned how to hunt by living with older men of the community in the ceremonial men's house (*qasgiq*). Today, the institution of qasgiq is no longer part of daily life. Yet, hunting knowledge is passed down from grandfather, father, or uncle to children. A man from Nunivak Island explained: "They learned how to butcher the muskox, what's edible, what you need to take, and they brought it back. So, in terms of the knowledge being passed down, my generation, we have learned it from our fathers or uncles or grandfathers, on how to do that" (Ikuta and Park 2013:7). As the respondents describes above, learning cannot be separated from physical involvement, and knowledge undergoes continual regeneration in the process of learning. If it is not possible for young children to participate immediately in hunting. They are expected to learn by observing experienced hunters, such as parents and grandparents, who know hunting equipment and techniques, the animal's behavior and anatomy, the geography, and the weather. Then youth are expected to participate in the actual tasks with their teachers.

Extensive sharing and distribution of wild resources is a large part of the subsistence economy in Western Alaska (Brown, Magdanz, and Koster 2012; Brown, Ikuta et al. 2013; Ikuta et al. 2014; and Runfola et al. 2017). An elder from Mekoryuk explained: "Because there are people that are no longer able to go out hunting on their own. They rely on the younger generation of people to provide the protein for them. And that's how we've survived on Nunivak Island for over 2,000 years because we shared what we caught with the elderly, with the people that aren't capable of going hunting on their own. So sharing is very important in our culture" (Ikuta and Park 2013:8). Muskox meat and organs are shared widely throughout the community particularly if only a few members of the community obtained permits. A 42-year old man on Nunivak Island said: "I learned how to share. I mean, if I caught a big game for the first time . . . I remember catching my first muskox, I gave parts of that meat away. So still today, whether it'd be seal, reindeer, muskox, bird, fish, I gave a portion away, so that's ingrained in me that I need to share because that's our tradition. We share what we catch. So that muskox falls into that same area" (Ikuta and Park 2013:8).

In addition, extra subsistence foods local people produce are usually shared with elderly, single mothers with young dependent children, and young single persons or couples who are just getting started. Sharing subsistence-caught wildlife is a fundamental characteristic of communities that follow a subsistence way

of life in the region (Brown, Magdanz, and Koster 2012; Brown, Ikuta et al. 2013; Fall et al. 2012; Ikuta et al. 2014; Runfola et al. 2017).

A number of comprehensive subsistence and large land mammal surveys in Western Alaska communities show local residents take, use, and rely upon a wide diversity of fish and game resources for subsistence (Brown, Magdanz, and Koster 2012; Brown, Ikuta et al. 2013; Fall et al. 2012, Ikuta et al. 2014; Runfola et al. 2017). Documented harvests range from 434 lb per person in lower Kuskokwim River drainage communities to 269 lb per person in central Kuskokwim communities 2009–2013. The typical community harvests approximately 50 different species of plants, fish, and wildlife each year. The mix of species depends upon species availability. For some coastal communities, as much as 80% of total harvests by weight may come from marine mammals. For other communities, terrestrial mammals, fish, and marine mammals compose approximately equal proportions of the total community harvest.

A man from Nunivak Island described the nutritional and economic value of muskoxen in the region: "It [muskoxen] provides protein for people. . . . His skin can be used as means for providing economic opportunities for the people here . . . you can comb the wool out of the muskox, you can makes crafts into it . . . have it woven, have it knitted into garments and provide some income for the family . . . . It's very, very costly to go out here, from Bethel to Anchorage. It costs $536 round-trip. And one pelt of muskox could possibly even cover that" (Ikuta and Park 2013:9). Another man from Mekoryuk agreed and said: "They start making that [qiviut] into whatever they can make or sell it Anchorage muskox farm, qiviut cooperative . . . . Some have made it into dolls, they sew the skin . . . . Some guy used to sell them [horn] for $60 or something like that, but it's got to be separated from the skull . . . . Some harvest and use the horns for carving" (Ikuta and Park 2013:9).

The harvesting of wild foods continues a long cultural tradition for many Nunivak Islanders, a tradition which continues to evolve in many ways as social, economic, and environmental conditions change.

The Alaska Department of Fish and Game maintains a harvest reporting database where muskox hunters using State registration or State drawing permits report their hunting efforts (ADF&G 2017b). All records have not been entered into the electronic database (Jones 2017, pers. comm.). However, electronic records show that Nunivak Islanders have reported harvests in all but four years since 1986 when electronic records begin (a minimum estimated average of 16 muskox harvests annually since 1986 (ADF&G 2017b and OSM 2017).

According to ADF&G, based on records that are more complete, Nunivak Islanders received 325 muskoxen permits between 2003 and 2016 regulatory years, receiving on average 23 muskoxen permits per year (**Table 1**; Jones 2017, pers. comm.). The Alaska Department of Fish and Game established the first muskox hunt on Nunivak Island in 1975 (Jones 2015a). Since 1993, the take of muskoxen on Nunivak Island has been managed by the distribution of a limited number of permits each year. Since 2003, between 5 and 41 registration permits for the harvest of one cow have been available (see Regulatory History). Most of these registration permits are distributed at Mekoryuk, and in most years a few are distributed at Bethel. The annual harvest of muskoxen is primarily influenced by the number of permits available because the majority of hunters are successful (Jones 2015a).

Table 1. Number of permits that were distributed allowing the harvest of one muskox on Nunivak Island in Unit 18, 2003-2016, by user group, based on ADF&G harvest reporting system.

Unit 18 Nunivak Island – Muskoxen					
Number of permits distributed					
Regulatory Year[a]	Residents of Nunivak Island	Residents of Unit 18 except Mekoryuk	Residents of Alaska outside of Unit 18	Residents of another state not Alaska	Total
2003	32	6	31	1	70
2004	25	15	29	1	70
2005	29	15	37	1	82
2006	34	11	27	2	74
2007	29	15	39	0	83
2008	35	10	36	2	83
2009	25	9	43	2	79
2010	17	10	42	3	72
2011	5	5	27	4	41
2012	5	0	24	5	34
2013	5	1	41	10	57
2014	5	0	24	1	30
2015	38	0	15	2	55
2016	41	4	42	11	98
Total	325	101	457	45	928

[a] The best available information does not include the number of permits distributed before 2003.
Source: Jones 2017, pers. comm.

Effects of the Proposal

If adopted, Proposal WP18-27 would recognize Nunivak Islanders' customary and tradition uses of muskoxen on Nunivak Island. Adopting the customary and traditional use determination would have no immediate effect on people's ability to harvest muskoxen. If it receives a proposal, the Board can adopt muskox seasons and harvest limits.

If not adopted, there would be no effects to subsistence users, nonsubsistence users, or muskoxen.

OSM CONCLUSION

Support Proposal WP18-27.

Justification

Residents of Nunivak Island exemplify customary and traditional uses of muskoxen on Nunivak Island. Documented evidence in the harvest reporting database and ethnographic accounts demonstrate this. Nunivak Islanders have a consistent pattern of harvesting local muskoxen since at least 1975 when ADF&G established fall and spring hunting seasons (Jones 2015a). Ethnographic accounts further describe a heavy reliance on muskox meat and qiviut used for the manufacture of personal items and in customary trade. The use of muskoxen by Nunivak Islanders is patterned. Most local hunters prefer to take muskoxen during the winter hunting season due to the quality of the meat and easier access over snow on the ground. Fresh meat is a welcome respite from frozen and store bought food. Nunivak Islanders rely on a wide variety of wild foods and have incorporated muskoxen into their seasonal pattern of harvesting and use of wild resources (Ikuta and Park 2013).

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Yukon-Kuskokwim Delta Subsistence Regional Advisory Council

Oppose WP18-27. This proposal was submitted by the Council at the request of Council member Dale Smith on behalf of his community of Mekoryuk. However, upon further consideration residents of Mekoryuk relayed that the current management of muskox was working fine for local subsistence hunters and expressed concern that establishing C&T for musk ox may lead to complications down the road that could have a negative impact on the local economy and Nunivak Island residents that work as hunting guides and transporters during the State sport hunt. Mekoryuk residents further relayed that while this proposal was only requesting customary and traditional use determination for musk ox subsequent proposals or actions in the future requesting federal subsistence seasons and bag limits could possibly interfere with this local economy that benefits residents of Mekoryuk with seasonal income. Due to these concerns and uncertainties expressed by residents of Mekoryuk and their subsequent request to not advance this proposal, the Council voted to oppose the proposal.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-27: This proposal, submitted by the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council, would find that residents of Nunivak Island have a customary and traditional (C&T) use determination for muskoxen on Nunivak Island, which is in Game Management Unit 18.

Introduction: Muskoxen were transplanted to Nunivak Island in 1935–1936 (Ikuta and Park 2013:4). Once muskox hunting was allowed, residents of Nunivak Island incorporated hunting for them into their seasonal round of subsistence activities as a food source (Ikuta and Park 2013:5; Patrick Jones, ADF&G DWC biologist, personal communication). In 1992 a cooperative management plan was established between USF&W, the Village of Mekoryuk, and ADF&G. Currently the cooperative management plan is being updated and revised. Residents of Nunivak Island have harvested a range of 5 to 41 muskoxen per year from 2002–2016, and a total of 362 muskoxen for that time period (Patrick Jones, ADF&G DWC biologist, personal communication). Nunivak residents' harvest is 36% of the Unit 18 harvest from 2002 to 2016 (Patrick Jones, ADF&G DWC biologist, personal communication).

As of 2016, there are an estimated 215 residents of Mekoryuk (ADLWD 2017).

Impact on Subsistence Uses: Adoption of this proposal would establish the pool of federally qualified subsistence users eligible to participate in opportunities provided under ANILCA.

Impact on Other Uses: If this proposal were adopted, impact to other users would depend on actions taken by the Federal Subsistence Board or the Alaska Board of Game to provide opportunities to a larger pool of users eligible for hunting under ANILCA.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made a negative finding of customary and traditional uses of muskoxen in Unit 18. The negative finding of no customary and traditional uses was re-affirmed by the Board of Game in January 2014.

Amounts Reasonably Necessary for Subsistence: Since the Board of Game has not made a positive C&T finding for muskoxen in Unit 18, they have not addressed ANS.

State hunting opportunities: The first bull hunts started for Nunivak muskoxen in 1975 in the form of a drawing hunt; registration hunts for cows were established in 1980. From 1975 through 2013 the Alaska Board of Game allocated all bull permits into the drawing hunt and all cows into the registration hunt. In 2014, the Board of Game established a bull registration hunt, RX062.

		Open Season	
Unit/Area	Bag Limit	Resident	Nonresident
18, Nunivak Island	1 bull by drawing permit only (DX001, DX003), up to 110 permits may be issued, OR	September 1-September 30 February. 1-March 15	September 1-September 30 February. 1-March 15
	1 musk ox by registration permit only (RX062, 60, 61)	September 1-September 30 February. 1-March 15	September 1-September 30 February. 1-March 15

If there are 30 or fewer registration permits available in a year then all of them are given out in Mekoryuk. If more than 30 registration permits are available, then up to 10 will be given out in Bethel. If there are fewer than 10 cow permits available, and the bull harvest can support it, additional bull permits are given out as registration permits in Mekoryuk.

Conservation Issues: Nunivak muskoxen have an established population goal of 500–550 muskoxen pre-calving and post-hunt. From the time hunting started in 1975 the total population on Nunivak has oscillated between a low of 407 muskoxen in 1992 and a high of 740 in 2015, with an average population of 550 animals (1975–2015). Harvest is adjusted yearly to achieve the management objective of 500–550 animals post-calving and prehunt, while maintaining healthy age and sex compositions.

Recommendation: The State of Alaska is **NEUTRAL** on eligibility requirements for participation in the subsistence program provided under ANILCA.

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WP18–29 Executive Summary	
General Description	Proposal WP18–29 requests that the moose season in Unit 18 remainder be lengthened from Aug. 1-Mar. 31 to Aug. 1-Apr. 30. *Submitted by: Orutsararmiut Native Council.*
Proposed Regulation	**Unit 18—Moose** Unit 18 remainder—2 moose, only one of which may be antlered. Antlered bulls may not be harvested from Oct. 1 through Nov. 30. *Aug. 1 – ~~Mar. 31~~* ***Apr. 30***
OSM Conclusion	**Support**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	**Support**
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	

WP18–29 Executive Summary	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Neutral**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-29

ISSUES

Proposal WP18-29, submitted by the Orutsararmiut Native Council, requests that the moose season in Unit 18 remainder be lengthened from Aug. 1-Mar. 31 to Aug. 1-Apr. 30.

DISCUSSION

The proponent requests that the moose season in Unit 18 remainder be extended to provide more opportunity to Federally qualified subsistence users. The proponent states that the moose population in Unit 18 remainder is growing and that the requested season extension would allow Federally qualified users to take advantage of the longer days, warmer temperatures, and adequate snow conditions in April. The proponent stated that the warmer temperatures in Unit 18 remainder that typically occur in April (19-35 degrees Fahrenheit) provide for a greater chance of suitable snowfall for snow machine use, allowing Federally qualified subsistence users the opportunity to travel greater distances during a month when there are more daylight hours, providing more potential for day trip excursions rather than overnight trips. The proponent also mentioned that the ability to travel longer distances may lead to an increase in successful harvest of moose, which are a very important subsistence resource to residents of the Yukon-Kuskokwim Delta.

Existing Federal Regulation

Unit 18—Moose

Unit 18 remainder—2 moose, only one of which may be antlered. Antlered bulls may not be harvested from Oct. 1 through Nov. 30.	*Aug. 1 – Mar. 31*

Proposed Federal Regulation

Unit 18—Moose

Unit 18 remainder—2 moose, only one of which may be antlered. Antlered bulls may not be harvested from Oct. 1 through Nov. 30.	*Aug. 1 – ~~Mar. 31~~ **Apr. 30***

Existing State Regulation

Unit 18—Moose

Unit 18, remainder	*Residents—two moose only one of which may be an antlered bull, taking cows accompanied by calves or calves is prohibited*	*Aug. 1-Sept. 30*
	or	
	Residents—two antlerless moose	*Oct. 1-Nov. 30*
	or	
	Residents—two moose	*Dec. 1-Mar. 15*
	Nonresidents—one antlered bull	*Sept. 1-Sept. 30*
	or	
	Nonresidents—one antlerless moose	*Dec. 1-Mar. 15*

Extent of Federal Public Lands

Federal public lands comprise approximately 66.74% of Unit 18, and consist of 63.97% U.S. Fish and Wildlife Service (USFWS) managed lands and 2.77% Bureau of Land Management (BLM) managed lands (**Figure 1**).

Customary and Traditional Use Determinations

Residents of Units 18 and Upper Kalskag have a customary and traditional use determination for moose in the Unit 18 remainder.



Figure 1. Federal public lands and the remainder hunt area for Unit 18.

Regulatory History

In November 2005, the Alaska Board of Game (BOG) adopted Proposal 4 in response to the rapid growth of the lower Yukon moose population. Action taken on the proposal modified the State harvest limit by allowing the harvest of antlered bulls only and established a winter season for antlered bulls and calves. During its November 2007 meeting, the BOG adopted Proposal 6, which lengthened the fall moose season for the lower Yukon and remainder areas of Unit 18 by 21 days and lengthened the winter season in the lower Yukon by 10 days.

At its March 2009 meeting, the BOG adopted Proposal 228, which liberalized the State harvest limit from antlered bulls to any moose for the Dec. 20–Jan. 20 season in the lower Yukon area of Unit 18. The BOG stated that the affected moose population increased to a size that could support the harvest of cows.

At its November 12, 2009 work session, the Federal Subsistence Board (Board) approved Special Action WSA08-13, which requested the harvest limit in the lower Yukon area of Unit 18 be increased to two moose per regulatory year, with one allowed in the fall and one in the winter.

At its November 13−16, 2009 meeting, the BOG adopted new regulations to extend the winter season from Jan. 20 to Feb. 28 and move the boundary between the lower Yukon and the remainder areas south, to a more discernible geographic land mark.

Proposal WP10-56, submitted by the Yukon Delta National Wildlife Refuge, requested that the harvest limit in the lower Yukon area of Unit 18 (that portion north and west of a line from Cape Romanzof to Kusilvak Mountain to Mountain Village and excluding all Yukon River drainages upriver from Mountain Village) be changed to two moose per regulatory year. Hunters would be allowed to harvest one antlered bull in the fall season and one moose in the winter season. Hunters that did not harvest a moose in the fall would be allowed to harvest two moose during the winter season. The proposal also requested that the Yukon Delta National Wildlife Refuge manager be delegated the authority to restrict the harvest in the winter season to one antlered bull or one moose per regulatory year, after consultation with the Alaska Department of Fish and Game (ADF&G). The proposal was adopted by the Board with modification to extend the winter season to February 28.

Proposal WP10-57, submitted by the Yukon Delta National Wildlife Refuge, requested a change in a portion of the regulatory boundary description for Unit 18, north and west of a line from Cape Romanzof to Kusilvak Mountain to Mountain Village, and excluding all Yukon River drainages upriver from Mountain Village. This area was referred to as the lower Yukon hunt area. The proposal was adopted by the Board with modification to remove the Cape Romanzof to Kusilvak Mountain section and replace it with a descriptor for the Kashunuk River drainage.

Proposal WP12-49, submitted by the Yukon Delta National Wildlife Refuge, requested the moose season in Unit 18, that portion north and west of the Kashunuk River including the north bank from the mouth of the river upstream to the old village of Chakaktolik, west of a line from Chakaktolik to Mountain Village and excluding all Yukon River drainages upriver from Mountain Village, be revised from fall and winter dates (Aug. 10 - Sept. 30 and Dec. 20 - Feb. 28) to Aug. 1 through the last day of February. The harvest limit

would be two moose, only one of which may be antlered. The harvest of an antlered bull would be limited to the dates of Aug. 1 – Sept. 30. The proposal was adopted with modification by the Board at its January 2012 meeting to allow for the harvest of an antlered bull starting on Aug. 1 instead of Sept. 1.

Proposal WP14-23, submitted by the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council, requested an extension of the moose season in Unit 18, that portion north and west of the Kashunuk River including the north bank from the mouth of the river upstream to the old village of Chakaktolik to Mountain Village and excluding all Yukon River drainages upriver from Mountain Village, from August to the last day of February, to Aug. 1 – Mar. 31. It also requested removal of the bull-only restriction from Aug. 1 – Sept. 30. The proposal was adopted with modification by the Board, which resulted in combining the lower Yukon portion of Unit 18 with Unit 18 remainder, establishing a single Yukon drainage hunt area. The modification also stipulated that antlered bulls may not be harvested Oct. 1 – Nov. 30.

Biological Background

Moose began to migrate into the Yukon-Kuskokwim Delta during the mid- to late-1940s and have become an important subsistence resource for locals (Perry 2014). Moose rely on willow and shrub habitats for browsing and for cover from predators (Tape et al. 2016). The taller vegetation heights estimated in the northern and western portions of the state provide more suitable cover and increased available forage above the snowpack for moose populations than was present in the past (Tape et al. 2016), yet most of the Yukon-Kuskokwim Delta is lowland treeless tundra and is not suitable as winter moose habitat. Consequently, much of the region supports only low to very low density moose populations. However, productive habitat does exist along river corridors, with approximately 4,500 mi^2 and 3,500 mi^2 of suitable moose habitat occurring along the Yukon and Kuskokwim Rivers, respectively (Perry 2014). The Yukon River population currently occupies most of the available riparian habitat, is at moderate to high density, is growing, and has high calf production and yearling recruitment (Perry 2014).

State management goals for moose in Unit 18 include allowing the populations to increase to levels sustainable by the current habitat, maintaining healthy age and bull:cow structures, monitoring the population size, trend, and composition, maintaining a continual and sustainable bull harvest, improving harvest reporting, and minimizing user group conflicts related to moose (Perry 2014). Similarly, State management objectives for the unit include methods to meet these goals such as allowing moose populations to increase above their current levels, maintaining a minimum of 30 bulls:100 cows, conducting seasonal composition surveys, and conducting winter censuses and recruitment surveys (Perry 2014).

Population and composition surveys are conducted in four survey areas in Unit 18. These survey areas include the Paimiut area, the Andreafsky (Middle Yukon) area, the Lowest Yukon area, and the Lower Kuskokwim area (**Figure 2**; Perry 2014, Rearden 2015). The Lowest Yukon, Andreafsky, and Paimiut Units are located within the Unit 18 remainder hunt area. These survey areas were purposely kept small to allow for multiple areas to be surveyed annually.

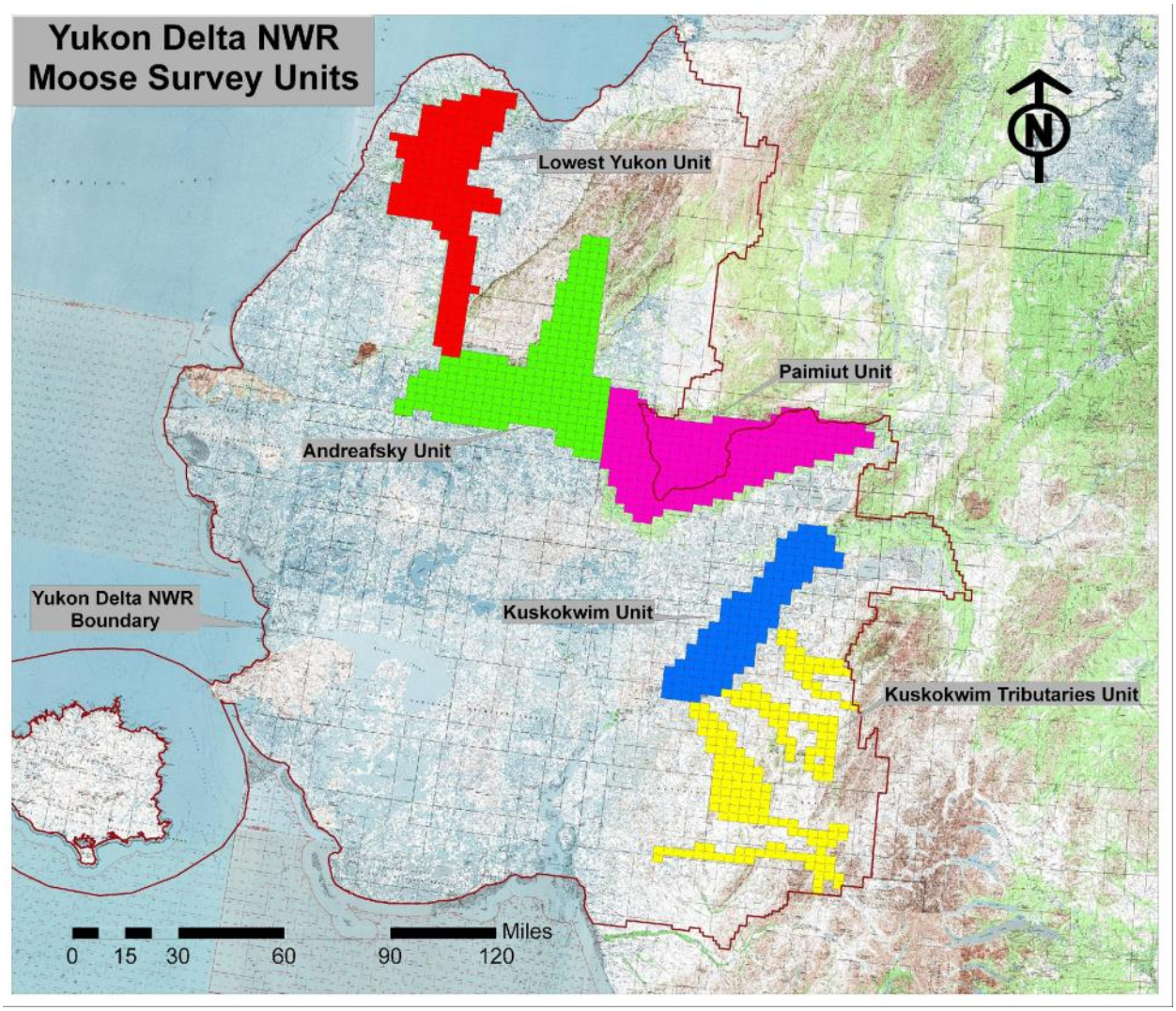


Figure 2. Yukon Delta National Wildlife Refuge Moose Survey Units (Rearden 2015).

Between 1988 and 2008, surveys to estimate population size were conducted in the Lowest Yukon survey area of Unit 18 (**Table 1;** Rearden 2015, 2017, pers. comm.). At that time, the survey area encompassed the riparian corridor along the main stem of the Yukon River downstream of Mountain Village (Perry 2014). In February 2017, a survey was conducted in an expanded survey area to accommodate the widening distribution of moose. The results of that survey estimated the current population to be 8,226 moose in the expanded survey area, or 4.7 moose/mi^2 (Rearden 2017, pers. comm.). For comparison, the moose population and density within the original survey area was estimated to be 5,719 with 4.8 moose/mi^2 in 2017, compared to 2.4 moose/mi^2 in 2008 (**Figure 3;** Rearden 2015, 2017, pers. comm.).

Table 1. Moose population estimates from spring census surveys in the survey areas located within Unit 18 remainder (Rearden 2015).

Census Area	Year	Estimate at 95%CI	Density (mi^2)	Census Technique
Lowest Yukon	1988	0	NA	Minimum count
	1992	28	0.02	Minimum count
	1994	65	0.04	Minimum count
	2002	674 ± 21.9%	0.59	Spatial method
	2005	1342 ± 21.0%	1.12	Spatial method
	2008	2827 ± 11.98%	2.37	Spatial method
	2008	3319 ± 16.08%	2.78	Spatial method w/ SCF
	2017	5,719± 12%	4.79	Geospatial
	2017*	8,226 ± 11%	4.71	Geospatial
Andreafsky	1995	52 ± 74.0%	0.04	Gassaway method
	1999	524 ± 29.8%	0.23	Spatial method
	2002	418 ± 22.4%	0.26	Spatial method
	2012	2748 ± 19.8%	1.72	Spatial method
	2012	3170 ± 24.3%	1.99	Spatial method w/ SCF
Paimiut	1992	994 ± 19.7%	0.64	Gassaway method
	1998	2024 ± 12.93%	1.3	Gassaway method
	2002	2382 ± 16.1%	1.52	Spatial method
	2006	3614 ± 18.1%	2.3	Spatial method
	2013	5,598 ± 17.8%	3.56	Spatial method
	2013	6,031 ± 20.0%	3.84	Spatial method w/ SCF

*A larger census area was surveyed in 2017 in the Lowest Yukon area.

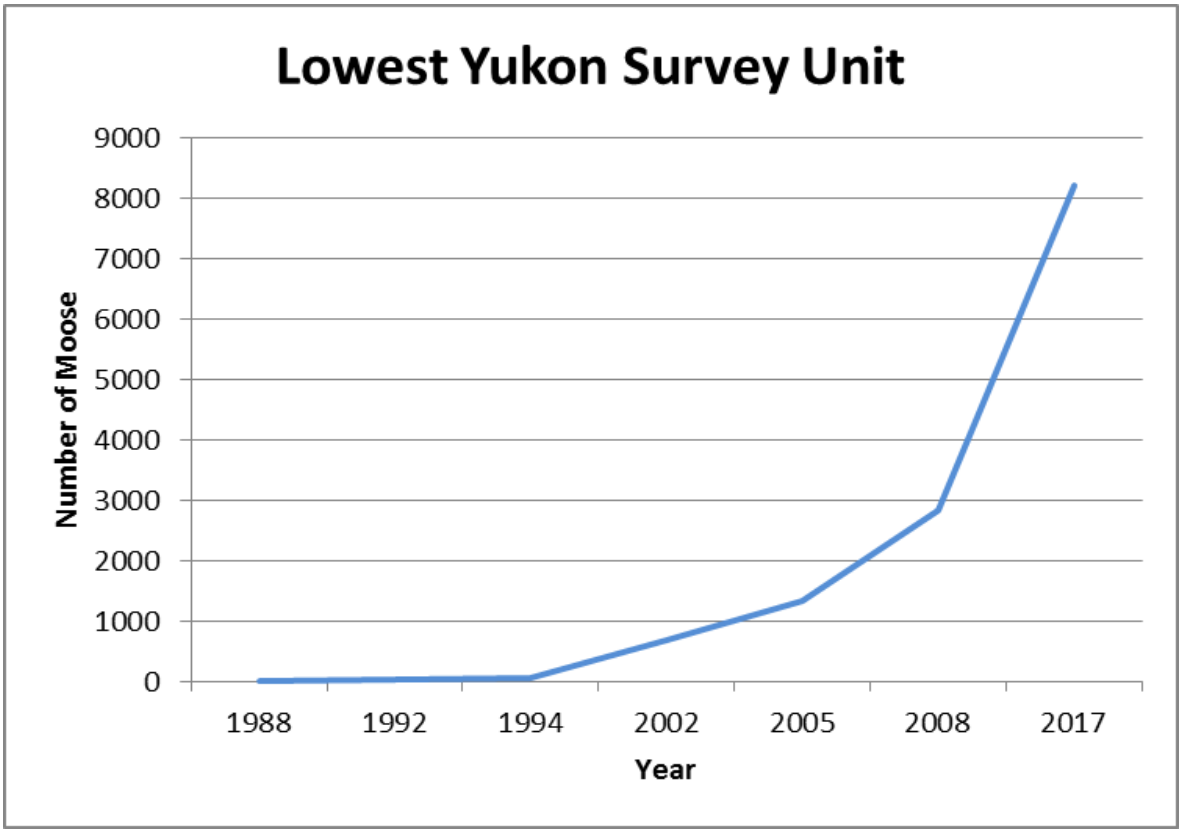


Figure 3. Lowest Yukon census survey area moose population trend since 1988 (Rearden 2015).

In the adjacent Andreafsky survey area, which includes the Yukon River from Pilot Station downstream to Mountain Village (Perry 2014), surveys were most recently conducted in 2012 (**Table 1; Rearden 2017, pers. comm.**). At that time, the moose population was estimated at 3,170 moose (2 moose/mi^2), when corrected for sightability (Reardon 2015, 2017, pers. comm.). Like the moose population in the Lowest Yukon survey area, the population in the Andreafsky area has grown substantially since the early 2000s (**Figure 4**), but it remains at lower density compared to the Lowest Yukon population.

Population estimates were conducted in the Paimiut survey area in February of 2013. At that time the population was estimated at 6,031 moose with a density of 3.84 moose/mi^2, which is an increase from the population estimate of 3,614 and density of 2.3 moose/mi^2 calculated in 2006 (**Table 1, Figure 5**; Rearden 2017, pers. comm., Perry 2014).

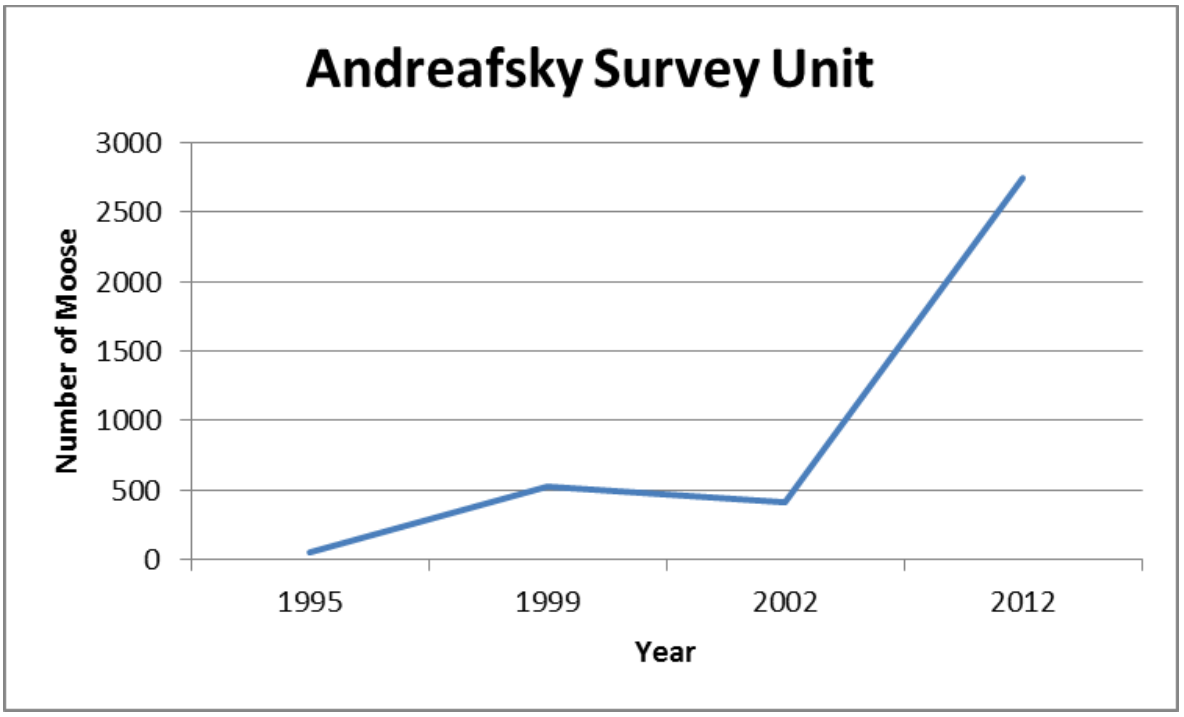


Figure 4. Andreafsky census survey area moose population trend since 1995 (Rearden 2015).

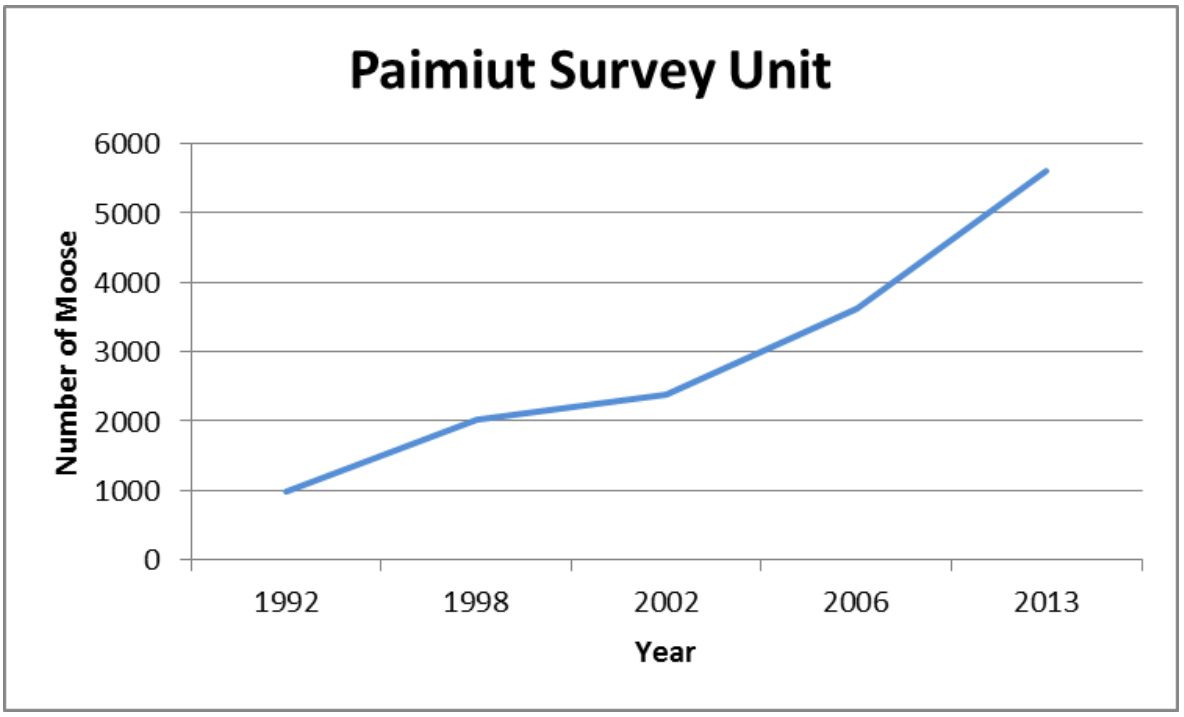


Figure 5. Paimiut census survey area moose population trend since 1992 (Rearden 2015).

Adequate survey conditions for fall composition surveys are only present every three or four years. Consequently, composition surveys are completed as conditions allow (Perry 2014). The Lowest Yukon survey area composition data was collected in November 2013. The calf:cow and bull:cow ratios were calculated at 48:100 and 40:100, respectively, which are above the management objectives for the unit (**Table 2**; Perry 2014). Bull:cow ratios in the Andreafsky and Paimiut areas were similar to those in the Lowest Yukon area, at 40 bulls:100 cows in 2011. Calf:cow ratios have increased since the early 2000s and were at 67 calves:100 cows in 2011 (Perry 2014, Rearden 2015, 2017, pers. comm.).

Table 2. Composition survey data from the moose survey areas that lie within Unit 18 remainder (Perry 2014, Rearden 2015).

Area	Year	Bull: 100 Cows	Calf: 100 Cows
Lowest Yukon	2010	30	69
	2013	40	48
Middle Yukon (Includes Andreafsky and Paimiut areas)	2002	-	22
	2005	-	42
	2010	42	64
	2011	40	67

Harvest History

Since 2005, moose harvest in Unit 18 increased steadily as moose populations in Unit 18 remainder grew (**Table 3;** ADF&G 2017a). Harvest between 2005 and 2015 averaged 584 moose annually. Cow harvest made up 21% of the total moose harvest in 2015. A majority of reported harvest was taken by local (those who reside within Unit 18) users, 71% of the harvest in 2015 (**Figure 6**, ADF&G 2017a).

Community subsistence household surveys have also been conducted in Unit 18. During these surveys, households within selected communities were asked about their subsistence use of resources. A different number of communities are surveyed each year with some communities being surveyed multiple consecutive years and others only being surveyed once since 1980 (**Table 4**). During these surveys the average percent of households in each community that used moose ranged from 49%-100% (ADF&G 2017b). Estimated harvest based on community household surveys ranged between 33 and 379 moose (ADF&G 2017b).

Table 3. Reported harvest for Unit 18 moose (ADF&G 2017a).

Year	Species	Local Resident Harvest	Nonlocal Resident Harvest	Total Resident Harvest	Unknown Residency Harvest	Non-Resident Harvest	Total Harvest	Bulls	Cows	Unknown
2015	Moose	547	101	648	16	111	775	614	159	2
2014	Moose	558	88	646	31	64	741	568	172	1
2013	Moose	529	82	611	42	38	691	497	181	13
2012	Moose	502	75	577	25	33	635	487	142	6
2011	Moose	571	55	626	34	19	679	577	101	1
2010	Moose	569	58	627	21	15	663	564	91	8
2009	Moose	533	49	582	30	5	617	525	87	5
2008	Moose	314	29	343	108	16	467	444	19	4
2007	Moose	401	20	421	35	8	464	437	22	5
2006	Moose	285	20	305	36	4	345	317	27	1
2005	Moose	276	11	287	53	4	344	335	7	2
Total	Moose	**5085**	**588**	**5673**	**431**	**317**	**6421**	**5365**	**1008**	**48**
Average	Moose	**462**	**53**	**516**	**39**	**29**	**584**	**488**	**92**	**4**

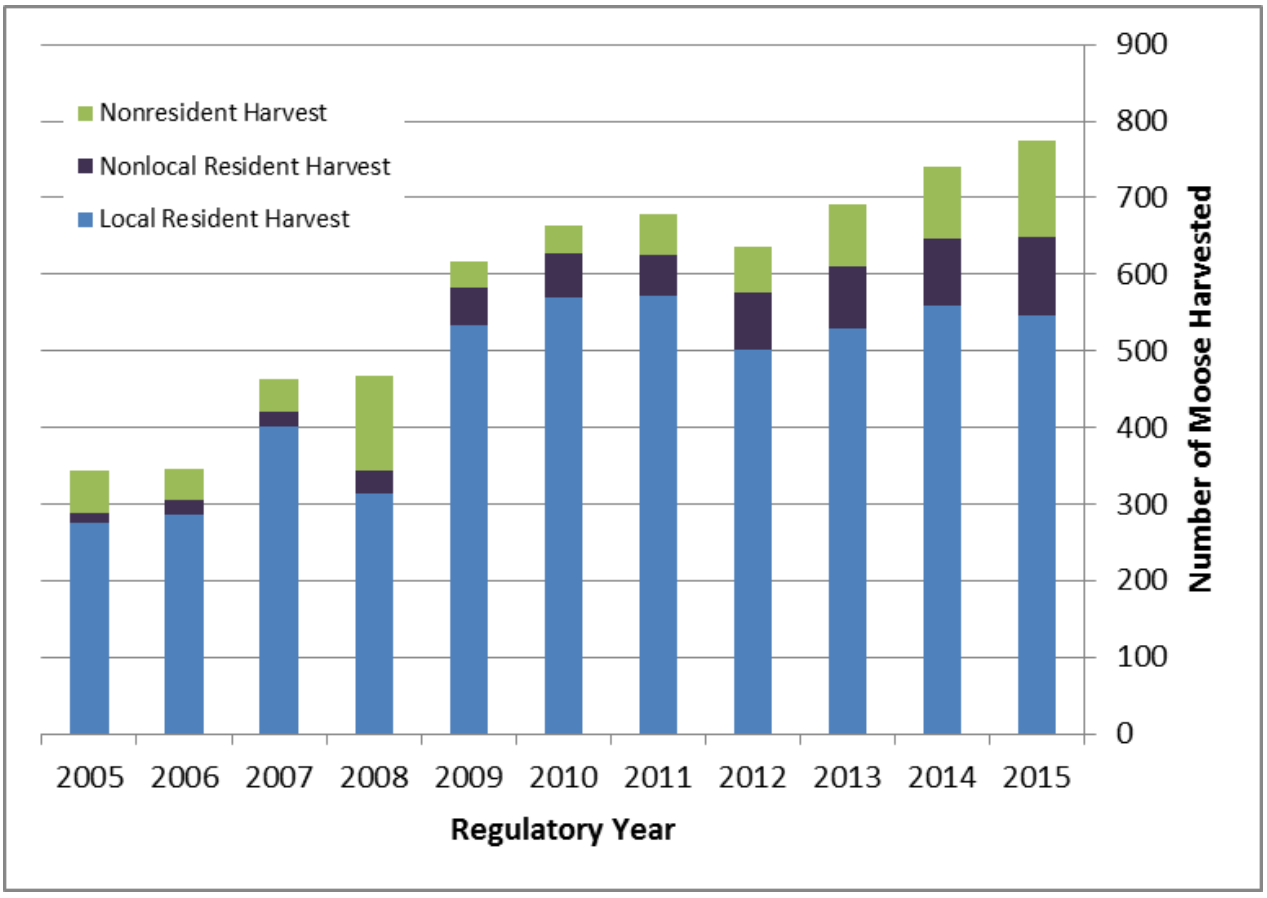


Figure 6. Reported harvest trends for moose in Unit 18 from 2005-2015 (ADF&G 2017a).

Table 4. Moose harvest and use in State Western Subsistence Unit (encompasses Units 18, 19A, and 19B) communities according to community household subsistence surveys (ADF&G 2017b).

Study Year	Estimated Harvest	Communities Surveyed	Average Percent of Households Using the Resource
1980	136	5	N/A
1982	33	1	N/A
1983	47	3	N/A
1985	33	1	100
1986	35	2	73
1998	106	1	95
2003	106	8	73
2004	67	8	69
2005	86	8	49
2008	136	1	95
2009	87	8	68
2010	213	6	85
2011	379	4	78
2012	357	1	74
2013	232	5	85

Other Alternatives Considered

Snow conditions, over the past four years, have been poor starting in early April. When snow cover is low, snow machine use may damage the bare tundra. Another option for this proposal would be to support with modification to lengthen the season until April 15th instead of April 30th. This may limit damage to the tundra during times when there may be little to no snow cover. Since snow conditions are variable from year to year, it would be difficult to completely eliminate this damage. Closing the season while snow cover is still suitable for snow machine travel may unnecessarily limit subsistence opportunity. Similarly, only lengthening the season by 15 days may not increase harvest opportunity. Also, refuges already have the authority to close refuge lands to snow machine use if necessary to protect habitat. For these reasons, this alternative is currently not being considered further.

Effects of the Proposal

If adopted, this proposal would provide more opportunity to Federally qualified subsistence users by providing an extended harvest season during a month when travel by snow machine may be more suitable.

The moose population in Unit 18 remainder does not seem to have been compromised by the increase in harvest over the past decade. Moose populations have continued to increase drastically even as harvest rates have more than doubled unit-wide. Extending the moose season by one month will not have a detrimental impact on the moose population in Unit 18 remainder.

OSM CONCLUSION

Support Proposal WP18-29.

Justification

A majority of households in Unit 18 use moose as a subsistence resource. Adoption of this proposal will provide these Federally qualified subsistence users with more opportunity to harvest moose for their households.

There are currently no conservation concerns for moose in Unit 18 remainder. Populations of moose have increased over the years even as harvest has increased. Lengthening the season in Unit 18 remainder by one month should not have a negative impact to moose populations in this area.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Yukon-Kuskokwim Delta Subsistence Regional Advisory Council

Support WP18-29. The Council concurred with the analysis and agency reports that the moose population seemed to be doing very well in this area and supported the additional subsistence opportunity with an extended season to be able to get the good moose protein they need.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-29: This proposal, submitted by the Orutsararmiut Native Council, would extend the moose hunting season by 30 days in the Remainder of Unit 18.

Introduction: The area affected by this proposal currently has the longest hunting season in North America with a 243-day season running from August 1–March 31, and very liberal bag limits with two moose for residents and one moose for nonresidents. This proposal asks to extend the hunting season for federally qualified residents an additional 30 days by changing the season from August 1–March 30 to August 1–April 30.

ADF&G assesses the moose population in the Remainder of Unit 18 with three census areas along the Yukon and Andreafsky rivers. The most recent midpoint estimates for the three survey areas were 8,226 moose in the Lower Yukon area (2017), 3,170 moose in the Andreafsky area (2012), and 6,031 moose in the Paimiut area (2013).

Total harvest increased slowly in the Remainder of Unit 18 as state and federal regulations were liberalized, but the moose population has continued to grow. ADF&G estimates that the harvest rate is below 5% annually, but could sustain rates of 10-15%.

Impact on Subsistence Uses: If this passes it would increase the opportunity for federally qualified residents to harvest moose.

Impact on Other Uses: If adopted this should not significantly impact other nonfederally qualified users.

Opportunity Provided by State:

State customary and traditional use finding: The Alaska Board of Game has made a positive C&T finding for moose in Unit 18.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The Board of Game has found that 200–400 moose are reasonably necessary for subsistence in Unit 18.

Unit/Area	Bag Limit	Open Season
Resident		
18 Remainder	Two moose (harvest ticket), only one of which may be an antlered bull; taking cows accompanied by calves, and taking calves, is prohibited, OR	August 1-September31
	Two antlerless moose (harvest ticket), OR	October 1-Nov. 30
	Two moose (harvest ticket)	December. 1-March 15
Nonresident		
	One antlered bull (harvest ticket), OR	September 1-September 30
	One antlerless moose (harvest ticket)	December 1 – March 15

Special instructions: None for these hunting opportunities.

Conservation Issues: Any additional harvest would have little to no effect on the population.

Enforcement Issues: This proposal would bring federal and state regulations further out of alignment.

Recommendation: ADF&G is **NEUTRAL** on this proposal because it does not create a biological concern for the moose population, and the additional opportunity may increase the long-term stability of the moose population while providing for subsistence needs.

WP18–32 Executive Summary	
General Description	Proposal WP18-32 requests changes to the caribou season dates on Federal public lands in Units 21D, 22, 23, 24, 25A (West), 26A, and 26B. *Submitted by: Western Interior Alaska Subsistence Regional Advisory Council.*
Proposed Regulation	**Unit 21D—Caribou** *Unit 21D—north of the Yukon River and east of the Koyukuk River—caribou may be taken during a winter season to be announced* — *Winter season to be announced* *Unit 21D, remainder—5 caribou per day, as follows: Calves may not be taken.* *Bulls may be harvested* — *July 1-Oct. ~~14~~ **10*** *Feb. 1-June 30* *Cows may be harvested* — *~~Sep. 1-Mar. 31~~**Oct. 1 – Feb. 1*** **Unit 22—Caribou** *Unit 22B—that portion west of Golovnin Bay and west of a line along the west bank of the Fish and Niukluk Rivers to the mouth of the Libby River, and excluding all portions of the Niukluk River drainage upstream from and including the Libby River drainage—5 caribou per day. Calves may not be taken* — *~~Oct. 1-Apr. 30~~* *~~May 1-Sep. 30, a season may be announced~~* ***Bulls may be harvested*** — ***July 1 – Oct. 10*** ***Feb. 1 – June 30*** ***Cows may be harvested*** — ***Oct. 1 – Feb. 1*** *Units 22A—that portion north of the Golsovia River drainage, 22B remainder, that portion of Unit 22D in the Kuzitrin River drainage (excluding the Pilgrim River drainage), and the Agiapuk River drainages, including the tributaries, and Unit 22E—that portion east of and including the Tin Creek drainage—5* — *~~July 1-June 30~~*

WP18–32 Executive Summary		
	caribou per day. Calves may not be taken	
	Bulls may be harvested	***July 1 – Oct. 10*** ***Feb. 1 – June 30***
	Cows may be harvested	***Oct. 1 – Feb. 1***
	Unit 22A, remainder—5 caribou per day. Calves may not be taken	~~*July 1-June 30, season may be announced*~~
	Bulls may be harvested	***July 1 – Oct. 10*** ***Feb. 1 – June 30***
	Cows may be harvested	***Oct. 1 – Feb. 1***
	Unit 22D, that portion in the Pilgrim River drainage—5 caribou per day. Calves may not be taken	~~*Oct. 1-Apr. 30*~~ ~~*May 1-Sep. 30, season may be announced*~~
	Bulls may be harvested	***July 1 – Oct. 10*** ***Feb. 1 – June 30***
	Cows may be harvested	***Oct. 1 – Feb. 1***
	Units 22C, 22D remainder, 22E remainder—5 caribou per day. Calves may not be taken	~~*July 1-June 30, season may be announced*~~
	Bulls may be harvested	***July 1 – Oct. 10*** ***Feb. 1 – June 30***
	Cows may be harvested	***Oct. 1 – Feb. 1***
	Unit 23—Caribou	
	Unit 23—that portion which includes all drainages north and west of, and including, the Singoalik River drainage—5 caribou per day as follows: Calves may not be taken	
	Bulls may be harvested	*July 1-Oct.* ~~*14*~~ ***10*** *Feb. 1-June 30*
	Cows may be harvested. ~~*However, cows accompanied by calves may not be taken July*~~	~~*July 15-Apr. 30*~~ ***Oct. 1 – Feb. 1***

WP18–32 Executive Summary		
	~~*15-Oct. 14*~~	
	Unit 23, remainder—5 caribou per day, as follows: Calves may not be taken.	
	Bulls may be harvested	*July 1-Oct. ~~14~~ **10*** *Feb. 1-June 30*
	Cows may be harvested. ~~However, cows accompanied by calves may not be taken July 31-Oct. 14~~	*July 31-Mar. 31* ***Oct. 1 – Feb. 1***
	Unit 24—Caribou	
	Unit 24A—that portion south of the south bank of the Kanuti River—1 caribou	*Aug. 10-Mar. 31*
	Unit 24B—that portion south of the south bank of the Kanuti River, upstream from and including that portion of the Kanuti-Kilolitna River drainage, bounded by the southeast bank of the Kodosin-Nolitna Creek, then downstream along the east bank of the Kanuti-Kilolitna River to its confluence with the Kanuti River—1 caribou	*Aug. 10-Mar. 31*
	Units 24A remainder, 24B remainder—5 caribou per day as follows: Calves may not be taken.	
	Bulls may be harvested	*July 1-Oct. ~~14~~**10*** *Feb. 1-June 30*
	Cows may be harvested	~~*July 15-Apr. 30*~~ ***Oct. 1 – Feb. 1***
	Units 24C, 24D—5 caribou per day as follows: Calves may not be taken.	
	Bulls may be harvested.	*July 1-Oct. ~~14~~**10*** *Feb. 1-June 30*

WP18–32 Executive Summary		
	Cows may be harvested	~~*Sep. 1-Mar. 31*~~ ***Oct. 1 – Feb. 1***
	Unit 25A—Caribou	
	Unit 25A—in those portions west of the east bank of the East Fork of the Chandalar River extending from its confluence with the ***Teedriijik (****Chandalar****)*** *River upstream to Guilbeau Pass and north of the south bank of the mainstem of the* ***Teedriijik (Chandalar)*** *River at its confluence with the East Fork Chandalar River west (and north of the south bank) along the West Fork* ***Ch'idriinjik(****Chandalar****)*** *River—10 caribou. However, only bulls may be taken May 16-June 30*	~~*July 1-June 30*~~
	Bulls may be harvested	***July 1 – Oct. 10*** ***Feb. 1 – June 30***
	Cows may be harvested	***Oct. 1 – Feb. 1***
	Unit 25A remainder, 25B, and Unit 25D, remainder—10 caribou	*July 1-Apr. 30*
	Unit 26—Caribou	
	Unit 26A—that portion of the Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Sea south and west of, and including the Utukok River drainage—5 caribou per day as follows: Calves may not be taken.	
	Bulls may be harvested	*July 1-Oct.* ~~*14.*~~***10*** ~~*Dec. 6*~~ ***Feb. 1****-June 30*
	Cows may be harvested; ~~*however, cows accompanied by calves may not be taken July 16-Oct. 15*~~	~~*July 16-Mar. 15*~~ ***Oct. 1 – Feb. 1***

WP18–32 Executive Summary	
	Unit 26A remainder—5 caribou per day as follows: Calves may not be taken. *Bulls may be harvested* — *July 1-Oct. ~~15~~ **10** ~~Dec. 6~~ **Feb. 1**-June 30* *Up to 3 cows per day may be harvested; ~~however, cows accompanied by calves may not be taken July 16-Oct. 15~~* — *~~July 16-Mar. 15~~* ***Oct. 1 – Feb. 1*** *Unit 26B, that portion south of 69°30' N. lat. and west of the Dalton Highway—5 caribou per day as follows:* *Bulls may be harvested* — *July 1-Oct. ~~14.~~**10** ~~Dec. 10~~ **Feb. 1**-June 30* *Cows may be harvested* — *~~July 1-Apr. 30~~* ***Oct. 1 – Feb. 1*** *Unit 26B remainder—5 caribou per day as follows:* *Bulls may be harvested.* — *~~July 1-June 30~~* ***July 1 – Oct. 10 Feb. 1 – June 30*** *Cows may be harvested.* — *~~July 1-May 15~~* ***Oct. 1 – Feb. 1*** *You may not transport more than 5 caribou per regulatory year from Unit 26 except to the community of Anaktuvuk Pass*
OSM Conclusion	**Oppose**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	

WP18–32 Executive Summary	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	**Oppose**
Seward Peninsula Subsistence Regional Advisory Council Recommendation	**Oppose**
Northwest Arctic Subsistence Regional Advisory Council Recommendation	**Oppose** (Unit 23 only) and **No Action Taken** on Units 21D, 22, 24, 25A(West), 26A and 26B
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	**Oppose**

WP18–32 Executive Summary	
North Slope Subsistence Regional Advisory Council Recommendation	**Oppose**
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Oppose**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-32

ISSUES

Proposal WP18-32, submitted by the Western Interior Alaska Subsistence Regional Advisory Council, requests changes to the caribou season dates on Federal public lands in Units 21D, 22, 23, 24, 25A (West), 26A, and 26B.

DISCUSSION

The proponent requests changes to Federal caribou regulations to protect cows from the Western Arctic Caribou Herd (WACH), Teshekpuk Caribou Herd (TCH), and the Central Arctic Caribou Herd (CACH) during the fall and spring migration. The proponent states that reducing the exposure of cows to hunting during migration will avoid migration deflections because cows lead migration. The proponent also requests changes to the bull seasons to prohibit bull harvest when they are not palatable during the rut. To align seasons between the State and Federal regulations, the proponent intends to submit an agenda change request to the Alaska Board of Game (BOG).

Existing Federal Regulation

Unit 21D—Caribou

Unit 21D—north of the Yukon River and east of the Koyukuk River—caribou may be taken during a winter season to be announced	*Winter season to be announced*
Unit 21D, remainder—5 caribou per day, as follows: Calves may not be taken.	
Bulls may be harvested	*July 1-Oct. 14* *Feb. 1-June 30*
Cows may be harvested	*Sep. 1-Mar. 31*

Unit 22—Caribou

Unit 22B—that portion west of Golovnin Bay and west of a line along the west bank of the Fish and Niukluk Rivers to the mouth of the Libby River, and excluding all portions of the Niukluk River drainage upstream from and including the Libby River drainage—5 caribou per day. Calves may not be taken	*Oct. 1-Apr. 30* *May 1-Sep. 30, a season may be announced*
Units 22A—that portion north of the Golsovia River drainage, 22B	*July 1-June 30*

remainder, that portion of Unit 22D in the Kuzitrin River drainage (excluding the Pilgrim River drainage), and the Agiapuk River drainages, including the tributaries, and Unit 22E—that portion east of and including the Tin Creek drainage—5 caribou per day. Calves may not be taken	
Unit 22A, remainder—5 caribou per day. Calves may not be taken.	*July 1-June 30, season may be announced*
Unit 22D, that portion in the Pilgrim River drainage—5 caribou per day. Calves may not be taken	*Oct. 1-Apr. 30* *May 1-Sep. 30, season may be announced*
Units 22C, 22D remainder, 22E remainder—5 caribou per day. Calves may not be taken	*July 1-June 30, season may be announced*

Unit 23—Caribou

Unit 23—that portion which includes all drainages north and west of, and including, the Singoalik River drainage—5 caribou per day as follows: Calves may not be taken	
Bulls may be harvested	*July 1-Oct. 14* *Feb. 1-June 30*
Cows may be harvested. However, cows accompanied by calves may not be taken July 15-Oct. 14	*July 15-Apr. 30*
Unit 23, remainder—5 caribou per day, as follows: Calves may not be taken.	
Bulls may be harvested	*July 1-Oct. 14* *Feb. 1-June 30*
Cows may be harvested. However, cows accompanied by calves may not be taken July 31-Oct. 14	*July 31-Mar. 31*

Unit 24—Caribou

Unit 24A—that portion south of the south bank of the Kanuti River—1 caribou	*Aug. 10-Mar. 31*
Unit 24B—that portion south of the south bank of the Kanuti River, upstream from and including that portion of the Kanuti-Kilolitna	*Aug. 10-Mar. 31*

River drainage, bounded by the southeast bank of the Kodosin-Nolitna Creek, then downstream along the east bank of the Kanuti-Kilolitna River to its confluence with the Kanuti River—1 caribou	
Units 24A remainder, 24B remainder—5 caribou per day as follows: Calves may not be taken	
Bulls may be harvested	*July 1-Oct. 14.* *Feb. 1-June 30*
Cows may be harvested	*July 15-Apr. 30*
Units 24C, 24D—5 caribou per day as follows: Calves may not be taken.	
Bulls may be harvested	*July 1-Oct. 14* *Feb. 1-June 30*
Cows may be harvested	*Sep. 1-Mar. 31*

Unit 25A—Caribou

Unit 25A—in those portions west of the east bank of the East Fork of the Chandalar River extending from its confluence with the Chandalar River upstream to Guilbeau Pass and north of the south bank of the mainstem of the Chandalar River at its confluence with the East Fork Chandalar River west (and north of the south bank) along the West Fork Chandalar River—10 caribou. However, only bulls may be taken May 16-June 30	*July 1-June 30*
Unit 25A remainder, 25B, and Unit 25D, remainder—10 caribou	*July 1-Apr. 30*

Unit 26—Caribou

Unit 26A—that portion of the Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Sea south and west of, and including the Utukok River drainage—5 caribou per day as follows: Calves may not be taken	
Bulls may be harvested	*July 1-Oct. 14* *Dec. 6-June 30*

Cows may be harvested; however, cows accompanied by calves may not be taken July 16-Oct. 15	*July 16-Mar. 15*
Unit 26A remainder—5 caribou per day as follows: Calves may not be taken.	
Bulls may be harvested	*July 1-Oct. 15* *Dec. 6-June 30*
Up to 3 cows per day may be harvested; however, cows accompanied by calves may not be taken July 16-Oct. 15	*July 16-Mar. 15*
Unit 26B, that portion south of 69°30′ N. lat. and west of the Dalton Highway—5 caribou per day as follows:	
Bulls may be harvested	*July 1-Oct. 14* *Dec. 10-June 30*
Cows may be harvested	*July 1-Apr. 30*
Unit 26B remainder—5 caribou per day as follows: *Bulls may be harvested.*	*July 1-June 30*
Cows may be harvested	*July 1-May 15*
You may not transport more than 5 caribou per regulatory year from Unit 26 except to the community of Anaktuvuk Pass	

Proposed Federal Regulations

Unit 21D—Caribou

Unit 21D—north of the Yukon River and east of the Koyukuk River—caribou may be taken during a winter season to be announced	*Winter season to be announced*
Unit 21D, remainder—5 caribou per day, as follows: Calves may not be taken.	
Bulls may be harvested	*July 1-Oct. ~~14~~* ***10*** *Feb. 1-June 30*
Cows may be harvested	*~~Sep. 1-Mar. 31~~* ***Oct. 1 – Feb. 1***

Unit 22—Caribou

Unit 22B—that portion west of Golovnin Bay and west of a line along the west bank of the Fish and Niukluk Rivers to the mouth of the Libby River, and excluding all portions of the Niukluk River drainage upstream from and including the Libby River drainage—5 caribou per day. Calves may not be taken	~~*Oct. 1-Apr. 30*~~ ~~*May 1-Sep. 30, a season may be announced*~~
Bulls may be harvested	***July 1 – Oct. 10*** ***Feb. 1 – June 30***
Cows may be harvested	***Oct. 1 – Feb. 1***
Units 22A—that portion north of the Golsovia River drainage, 22B remainder, that portion of Unit 22D in the Kuzitrin River drainage (excluding the Pilgrim River drainage), and the Agiapuk River drainages, including the tributaries, and Unit 22E—that portion east of and including the Tin Creek drainage—5 caribou per day. Calves may not be taken	~~*July 1-June 30*~~
Bulls may be harvested	***July 1 – Oct. 10*** ***Feb. 1 – June 30***
Cows may be harvested	***Oct. 1 – Feb. 1***
Unit 22A, remainder—5 caribou per day. Calves may not be taken	~~*July 1-June 30, season may be announced*~~
Bulls may be harvested	***July 1 – Oct. 10*** ***Feb. 1 – June 30***
Cows may be harvested	***Oct. 1 – Feb. 1***
Unit 22D, that portion in the Pilgrim River drainage—5 caribou per day. Calves may not be taken	~~*Oct. 1-Apr. 30*~~ ~~*May 1-Sep. 30, season may be announced*~~
Bulls may be harvested	***July 1 – Oct. 10*** ***Feb. 1 – June 30***
Cows may be harvested	***Oct. 1 – Feb. 1***
Units 22C, 22D remainder, 22E remainder—5 caribou per day. Calves may not be taken	~~*July 1-June 30, season may be announced*~~

Bulls may be harvested	***July 1 – Oct. 10*** ***Feb. 1 – June 30***
Cows may be harvested	***Oct. 1 – Feb. 1***

Unit 23—Caribou

Unit 23—that portion which includes all drainages north and west of, and including, the Singoalik River drainage—5 caribou per day as follows: Calves may not be taken	
Bulls may be harvested	*July 1-Oct. ~~14~~* ***10*** *Feb. 1-June 30*
Cows may be harvested. ~~However, cows accompanied by calves may not be taken July 15-Oct. 14~~	*~~July 15-Apr. 30~~* ***Oct. 1 – Feb. 1***
Unit 23, remainder—5 caribou per day, as follows: Calves may not be taken.	
Bulls may be harvested	*July 1-Oct. ~~14~~* ***10*** *Feb. 1-June 30*
Cows may be harvested. ~~However, cows accompanied by calves may not be taken July 31-Oct. 14~~	*~~July 31-Mar. 31~~* ***Oct. 1 – Feb. 1***

Unit 24—Caribou

Unit 24A—that portion south of the south bank of the Kanuti River—1 caribou	*Aug. 10-Mar. 31*
Unit 24B—that portion south of the south bank of the Kanuti River, upstream from and including that portion of the Kanuti-Kilolitna River drainage, bounded by the southeast bank of the Kodosin-Nolitna Creek, then downstream along the east bank of the Kanuti-Kilolitna River to its confluence with the Kanuti River—1 caribou	*Aug. 10-Mar. 31*
Units 24A remainder, 24B remainder—5 caribou per day as follows: Calves may not be taken.	

Bulls may be harvested	*July 1-Oct. ~~14.~~* ***10*** *Feb. 1-June 30*
Cows may be harvested	~~*July 15-Apr. 30*~~ ***Oct. 1 – Feb. 1***
Units 24C, 24D—5 caribou per day as follows: Calves may not be taken.	
Bulls may be harvested.	*July 1-Oct. ~~14~~* ***10*** *Feb. 1-June 30*
Cows may be harvested	~~*Sep. 1-Mar. 31*~~ ***Oct. 1 – Feb. 1***

Unit 25A—Caribou

Unit 25A—in those portions west of the east bank of the East Fork of the Chandalar River extending from its confluence with the ***Teedriijik (****Chandalar****)*** *River upstream to Guilbeau Pass and north of the south bank of the mainstem of the* ***Teedriijik (Chandalar)*** *River at its confluence with the East Fork Chandalar River west (and north of the south bank) along the West Fork* ***Ch'idriinjik(****Chandalar****)*** *River—10 caribou. However, only bulls may be taken May 16-June 30*	~~*July 1-June 30*~~
Bulls may be harvested	***July 1 – Oct. 10*** ***Feb. 1 – June 30***
Cows may be harvested	***Oct. 1 – Feb. 1***
Unit 25A remainder, 25B, and Unit 25D, remainder—10 caribou	*July 1-Apr. 30*

Unit 26—Caribou

Unit 26A—that portion of the Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Sea south and west of, and including the Utukok River drainage—5 caribou per day as follows: Calves may not be taken.	
Bulls may be harvested	*July 1-Oct. ~~14.~~****10*** ~~*Dec. 6*~~ ***Feb. 1****-June 30*

Cows may be harvested; ~~however, cows accompanied by calves may not be taken July 16-Oct. 15~~	*~~July 16-Mar. 15~~* ***Oct. 1 – Feb. 1***
Unit 26A remainder—5 caribou per day as follows: Calves may not be taken.	
Bulls may be harvested	*July 1-Oct. ~~15~~* ***10*** *~~Dec. 6~~* ***Feb. 1****-June 30*
Up to 3 cows per day may be harvested; ~~however, cows accompanied by calves may not be taken July 16-Oct. 15~~	*~~July 16-Mar. 15~~* ***Oct. 1 – Feb. 1***
Unit 26B, that portion south of 69°30′ N. lat. and west of the Dalton Highway—5 caribou per day as follows:	
Bulls may be harvested	*July 1-Oct. ~~14.~~****10*** *~~Dec. 10~~* ***Feb. 1****-June 30*
Cows may be harvested	*~~July 1-Apr. 30~~* ***Oct. 1 – Feb. 1***
Unit 26B remainder—5 caribou per day as follows: *Bulls may be harvested.*	*~~July 1-June 30~~* ***July 1 – Oct. 10*** ***Feb. 1 – June 30***
Cows may be harvested.	*~~July 1-May 15~~* ***Oct. 1 – Feb. 1***
You may not transport more than 5 caribou per regulatory year from Unit 26 except to the community of Anaktuvuk Pass	

Existing State Regulations

Unit 21D—Caribou

21A	*Residents and Nonresidents: 1 bull*	*HT*	*Aug. 10 – June 30*
21B, north of the Yukon River and downstream from Ukawutni Creek	*Residents and Nonresidents*		*No open season*

21B remainder	*Residents and Nonresidents: 1 caribou*	*HT*	*Aug. 10 – Sept. 30*
21C, Dulbi River drainage and Melozitna River drainages downstream from Big Creek	*Residents and Nonresidents*		*No open season*
21C remainder	*Residents and Nonresidents: 1 caribou*	*HT*	*Aug. 10 – Sept. 30*
21D, north of the Yukon River and east of the Koyukuk River	*Residents: 2 caribou may be taken during the winter season*	*HT*	*may be announced*
21D remainder	*Residents: 5 caribou per day however, calves may not be taken*		
	Bulls	*HT*	*July 1 – Oct. 14* *Feb. 1 – June 30*
	Cows	*HT*	*Sept. 1 – Mar. 31*
	Nonresidents: 1 bull however calves may not be taken	*HT*	*Aug. 1 – Sept. 30*
21E	*Residents and Nonresidents: 1 caribou*	*HT*	*Aug. 10 – Sept. 30*

Unit 22—Caribou

22A, that portion north of the Golsovia River drainage	*Residents— 5 caribou per day, by registration permit only, up to 20 caribou total; as follows:*		

	Up to 5 bulls per day; however, calves may not be taken;	*RC800*	*no closed season*
			July 1-Mar. 31
	Up to 5 cows per day; however, calves may not be taken	*RC800*	
			Aug. 1-Sept. 30
	Nonresidents—1 bull; however, calves may not be taken	*HT*	
22A remainder	*Residents—5 caribou per day, by registration permit only, up to 20 caribou total; as follows:*		
	Up to 5 bulls per day: however calves may not be taken; bulls may not be taken Oct. 15-Jan. 31.	*RC800*	*may be announced*
	Nonresidents—1 bull; however, calves may not be taken	*HT*	*may be announced*
Unit 22B, that portion west of Golovnin Bay, and west of a line along the west bank of the Fish and Niukluk rivers to the mouth of the Libby river, and excluding all portions of the Niukluk River drainage upstream from and including the Libby River drainage	*Residents—5 caribou per day, by registration permit only, up to 20 caribou total; as follows:*		
	Up to 5 bulls per day; however, calves may not be taken;	*RC800*	*Oct. 1-Apr. 30*
	Up to 5 cows per day; however, calves may not be taken	*RC800*	*Oct. 1-Mar. 31*
	Up to 5 caribou per day; however, calves may not be taken; during the period May 1-Sept. 30, a season may be	*RC800*	*may be announced*

	announced by emergency order; however, cow caribou may not be taken April 1-Aug. 31		*may be announced*
	Nonresidents: 1 bull; however, calves may not be taken; during the period Aug. 1-Sept. 30, a season may be announced by emergency order	*HT*	
22B Remainder	*Residents—5 caribou per day, by registration permit only, up to 20 caribou total; as follows:*		
	Up to 5 bulls per day; however, calves may not be taken	*RC800*	*no closed season*
	Up to 5 cows per day; however, calves may not be taken	*RC800*	*July. 1-Mar. 31*
	Nonresidents—1 bull; however, calves may not be taken	*HT*	*Aug. 1-Sept. 30*
22C	*Residents—5 caribou per day, by registration permit only, up to 20 caribou total; as follows:*		
	Up to 5 bulls per day: however calves may not be taken; bulls may not be taken Oct. 15-Jan. 31.	*RC800*	*may be announced*
	Up to 5 cows per day: however calves may not be taken; cows may not	*RC800*	*may be announced*

	be taken Apr. 1-Aug. 31.		
	Nonresidents—1 bull; however, calves may not be taken	*HT*	*may be announced*
22D, that portion in the Pilgrim River drainage	*Residents—5 caribou per day, by registration permit only, up to 20 caribou total; as follows:*		
	Up to 5 bulls per day; however, calves may not be taken	*RC800*	*Oct. 1-Apr. 30*
	Up to 5 cows per day; however, calves may not be taken	*RC800*	*Oct. 1-Mar. 31*
	Up to 5 caribou per day; however, calves may not be taken; during the period May 1-Sept. 30, a season may be announced by emergency order; however, cow caribou may not be taken April 1-Aug. 31	*RC800*	*may be announced*
	Nonresidents: 1 bull; however, calves may not be taken; during the period Aug. 1-Sept. 30, a season may be announced by emergency order	*HT*	*may be announced*
22D, that portion in the Kuzitrin River drainage (excluding the Pilgrim River drainage) and the Agiapuk river	*Residents—5 caribou per day, by registration permit only, up to 20 caribou total; as follows:*		
	Up to 5 bulls per day;	*RC800*	*no closed season*

drainage, including tributaries	*however, calves may not be taken*		
	Up to 5 cows per day; however, calves may not be taken	*RC800*	*July 1-Mar. 31*
	Nonresidents—1 bull; however, calves may not be taken	*HT*	*Aug. 1-Sept. 30*
22E, that portion east of and including the Sanaguich River drainage	*Residents—5 caribou per day, by registration permit only, up to 20 caribou total; as follows:*		
	Up to 5 bulls per day; however, calves may not be taken	*RC800*	*no closed season*
	Up to 5 cows per day; however, calves may not be taken	*RC800*	*July 1-Mar. 31*
	Nonresidents—1 bull; however, calves may not be taken	*HT*	*Aug. 1-Sept. 30*
22E Remainder	*Residents—5 caribou per day, by registration permit only; up to 20 caribou total; as follows:*	*RC800*	*may be announced*
	Up to 5 bulls per day: however calves may not be taken; bulls may not be taken Oct. 15-Jan. 31.	*RC800*	*may be announced*
	Up to 5 cows per day: however calves may not be taken; cows may not be taken Apr. 1-Aug. 31.	*RC800*	*may be announced*

	Nonresidents—1 bull; however, calves may not be taken;	*HT*	*may be announced*

Unit 23—Caribou

23, north of and including the Singoalik River drainage	*Residents—5 caribou per day; however, calves may not be taken.*		
	Bulls	*RC907*	*July 1-Oct. 14* *Feb. 1-June 30*
	Cows	*RC907*	*Jul. 15-Apr. 30*
	Nonresidents—1 bull; however, calves may not be taken	*HT*	*Aug. 1 – Sept. 30*
23 remainder	*Residents—5 caribou per day; however, calves may not be taken.*		
	Bulls	*RC907*	*July 1-Oct. 14* *Feb. 1-June 30*
	Cows	*RC907*	*Sept. 1-Mar. 31*
	Nonresidents—1 bull; however, calves may not be taken	*HT*	*Aug. 1-Sept. 30*

Unit 24—Caribou

24A, south of the south bank of the Kanuti River	*Resident Hunters: 1 caribou*	*HT*	*Aug. 10 – Mar. 31*
	Nonresident Hunters: 1 caribou	*HT*	*Aug. 10 – Sept. 30*

24A, remainder	*Resident Hunters: 2 caribou*	*HT*	*July 1 – Apr. 30*
	Nonresident Hunters: 2 bulls	*HT*	*Aug 1 – Sept. 30*
24B, south of the south bank of the Kanuti River, upstream from and including that portion of the Kanuti-Kilolitna River drainage, bounded by the southeast bank of the Kodosin-Nolitna Creek, then downstream along the east bank of the Kanuti-Kilolitna River to its confluence with the Kanuti River	*Resident Hunters: 1 caribou*	*HT*	*Aug. 10 – Mar. 31*
	Nonresident Hunters: 1 caribou	*HT*	*Aug. 10 – Sept. 30*
24B remainder	*Resident Hunters: 5 caribou per day however, calves may not be taken.*		
	Bulls	*HT*	*July 1 – Oct.14* *Feb1 – June 30*
	Cows	*HT*	*July 15 – Apr. 30*
	Nonresident Hunters: 1 bull	*HT*	*Aug. 1 – Sept. 30*
24C, 24D	*Resident Hunters: 5 caribou per day however, calves may not be taken.*		

	Bulls	*HT*	*July 1- Oct. 14* *Feb 1 – June 30*
	Cows	*HT*	*Sept. 1- Mar. 31*
	Nonresident Hunters: 1 bull however calves may not be taken	*HT*	*Aug. 1 – Sept. 30*

Unit 25A—Caribou

25A, 25B, 25D remainder	*Resident Hunters: 10 caribou*	*HT*	*July 1-Apr. 30*
	Nonresident Hunters: 2 bulls	*HT*	*Aug. 1 – Sept. 30*

Unit 26—Caribou

Unit 26A the Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Sea south and west of, and including the Utukok River drainage	*Resident Hunters: 5 caribou per day, however, calves may not be taken:*		
	Bulls	*RC907*	*July 1 – Oct. 14* *Feb. 1 – June 30*
	Cows	*RC907*	*July 15 – Apr. 30*
	Nonresident hunters: 1 bull; however, calves may not be taken	*HT*	*July 15– Sept.30*
Unit 26A remainder	*Resident Hunters: 5 bulls per day; however, calves may not be taken*	*RC907*	*July 1 – July 15* *Mar. 16-June 30*

	5 caribou per day three of which may be cows: calves may not be taken, and cows with calves may not be taken	*RC907*	*July 16 – Oct. 15*
	3 cows per day however, calves may not be taken	*RC907*	*Oct. 16 – Dec. 31*
	5 caribou per day three of which may be cows; calves may not be taken	*RC907*	*Jan. 1 – Mar. 15*
	Nonresident Hunters: 1 bull however, calves may not be taken	*HT*	*July 15 – Sept. 30*

Unit 26B—Caribou

Unit 26(B), Northwest portion north of the 69° 30' N. lat. and west of the east bank of the Kuparuk River to a point at 70° 10' N. lat., 149° 04' W. long., and west approximately 22 miles to 70°10' N. lat and 149°56' W. long, then following the east bank of the Kalubik River to the Arctic Ocean	*Resident Hunters: 5 caribou per day*		
	Bulls	*HT*	*No closed season*
	Cows	*HT*	*July 1- May 15*
	Nonresident Hunters: 1-bull	*HT*	*Aug. 1-Sept 15*
26B remainder	*Resident Hunters: 2 bulls*	*HT*	*Aug. 1-Apr. 30*
	Nonresident Hunters: 1 bull	*HT*	*Aug. 1-Sept. 15*

Extent of Federal Public Lands

Federal public lands comprise approximately 56% of Unit 21D and consist of 53% U.S. Fish and Wildlife Service (USFWS) managed lands and 47% Bureau of Land Management (BLM) managed lands (see **Unit 21 Map**).

Federal public lands comprise approximately 43% of Unit 22 and consist of 65% BLM managed lands, 29% National Park Service (NPS) managed lands, and 7% USFWS managed lands (see **Unit 22 Map**).

Federal public lands comprise approximately 71% of Unit 23 and consist of 56% NPS managed lands, 31% BLM managed lands, and 13% USFWS managed lands (see **Unit 23 Map**).

Federal public lands comprise approximately 64% of Unit 24 and consist of 34% USFWS managed lands, 34% NPS managed lands, and 33% BLM managed lands (see **Unit 24 Map**).

Federal public lands comprise approximately 76% of Unit 25A and consist of 97% USFWS managed lands and 3% BLM managed lands (see **Unit 25 Map**)

Federal public lands comprise approximately 73% of Unit 26A and consist of 66.9% BLM managed lands, 6.6% National Park Service (NPS) managed lands, and 0.1% USFWS managed lands. Federal public lands comprise approximately 29% of Unit 26B and consist of 22.8% USFWS managed lands, 3.6% BLM managed lands, and 2.7% NPS managed lands (see **Unit 26 Map**).

Customary and Traditional Use Determinations

Residents that have a customary and traditional use determination for caribou in Units 21, 22, 23, 24, 25A, 26A and 26B are presented in **Table 1**.

Table 1. Unit specific customary and traditional use determinations for caribou

UNIT	CUSTOMARY AND TRADITIONAL DETERMINATION
21D	Residents of Units 21B, 21C, 21D, and Huslia
22A	Residents of Units 21D west of the Koyukuk and Yukon Rivers, 22 (except residents of St. Lawrence Island), 23, 24, Kotlik, Emmonak, Hooper Bay, Scammon Bay, Chevak, Marshall, Mountain Village, Pilot Station, Pitka's Point, Russian Mission, St. Marys, Nunam Iqua, and Alakanuk
22 Remainder	Residents of Units 21D west of the Koyukuk and Yukon Rivers, 22 (excluding residents of St. Lawrence Island), 23, and 24
23	Residents of Unit 21D west of the Koyukuk and Yukon Rivers, Galena, 22, 23, 24 including residents of Wiseman but no other residents of the Dalton Highway Corridor Management Area and 26A
24	Residents of Unit 24, Galena, Kobuk, Koyukuk, Stevens Village, and Tanana
25A	Residents of Units 24A and 25
26A and 26C	Residents of Unit 26 (except the Prudhoe Bay–Deadhorse Industrial Complex), Anaktuvuk Pass, and Point Hope
26B	Residents of Unit 26, Anaktuvuk Pass, Point Hope, and Unit 24 within the Dalton Highway Corridor Management Corridor Area (DHCMA)

Regulatory History

See **Appendix A** for a summary of the regulatory history.

Current Events

Several proposals concerning Federal caribou harvest regulations in Unit 23 and Unit 26 were submitted for the 2018-2020 wildlife regulatory cycle.

At the Northwest Arctic Subsistence Regional Advisory Council meeting in March 2017, the Council voted to submit a proposal to decrease the caribou harvest limit in Unit 23 from 5 to 3 caribou/day (WP18-45).

The North Slope Subsistence Regional Advisory Council submitted a proposal requesting that Federal public lands in Units 26A and 26B be closed to caribou hunting by non-Federally qualified users (NFQU) (WP18-57).

Two proposals, the first submitted by the Western Arctic Caribou Herd Working Group (WACH Working Group) (WP18-46), and the second by Enoch Mitchell of Noatak (WP18-47), request that Federal public lands in Unit 23 be closed to caribou hunting except by Federally qualified subsistence users. Proposal WP18-47 specifically requests that the closure extend from 2018/19-2020/21 only.

Two proposals, the first submitted by the WACH Working Group (WP18-48) and the second by Louis Cusack (WP18-49), request that Federal reporting requirements for caribou in Units 22, 23, and 26A be aligned with the State's registration permit requirements.

Biological Background

The TCH, WACH, and CACH have ranges that overlap in Unit 26A (**Map 1**) and there can be considerable mixing of herds during the fall and winter (Hemming 1971). During the early 2000s, the number of caribou from the WACH, TCH, CACH, and Porcupine Caribou Herd (PCH) peaked at over 700,000 animals, which may be the highest number since the 1970s (OSM 2017b). Currently, the WACH, TCH, and CACH populations are all declining (Dau 2011, Lenart 2011, Parrett 2011). After declining slowly during the 1990s and early 2000s, the PCH has been increasing and by 2016 was at 197,000, which is the highest population yet recorded for this herd (OSM 2017b). In some years, harvest on Federal public lands within the Arctic National Wildlife Refuge (Arctic NWR) in Unit 26B is primarily from the PCH (Arthur 2017 pers. comm.).

Caribou abundance naturally fluctuates over decades (Gunn 2001, WACH Working Group 2011) and this may result in proportional constrictions and expansions of migratory pathways that shift caribou near or away from communities. Other factors may influence migratory patterns such as human disturbance, industrial development, habitat suitability, and climactic conditions. The influence of NFQU hunting activities, especially the use of aircraft and motorized vehicles as well as the harvest of lead caribou adjacent to what are considered important migratory corridors, has been an ongoing and contentious topic in the northwestern Arctic, since at least the 1980s (Georgette and Loon 1988, Jacobson 2008, Harrington and Fix 2009, Fix and Ackerman 2015, Halas 2015, NWARAC 2015, Braem et al. 2015). In the Northwest Arctic, the Unit 23 Working Group was established to assist with some of these concerns among various user groups. These user conflicts were, in part, the impetus for the closure of Federal public lands to NFQU in Unit 23 for the 2016/2017 regulatory year. Gunn (2001) reports the mean doubling rate for Alaskan caribou as 10 ± 2.3 years. Although the underlying mechanisms causing these fluctuations are uncertain, Gunn (2001) suggests climatic oscillations (i.e. Arctic and Pacific Decadal Oscillations) as the primary factor, exacerbated by predation and density-dependent reduction in forage availability resulting in poorer body condition. During the 1970s, there was little overlap between these four herds, but the degree of mixing seemed to have increased as the herds grew in the early 2000s (Lenart 2011, Dau 2011, Parrett 2011).

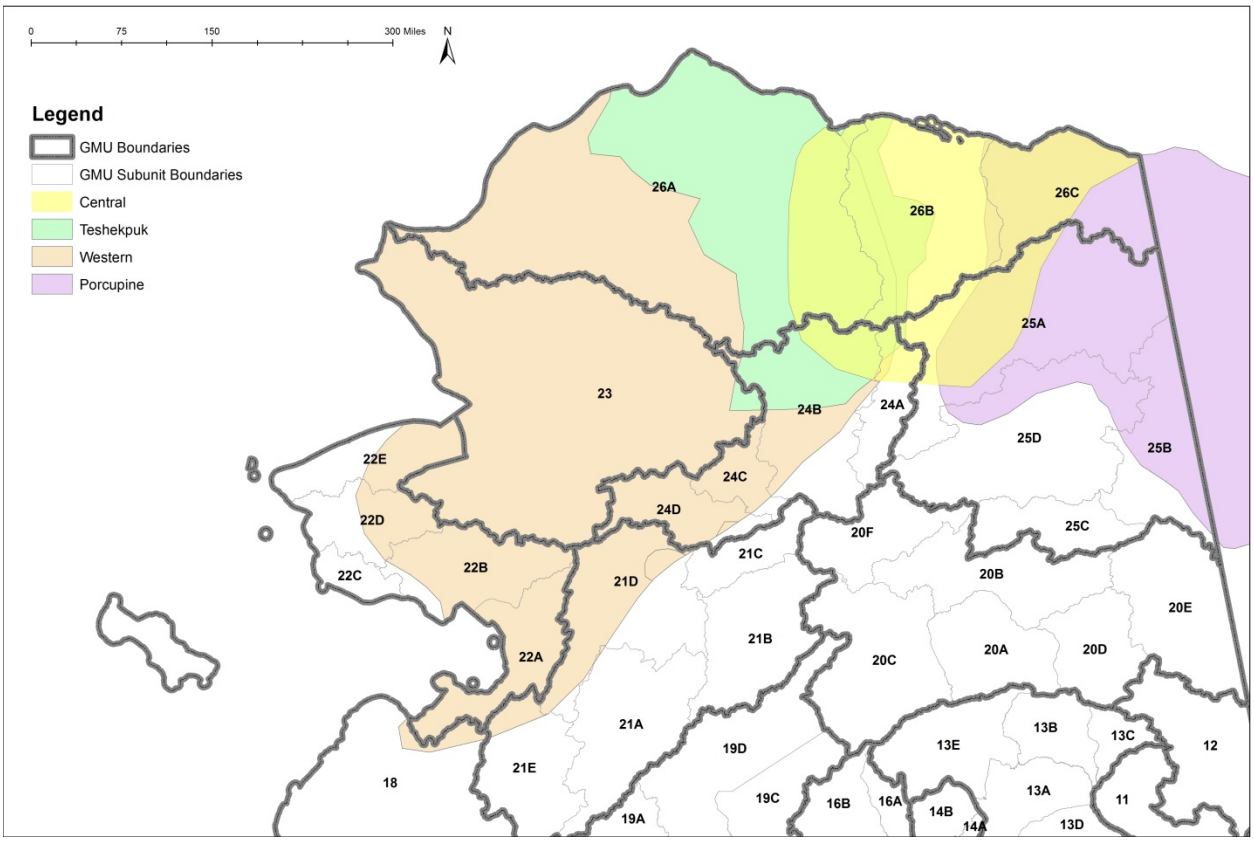
Caribou calving generally occurs during late May and early June. Weaning generally occurs in late October and early November before the breeding season (Taillon et al. 2011). Calves stay with their mothers through their first winter, which improves calves' access to food and body condition. Joly (2000) found that calves orphaned later in life have greater chances of surviving. Data from Russell et al. (1991)

suggests 50% and 75% of the calves orphaned in September and November, respectively, survived the winter (Joly 2000). Indeed, there is little evidence that calves orphaned after weaning experience strongly reduced overwintering survival rates than non-orphaned calves (Rughetti and Festa-Bianchet 2014, Joly 2000, Holand et al. 2012), although Holand et al. (2012) found orphaned calves to have greater losses of winter body mass than non-orphaned calves.

The WACH, TCH, and CACH migrate between seasonal summer and winter ranges and calving areas. Over many years, traditional migration routes have developed in response to spatial and temporal variability of environmental conditions encountered (Duquette 1988). Migration routes that were successful in previous years are likely learned by young caribou following older, more experienced animals (Pullainen 1974). Maintaining connectivity between the seasonal areas is important because restoring disturbed migration routes can be challenging (Wilcove and Wikelski 2008, Singh and Milner-Gulland 2011). Long-term climate changes may affect seasonal ranges and migratory patterns through changes in forage abundance, habitat quality, and weather (Joly et al. 2011). In addition, increased development along migration routes could increase energy costs, impede movements, or deflect caribou to less optimal areas. Understanding the importance of spatial and temporal variation of the seasonal habitat use and the migration routes are important considerations for management of caribou herds.

Central Arctic Caribou Herd

The CACH range includes the area from the eastern portion of the Arctic coastal plain of the North Slope to the Canadian border, the north side of the Brooks Range from the Itkillik River to the Canadian border, the south side of the Brooks Range from the North Fork of the Koyukuk River to the East Fork of the Teedriijik (Chandalar) River, and as far south as the Teedriijik (Chandalar) River valley (Lenart 2015). The traditional calving grounds of the CACH are between the Colville and Kuparuk rivers on the west side of the Sagavanirktok River and between the Sagavanirktok and Canning rivers on the east side. In response to oil and gas development and infrastructure in the 1990s caribou that calved in the western Unit 26B shifted their calving grounds to the southwest (Arthur and Del Vecchio 2009). The CACH summer range extends east from Fish Creek, just west of the Colville River, along the coast and inland about 30 miles to the Canadian border. Typically the CACH summer range extends from the Colville River to just east of the Katakturuk River and from the coast inland to the foothills of the Brooks Range. The winter range of the CACH occurs in either the northern and southern foothills of the Brooks Range. The CACH, except for the past two winters, were wintering on the south side of the Brooks Range in Unit 25A, between the Haul Road and Arctic Village (Lenart 2017c). In most years the CACH begin migrating toward the foothills of the Brooks Range in August and by September most of the caribou are in the foothills around Toolik Lake, Galbraith Lake, Accomplishment Creek, Ivishak River and the upper Sagavanirktok River. Depending on the year, the rut, which typically occurs in mid-October, can occur on the north or south side of the Brooks Range (Lenart 2015). The range of the CACH often overlaps with the PCH on the summer and winter ranges to the east and with the WACH and TCH herds on the summer and winter ranges to the west (**Map 1**) (Lenart 2015).



Map 1. Herd overlap and ranges of the Western Arctic, Teshekpuk, Central Arctic and Porcupine Caribou herds (Caribou Trails 2014).

The seasonal movements and migratory patterns of CACH have been studied using radio telemetry for the past 30 years (Cameron et al. 1979, Whiten and Cameron 1983, Cameron et al. 1986, Carruthers et al. 1987, Cameron et al. 1995, Cameron et al. 2005). Migratory patterns of the CACH are oriented principally north-south, from the summer range and calving areas on the tundra-dominated Arctic coastal plain to the winter range in the foothills and mountains of the Brooks Range (Cameron et al. 1979, Carruthers et al. 1987, Fancy et al. 1989, Cameron et al. 2002, Nicholson et al. 2016). Spring migration to the calving areas, which is led by pregnant females, occurs during April and May (Duquette and Klein 1987). After calving, males and non-pregnant females form large groups in mid-June (Cameron and Whitten 1979). Similar to the TCH, CACH often moves to windy areas along the Beaufort Sea coast or to areas with persistent patches of snow to avoid harassment by flies and mosquitoes during the middle of the summer (White et al. 1979). During August, when the insect activity lessens, the caribou begin a slow and irregular movement toward the foothills of the Brooks Range. The fall migration to the wintering areas starts in September and continues through November (Cameron et al. 1986, Lenart 2015).

From 2003-2007, movements of 54 caribou from the CACH were monitored (Nicholson et al. 2016). The annual summer and winter home ranges of the CACH, using a 90% fixed kernel utilization distribution, were similar in size between summer (mean = 27,929 km^2) and winter (mean = 26,585 km^2). Overlap between consecutive summer ranges was 62.4% and between consecutive winter ranges was 42.8%

(Nicholson et al. 2016). The CACH typically cross the Dalton Highway from the northwest to the southeast during the fall migration, which is away from Anaktuvuk Pass (Nicholson et al. 2016). The CACH used multiple migration routes, or a network of corridors versus a single migration route. Although caribou migratory patterns varied each year, some areas were consistently used each year. The migration paths that consistently had high caribou concentrations during spring and fall migrations each year were along the Dalton Highway between Galbraith Lake and the Ribdon River (Nicholson et al. 2016, Jack Reakoff 2017 pers. comm.).

The State manages the CACH to provide for subsistence and other hunting opportunities on a sustained yield basis. State management objectives for the CACH are as follows (Lenart 2015):

- Maintain a population of at least 28,000-32,000 caribou
- Maintain accessibility of seasonal ranges for CACH caribou
- Maintain a harvest of at least 1,400 caribou if the population is ≥ 28,000 caribou
- Maintain a ratio of at least 40 bulls:100 cows
- Reduce conflicts between consumptive and nonconsumptive uses of caribou along the Dalton Highway

When the CACH was recognized as a distinct herd in 1975, the population was estimated to be 5,000 caribou (Cameron and Whitten 1979). The population increased to approximately 23,000 in 1992 (Valkenburg 1993), decreased to 18,000 in 1995, and then increased rapidly from 27,000 in 2000 to 70,034 in 2010 (Lenart 2015). Low cow mortality, high parturition rates, and high calf survival and recruitment contributed to the population increase of approximately 12% per year from 1998-2008 (Lenart 2015). In 2013, the population dropped to approximately 50,000 and by 2016 the population decreased to 22,360 caribou, which is below State management objectives (Lenart 2011, 2013, 2017a, b). The recent decline from 2010 to 2016 represented a decline of approximately 17% per year. The late spring of 2013, which killed many adult and yearling females, likely contributed to the population decline from 2010 to 2013. Two major factors influencing the population decline from 2013 to 2016 were the high mortality of adult females and emigration (Lenart 2017b). From 2013-2016 54% of the collared females (n = 54 in 2013) died and 19% switched from the CACH to other caribou herds (Lenart 2017b). Previous research indicates that predation has not played a major role in calf mortality and it is not thought to be a major factor in the decline (Lenart 2017b). Disease is also not implicated as a major factor for the decline of the CACH (Lenart 2017b). The State attributes the decline between 2013 and 2016 censuses to a large proportion of older females that died of old age, the late spring of 2013, and herd switching (Lenart 2017a).

Composition surveys are usually conducted during the fall near the peak of the rut to take advantage of the mixing of the bulls, cows, and calves. Composition counts were conducted in 2009-2012, 2014, and 2016 (Lenart 2015, 2017a). Composition surveys were not done in 2013 because the CACH was mixed with the PCH (**Table 2**) (Lenart 2015). The calf:cow ratio did not decline until after 2012 (**Table 2**). From 2009-2012 calf:cow ratios averaged 49 calves:100 cows (**Table 2**) (Lenart 2015). The calf:cow ratio was 48 calves: 100 cows when the population dropped to 22,360 caribou in 2016 (Lenart 2017a). Calf:cow ratios for caribou ≤ 4 years old were above 70 calves:100 cows during the period when the herd was growing between 2000 and 2010 (Lenart 2017a). From 2010-2016, when the herd was declining, the

calf:cow ratio for caribou ≤ 4 years old dropped below the 70 calves:100 cows. Although the bull:cow ratio had declined to 39 bulls:100 cows in 2016, it was still close to the State recommended objective of 40 (Lenart 2015, 2017b) between 2000 and 2010 (Lenart 2017a).

Table 2. CACH sex and age composition information collected during fall composition surveys, 2009-2014 (Lenart 2015)[a].

Date	Bulls:100 cows	Calves:100 cows	Percent Calves (n)	Percent Cows (n)	Percent Bulls (n)	Sample Size	Groups
13-14 Oct. 2009	50	33	18 (1,193)	55 (3,641)	27 (1,814)	6,648	19
23 Oct. 2010	50	46	23 (889)	51 (1,930)	26 (968)	3,787	12
13 Oct. 2011	69	56	25 (1303)	44 (2,306)	31 (1,590)	5,199	22
14 Oct. 2012	56	61	23 (1,132)	55 (1,845)	22 (1,039)	4,016	15
13-14 Oct. 2014[b]	41	42	23 (462)	55 (1,097)	22 (445)	2,004	18
2016	39	48					

[a] 2016 data is incomplete (Lenart 2017b)

[b] Data may not be comparable with previous years due to small sample size.

Teshekpuk Caribou Herd

The TCH calving and summering areas overlap with the eastern portion of the National Petroleum Reserve–Alaska (NPR–A). Most of the TCH moves toward Teshekpuk Lake in May to calve in early June. The primary calving grounds of the TCH (approximately 1.8 million acres) occur to the east, southeast and northeast of Teshekpuk Lake (Person et al. 2007, Wilson et al. 2012). From late June through July cows and bulls move to the Beaufort Sea coast from Dease Inlet to the mouth of the Kogru River (Utqiagvik (Barrow) to the Colville River Delta), around the north and south side of the Teshekpuk Lake, and the sand dunes along the Ikpikpuk River to seek relief from insects (Carroll 2007, Parrett 2007). The narrow corridors of land to the east and northwest of the Teshekpuk Lake are important migratory corridors to insect relief areas as well (Yokel et al. 2009). River corridors are also used more during periods of insect harassment. Fall and winter movements are more variable, although most of the TCH winters on the coastal plain around Atqasuk, south of Teshekpuk Lake. However, the TCH has wintered as far south as the Seward Peninsula, as far east as the Arctic NWR, and in the foothills and mountains of the Brooks Range (Carroll 2007). In 2008/2009, the TCH used many of these widely disparate areas in a single year (Parrett 2011, 2015a). From 2007-2011, the TCH wintered in four relatively distinct areas: the coastal plain between Atqasuk and Wainwright; the coastal plain west of Nuiqsut; the central Brooks Range; and the shared winter ranges with the WACH in the Noatak, Kobuk, and Selawik drainages. During the winters of 2012-2013 and 2013-2014, the TCH wintered primarily near Atqasuk and Wainwright and east of Anaktuvuk Pass (Parrett 2015a).

The State manages the TCH to provide for subsistence and other hunting opportunities on a sustained yield basis, to ensure that adequate habitat exists, and provide for viewing and other uses of caribou (Parrett 2011). Specific State management objectives for the TCH are as follows (Parrett 2011):

Attempt to maintain a minimum population of 15,000 caribou, recognizing that caribou numbers naturally fluctuate.

- Maintain a harvest level of 900–2,800 caribou using strategies adapted to population levels and trends.
- Maintain a population composed of least 30 bulls per 100 cows.
- Monitor herd characteristics and population parameters (on an annual or regular basis).
- Develop a better understanding of the relationships and interactions among North Slope caribou herds.
- Encourage cooperative management of the herd and its habitat among State, Federal, and local entities and all users of the herd.
- Seek to minimize conflicts between resource development and the TCH.

Since 1984, the minimum population of the TCH has been estimated from aerial photocensuses and radio-telemetry data. Population estimates are determined by methods described by Rivest et al. (1998), which account for caribou in groups that do not have a collared animal and for missing collars. Based on these methods the TCH population increased from an estimated 18,292 caribou (minimum estimate 11,822) in 1982 to 68,932 caribou (minimum estimate 64,106) in 2008. The minimum estimates are derived from the visual estimate in 1982 and from the aerial photocensus minimum after 1982. From 2008 to 2014, the population declined by almost half to 39,000 caribou (**Figure 1**) (Parrett 2015a). Interpretation of population estimates is difficult due to movements and range overlap among caribou herds, which results in both temporary and permanent immigration and emigration (Person et al. 2007). For example, the minimum count in 2013 contained an unknown number of CACH caribou (Parrett 2015a). Following the 2013 census, Alaska Department of Fish and Game (ADF&G) made the decision to manage the TCH based on the minimum count because the bulk of the animals that were estimated rather than counted were with the WACH at the time of the photocensus (Parrett 2015b, pers. comm.). In 2015, the minimum count was 35,181 with a population estimate of 41,542 (SE = 3,486) (Parrett 2017a, pers. comm.).

In 2013 and 2016 the number of bulls:100 cows was39 bulls:100 cows and 28 bulls:100 cows in 2016, respectively (**Figure 2**) (Parrett 2011, 2013, 2015a, Parrett 2017a, pers. comm.). Comparison of bull:cow and calf:cow ratios from 1991-2000 and later years is not possible due to changes in methodology. From 2009-2013 the calf:cow ratio increased from 18 calves:100 cows to 48 calves: 100 cows in 2016 (Parrett 2013, 2015a, Parrett 2017a, pers. comm.). In addition, the number of short–yearlings:adults, which is a measure of recruitment, declined from an average of 20 short–yearlings:100 adults between 1999 and 2008 to an average of 14 short–yearlings:100 adults from 2009-2014 (**Figure 3**) (Parrett 2013) and increased in 2016 to 29 short-yearlings:100 adults (Parrett 2017a, pers. comm.).

The annual mortality of adult radio collared females from the TCH has remained close to the long term (1991-2012) average of 14.5% (range 8–25%) (Parrett 2011, 2015a, Caribou Trails 2014). As the TCH

has declined, calf weights declined, indicating that poor nutrition may be having a significant effect on this herd (Carroll 2015, pers. comm., Parrett 2015b, pers. comm.). In 2016 increased calf weights, high adult female survival (92%), high yearling recruitment (29 yearlings:100 adults), high calf production (81%), and a high calf:cow ratio (48 calves:100 cows) suggest that the population may be stable or declining at a slower rate (Parrett 2017a, pers. comm., Klimstra 2017) In contrast, the body condition of individuals from the WACH, which also declined dramatically, has remained relatively good, indicating that caribou are still finding enough food within their range (Caribou Trails 2014, Dau 2014). A recent study found that TCH calf production was low, calf survival on calving grounds was high, 40% of the concentrated wintering range was on NPS land, and that starvation was a significant mortality factor on non-NPS lands (Parrett 2017a, pers. comm.). The late spring in 2013 likely contributed to the decline in winter survival in 2014.

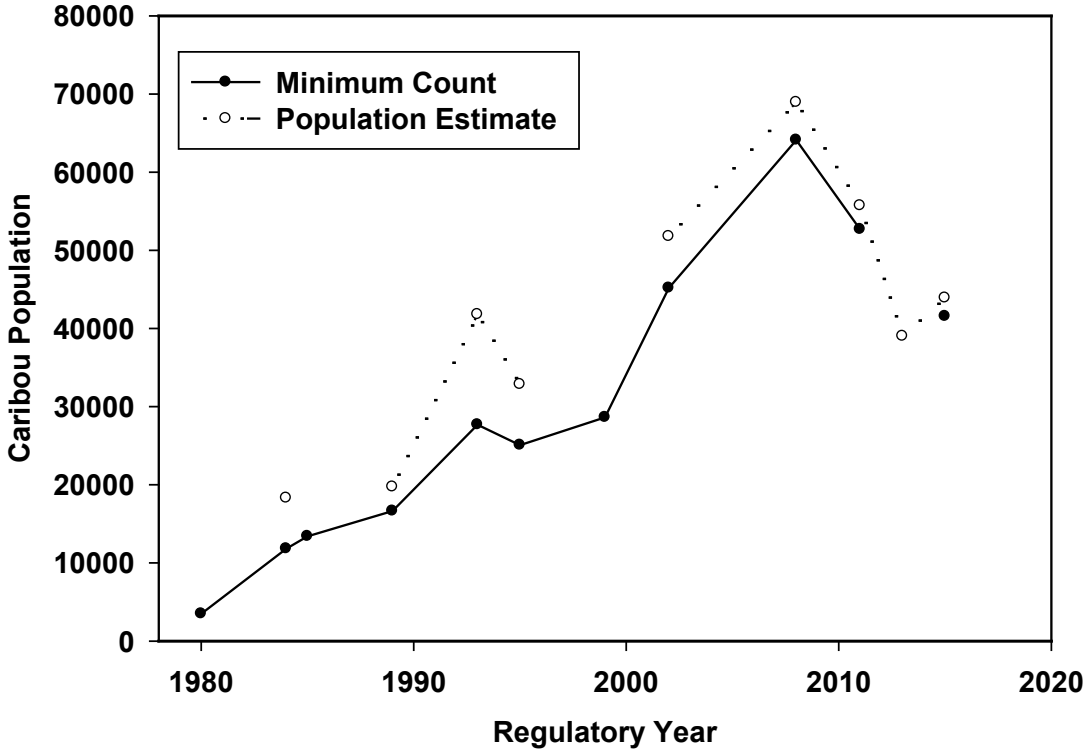


Figure 1. Minimum counts and population estimates of the Teshekpuk Caribou Herd from 1980-2014. Population estimates from 1984-2013 are based on aerial photographs of groups of caribou that contained radio–collared animals (Parrett 2011, 2013, Parrett 2015a).

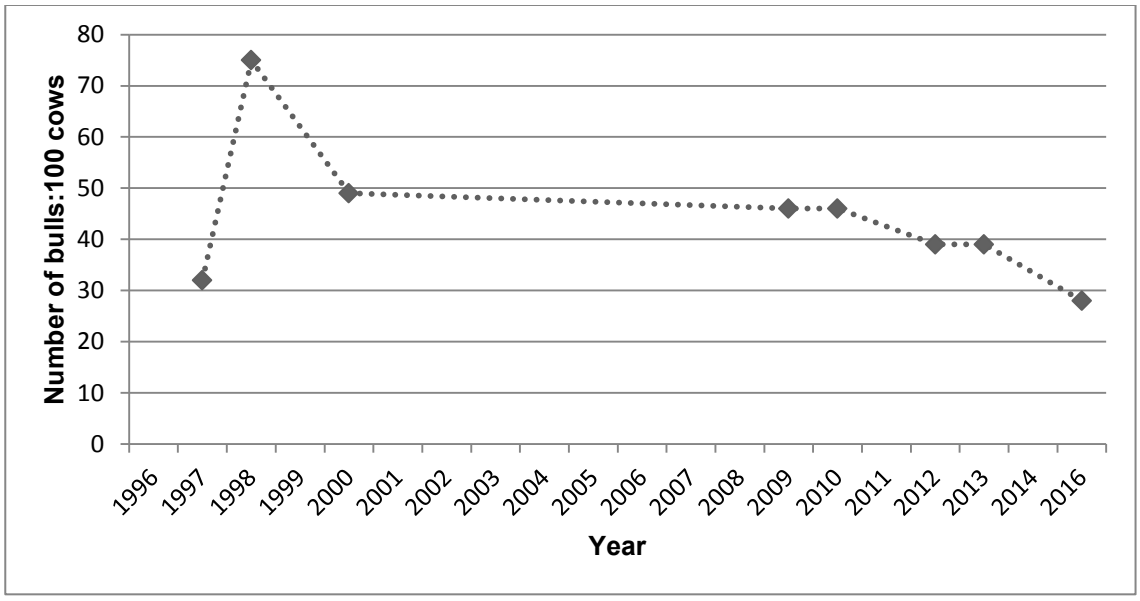


Figure 2. Bull:cow ratios of the Teshekpuk Caribou Herd (Parrett 2013).

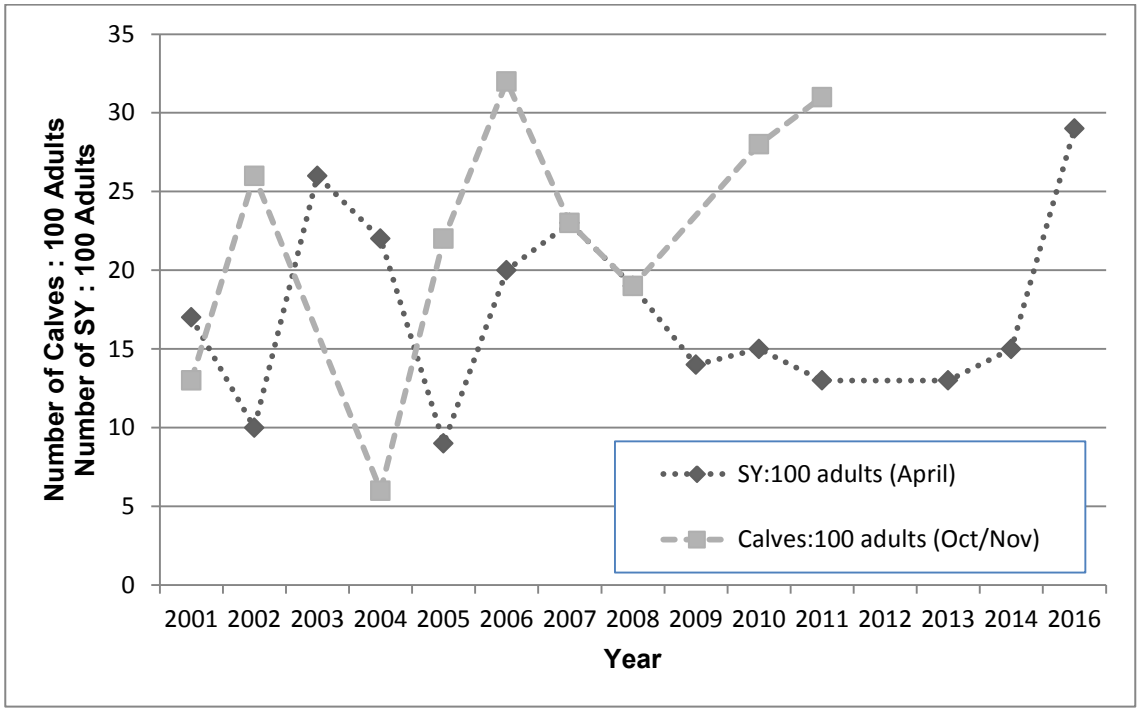


Figure 3. Calf:adult and short -yearling (SY):adult ratios for the Teshekpuk Caribou Herd (Parrett 2015a). Short-yearlings are 10-11 months old caribou.

Western Arctic Caribou Herd

The WACH, the largest herd in Alaska, has a home range of approximately 157,000 mi^2 in northwestern Alaska (**Map 2**). In the spring, most mature cows move north to calving grounds in the Utukok Hills, while bulls and immature cows lag behind and move toward summer range in the Wulik Peaks and Lisburne Hills area (Dau 2011, WACH Working Group 2011). Spring migration for the WACH usually begins around April 1 (Joly 2017). Dau (2013) determined the calving dates for the WACH to be June 9–13. This is based upon long-term movement and distribution data obtained from radio-collared caribou (these are the dates cows ceased movements and were assumed to be calving). After calving, cows and calves move west toward the Lisburne Hills where they mix with the remaining bulls and non-maternal cows. During the summer the herd moves rapidly to the Brooks Range.

In the fall the herd moves south toward their wintering grounds in the northern portion of the Nulato Hills. Rut occurs during fall migration (Dau 2011, WACH Working Group 2011). Dau (2013) determined the WACH rut dates to be October 22–26 based on back-calculations from calving dates using a 230-day gestation period. Since about 2000, the timing of fall migration has been less predictable, often occurring later than in previous decades (Dau 2015a). Approximately 99% of the WACH migrate through the Noatak National Preserve and the Gates of the Arctic National Park (Joly 2017). From 2010-2015, the average date that GPS collared caribou crossed the Noatak River ranged from Sep. 30 – Oct. 23 (**Figure 4**) (Joly and Cameron 2017). The proportion of caribou using certain migration paths varies each year (Joly and Cameron 2017). Changes in migration paths are likely influenced by multiple factors including food availability, snow depth, rugged terrain, and dense vegetation (Fullman et al. 2017, Nicholson et al. 2016). If caribou travelled the same migration routes every year, their food resources would likely be depleted (NWARAC 2016). In recent years (2012-2014), the path of fall migration has shifted east (Dau 2015a). The caribou migrated early in 2016 and the mean distance travelled was 1932 miles which is about average. More of the herd crossed the eastern portion of the Noatak River compared to 2015 when a greater proportion crossed the western Noatak River near the coast (Joly 2017). The start of the cow fall migration can vary by a month and by October 1 many of the cows will have passed through the northern portion of Unit 23 while the bulk of the WACH will still be migrating through the southern half of Unit 23. On average, collared cows cross the Selawik River during fall migration around Oct. 15 and thus are still migrating on Oct. 1 (Joly 2017), the proposed opening cow season date for Unit 22. In Units 26A and 26B most of the cow caribou will have migrated through before Oct. 1.

In part, due to the collapse of the WACH in the 1970s, the WACH Working Group was formed. In 2003 it developed a WACH Cooperative Management Plan, and revised it in 2011 (WACH Working Group 2011). The WACH Management Plan identifies seven plan elements: cooperation, population management, habitat, regulations, reindeer, scientific and traditional ecological knowledge, and education as well as associated goals, strategies, and management actions. As part of the population management element, the WACH Working Group developed a guide to herd management determined by population size, population trend, and harvest rate. Revisions to recommended harvest levels under liberal and conservative management (+/- 100 - 2,850 caribou) were made in December 2015 (WACH Working Group 2015, **Table 3**). Potential management actions and harvest recommendations for each management level can be found in **Table 3** (WACH Working Group 2011

The State manages the WACH to protect the population and its habitat, provide for subsistence and other hunting opportunities on a sustained yield basis, and provide for viewing and other uses of caribou (Dau 2011). State management objectives for the WACH are listed in the 2011 Western Arctic Caribou Cooperative Management Plan (WACH Working Group 2011, Dau 2011) and include:

- Encourage cooperative management of the WACH among State, Federal, local entities, and all users of the herd.
- Manage for healthy populations using management strategies adapted to fluctuating population levels and trends.
- Assess and protect important habitats.
- Promote consistent and effective State and Federal regulations for the conservation of the WACH.
- Seek to minimize conflict between reindeer herders and the WACH.
- Integrate scientific information, traditional ecological knowledge of Alaska Native users, and knowledge of all users into management of the herd.
- Increase understanding and appreciation of the WACH through the use of scientific information, traditional ecological knowledge of the Alaska Native users, and knowledge of all other users.

The WACH population declined rapidly in the early 1970s bottoming out at about 75,000 animals in 1976. Aerial photocensuses have been used since 1986 to estimate population size. The WACH declined at an average annual rate of 7.1% from approximately 490,000 animals in 2003 to 235,000 in 2013 (Dau 2011, 2013, 2014, 2015a; Caribou Trails 2014) (**Figure 4**).

Between 1982 and 2011, the WACH was within the liberal management level prescribed by the WACH Working Group (**Table 3**). In 2013, the WACH population estimate fell below the threshold for liberal management of a decreasing population (265,000), slipping into the conservative management level. In July 2015, ADF&G attempted an aerial photocensus of the herd. However, the photos taken could not be used due to poor light conditions that obscured unknown portions of the herd (Dau 2015b). ADF&G conducted a successful photocensus of the WACH on July 1, 2016. This census resulted in a minimum count of 194,863 caribou with a point estimate of 200,928 (Standard Error = 4,295), suggesting the WACH is still within the conservative management level, although close to the threshold for preservative management (**Figure 5, Table 3**)(Parrett 2016a). Results of this census indicate an average annual decline of 5% per year since 2013, representing a much lower rate than the 15% annual decline between 2011 and 2013. The large cohorts of 2015 and 2016, which currently comprise a substantial proportion of the herd, contributed to the recent decreased rate of decline, but remain vulnerable to difficult winter conditions due to their young age (Parrett 2016a). In 2017, ADF&G conducted a photo census using new digital cameras and determined that the WACH population increased. The minimum count of 239,055 may not be directly comparable to previous counts using film cameras. The Rivest population estimate was 259,000 ± 29,000 (Parrett 2017b). The better resolution and ability to get accurate counts increases the potential of getting a more accurate assessment of population including the calves. Combined with good adult cow survival (84%), a calf:cow ratio of 57 calves:100 cows, and bull:cow ratios of 54 bulls:100 cows, these results suggest that the decline in the WACH may have stabilized or is increasing slightly. Consensus at the WACH Working Group Meeting held in Anchorage, Alaska on December 13-14, 2107, was to wait at least

another year to see if the WACH continues to increase before changing harvest regulations (Lincoln 2017b).

Between 1970 and 2016, the bull:cow ratio exceeded critical management levels in all years except 1975, 2001, and 2014 (**Table 4**). Reduced sampling intensity in 2001 likely biased the 2001 bull:cow ratio low (Dau 2013). Since 1992, the bull:cow ratio has trended downward (Dau 2015a). The average annual number of bulls:100 cows was greater during the period of population growth (54:100 between 1976–2001) than during the recent period of decline (44:100 between 2004–2016). Additionally, Dau (2015a) states that while trends in bull:cow ratios are accurate, actual values should be interpreted with caution due to sexual segregation during sampling and the inability to sample the entire population, which likely account for more annual variability than actual changes in composition.

Although factors contributing to the decline are not known with certainty, increased adult cow mortality and decreased calf recruitment and survival played a role (Dau 2011). Since the mid-1980s, adult mortality has slowly increased while recruitment has slowly decreased (Dau 2013). Increased survival and recruitment is important to slow or reverse the current decline. In a population model developed specifically for the WACH, Prichard (2009) found adult survival to have the largest impact on population size. Calf production has likely had little influence on the population trajectory (Dau 2013, 2015a). Between 1990 and 2003, the June calf:cow ratio averaged 66 calves:100 cows/year. Between 2004 and 2016, the June calf:cow ratio averaged 71 calves:100 cows/year (**Table 4, Figure 6**). In June 2016, 85 calves:100 cows were observed, which approximates the highest parturition level ever recorded for the herd (86 calves:100 cows in 1992) (Dau 2016a).

Decreased calf survival through summer and fall and recruitment into the herd are likely contributing to the current population decline (Dau 2013, 2015a). Fall calf:cow ratios indicate calf survival over summer. Between 1976 and 2016, the fall calf:cow ratio ranged from 35 to 59 calves:100 cows/year, averaging 46 calves:100 cows/year (**Figure 6**). Calf survival from 2016 to 2017 was 90%, which is a slight increase from 2016 (84%) (Klimstra 2017, Parrett 2017b). Fall calf:cow ratios declined from an average of 46 calves:100 cows/year between 1990-2003 to an average of 42 calves:100 cows/year between 2004-2016 (Dau 2015a, **Figure 6**). Since 2008, ADF&G has recorded calf weights at Onion Portage as an index of herd nutritional status. In September 2015, calf weights averaged 100 lbs., the highest average ever recorded (Parrett 2015c).

Similarly, the ratio of short-yearlings (SY, 10-11 months old caribou) to adults provides a measure of overwintering calf survival and recruitment. Between 1990 and 2003, SY:adult ratios averaged 20 SY:100 adults/year. Since the decline began in 2003, SY:adult ratios have averaged 16 SY:100 adults/year (2004-2016, **Figure 6**). However, 23 SY:100 adults were observed during spring 2016 surveys, the highest ratio recorded since 2007 (Dau 2016b). The overwinter calf survival for the 2015 cohort (Oct. 2015-June 2016) was 84% (Parrett 2016b). While 2016 measures suggest improvements in recruitment, the overall trend since the early 1980s has been downward (Dau 2015a).

Increased cow mortality is likely affecting the trajectory of the herd (Dau 2011, 2013). The annual mortality rate of radio-collared adult cows increased, from an average of 15% between 1987 and 2003, to

23% from 2004–2014 (Dau 2011, 2013, 2014, 2015a). Estimated mortality includes all causes of death including hunting (Dau 2011). Dau (2015a) states that cow mortality estimates are conservative due to exclusion of unhealthy (i.e. diseased) and yearling cows. Dau (2009, 2013) reported that rain–on–snow events, deep snow and winter thaws may have contributed to the relatively high estimated mortality rates of 23% during 2008-2009, 27% during 2009-2010 and 33% in 2011-2012. Prior to 2004, estimated adult cow mortality only exceeded 20% twice, but has exceeded 20% in 7 out of 9 regulatory years between 2004 and 2012. The annual mortality rate was 8% as of April 2016 (Dau 2016b). This may fluctuate substantially throughout the year based on changing local conditions and harvest levels. Dau (2015a) suggests that mortality rates may also change in subsequent management reports as the fate of collared animals is determined, and that these inconsistencies are most pronounced for the previous 1–3 years.

Far more caribou died from natural causes than from hunting between 1992 and 2012. Cow mortality remained constant throughout the year. However, natural and harvest mortality for bulls spiked during the fall. Predation, particularly by wolves, accounted for the majority of the natural mortality (Dau 2013). However, as the WACH has declined and estimated harvest has remained relatively stable, the percentage of mortality due to hunting has increased relative to natural mortality. For example, during the period October 1, 2013 to September 30, 2014, estimated hunting mortality was approximately 42% and estimated natural mortality about 56% (Dau 2014). In previous years (1983–2013), the estimated hunting mortality exceeded 30% only once in 1997-1998 (Dau 2013). Additionally, Prichard (2009) and Dau (2015a) suggest that harvest levels and rates of cow harvest can greatly impact population trajectory. If bull:cow ratios continue to decline, harvest of cows may increase, exacerbating the current population decline.

Dau (2015a) cites fall and winter icing events as the primary factor initiating the population decline in 2003. Increased predation, hunting pressure, deteriorating range condition (including habitat loss and fragmentation), climate change, and disease may also be contributing factors (Gunn 2001, Joly et al. 2007, Dau 2013, 2014, 2015a). Changing climatic conditions can affect snow depth, icing, forage quality and growth, frequency, location, and intensity of wildfires, insect abundance, and predation which can affect migration and have long-term population level effects (Joly et al. 2011). Joly et al. (2007) documented a decline in lichen cover in portions of the wintering areas of the WACH. Dau (2011, 2014) reported that degradation in range condition is not thought to be a primary factor in the decline of the WACH because animals in the WACH, unlike the TCH, have generally maintained good body condition since the decline began. Body condition is assessed on a subjective scale from 1-5. The body condition of adult females in 2015 were characterized as "fat" (mean = 3.9/5) with no caribou being rated as skinny or very skinny (Parrett 2015c). However, the body condition of the WACH in spring may be a better indicator of the effects of winter range condition versus the fall when the body condition of the WACH is routinely assessed and when caribou are in prime condition, and weights may be more reflective of summer range conditions (Joly 2015, pers. comm.). Fall condition is also the best indicator of whether or not caribou are likely to become pregnant (Parrett 2017a, pers. comm.).

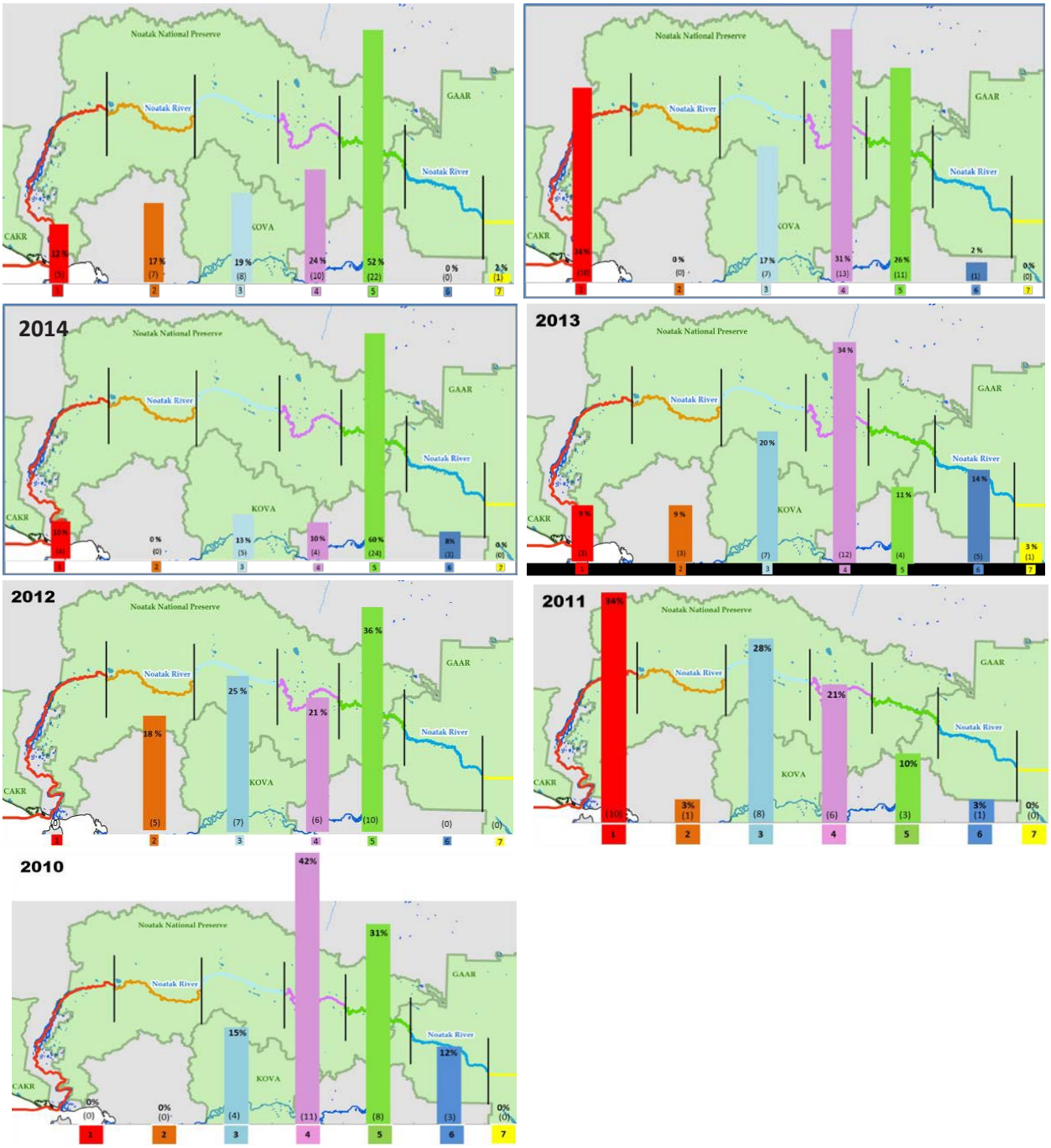
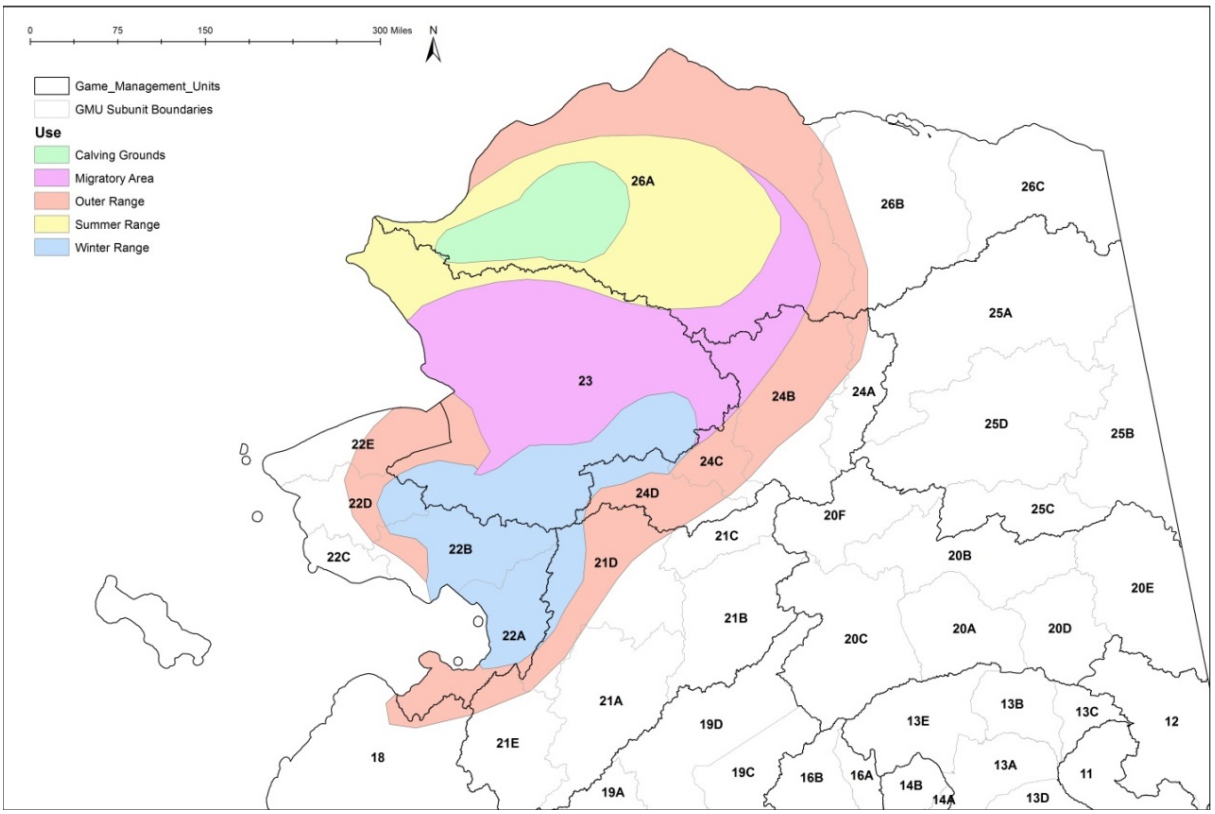


Figure 4. Distribution of caribou crossing the Noatak River during fall. Histograms depict where collared female caribou crossed the Noatak River, generally from north to south, on their fall migration. Relative percentages (top number) and the absolute number (middle number) of caribou are provided. The river is divided into seven (lowest number) color-coded segments, which are displayed in the background. The middle five segments are 100 river kilometers long, while the westernmost segment (red) is 200 km (before extending into the Chukchi Sea) and the easternmost (yellow) runs as far east as WACH caribou are known to migrate. The number of caribou with GPS collars ranged from 39-79 caribou/year with later years having more collared caribou than earlier years (Joly and Cameron 2017).



Map 2. Calving grounds, wintering range, summering range, migratory areas, and home range extent of the Western Arctic Caribou Herd (WACH Working Group 2011)

Table 3. Western Arctic Caribou Herd management levels using herd size, population trend, and harvest rate (WACH Working Group 2011, 2015).

Management and Harvest Level	Population Trend			Harvest Recommendations May Include:
	Declining Low: 6%	**Stable Med: 7%**	**Increasing High: 8%**	
Liberal	Pop: 265,000+	Pop: 230,000+	Pop: 200,000+	• Reduce harvest of bulls by nonresidents to maintain at least 40 bulls: 100 cows • No restriction of bull harvest by resident hunters unless bull:cow ratios fall below 40 bulls:100 cows
	Harvest: 16,000-22,000	Harvest: 16,000-22,000	Harvest: 16,000-22,000	
Conserva-tive	Pop: 200,000-265,000	Pop: 170,000-230,000	Pop: 150,000-200,000	• No harvest of calves • No cow harvest by nonresidents • Restriction of bull harvest by nonresidents • Limit the subsistence harvest of bulls only when necessary to maintain a minimum 40:100 bull:cow ratio
	Harvest: 12,000-16,000	Harvest: 12,000-16,000	Harvest: 12,000-16,000	
Preservative	Pop: 130,000-200,000	Pop: 115,000-170,000	Pop: 100,000-150,000	• No harvest of calves • Limit harvest of cows by resident hunters through permit hunts and/or village quotas • Limit the subsistence harvest of bulls to maintain at least 40 bulls:100 cows • Harvest restricted to residents only, according to state and federal law. Closure of some federal public lands to nonqualified users may be necessary
	Harvest: 8,000-12,000	Harvest: 8,000-12,000	Harvest: 8,000-12,000	
Critical Keep Bull:Cow ratio ≥ 40 Bulls:100 Cows	Pop: < 130,000	Pop: < 115,000	Pop: < 100,000	• No harvest of calves • Highly restrict the harvest of cows through permit hunts and/or village quotas • Limit the subsistence harvest of bulls to maintain at least 40 bulls:100 cows • Harvest restricted to residents only, according to state and federal law. Closure of some federal public lands to nonqualified users may be necessary
	Harvest: 6,000-8,000	Harvest: 6,000-8,000	Harvest: 6,000-8,000	

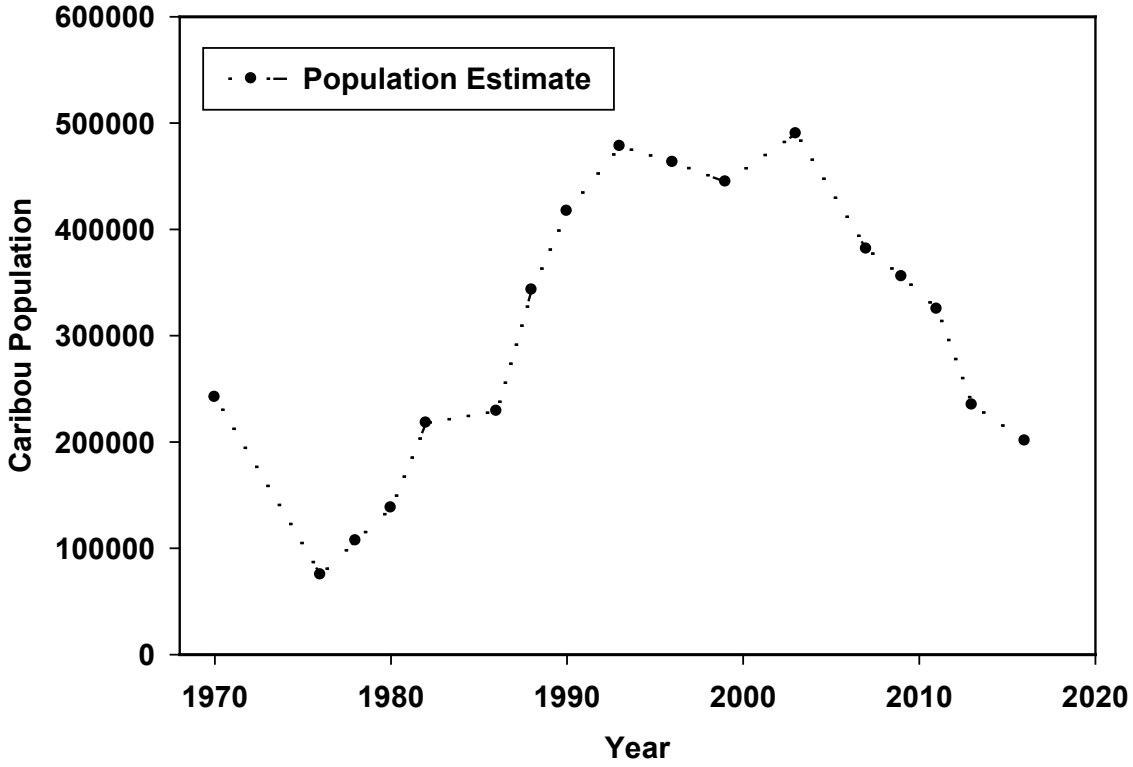


Figure 5. Maximum population estimates of the Western Arctic Caribou Herd from 1970-2016. Population estimates from 1986-2016 are based on aerial photographs of groups of caribou that contained radio–collared animals (Dau 2011, 2013, 2014, 2015a, Parrett 2017a, pers. comm.).

Table 4. Western Arctic Caribou Herd fall composition 1976 – 2014 (Dau 2011, 2013, 2014, 2015a, 2016b).

Regulatory Year	Total bulls: 100 cows[a]	Calves: 100 cows	Calves: 100 adults	Bulls	Cows	Calves	Total
1976/1977	63	52	32	273	431	222	926
1980/1981	53	53	34	715	1,354	711	2,780
1982/1983	58	59	37	1,896	3,285	1,923	7,104
1992/1993	64	52	32	1,600	2,498	1,299	5,397
1995/1996	58	52	33	1,176	2,029	1,057	4,262
1996/1997	51	49	33	2,621	5,119	2,525	10,265
1997/1998	49	43	29	2,588	5,229	2,255	10,072
1998/1999	54	45	29	2,298	4,231	1,909	8,438
1999/2000	49	47	31	2,059	4,191	1,960	8,210
2001/2002	38	37	27	1,117	2,943	1,095	5,155
2004/2005	48	35	24	2,916	6,087	2,154	11,157
2006/2007	42	40	28	1,900	4,501	1,811	8,212
2008/2009	45	48	33	2,981	6,618	3,156	12,755
2010/2011	49	35	23	2,419	4,973	1,735	9,127
2012/2013	42	38	27	2,119	5,082	1,919	9,120
2014/2015	39	[b]	[b]	[b]	[b]	[b]	[b]
2015/2016	41[c]	54	[b]	[b]	[b]	[b]	[b]

[a] 40 bulls:100 cows is the minimum level recommended in the WACH Cooperative Management Plan (WACH Working Group 2011)
[b] Data not available
[c] Estimated from power point presentation presented at the WACH Working Group Meeting December 13, 2016 (Parrett 2016a)

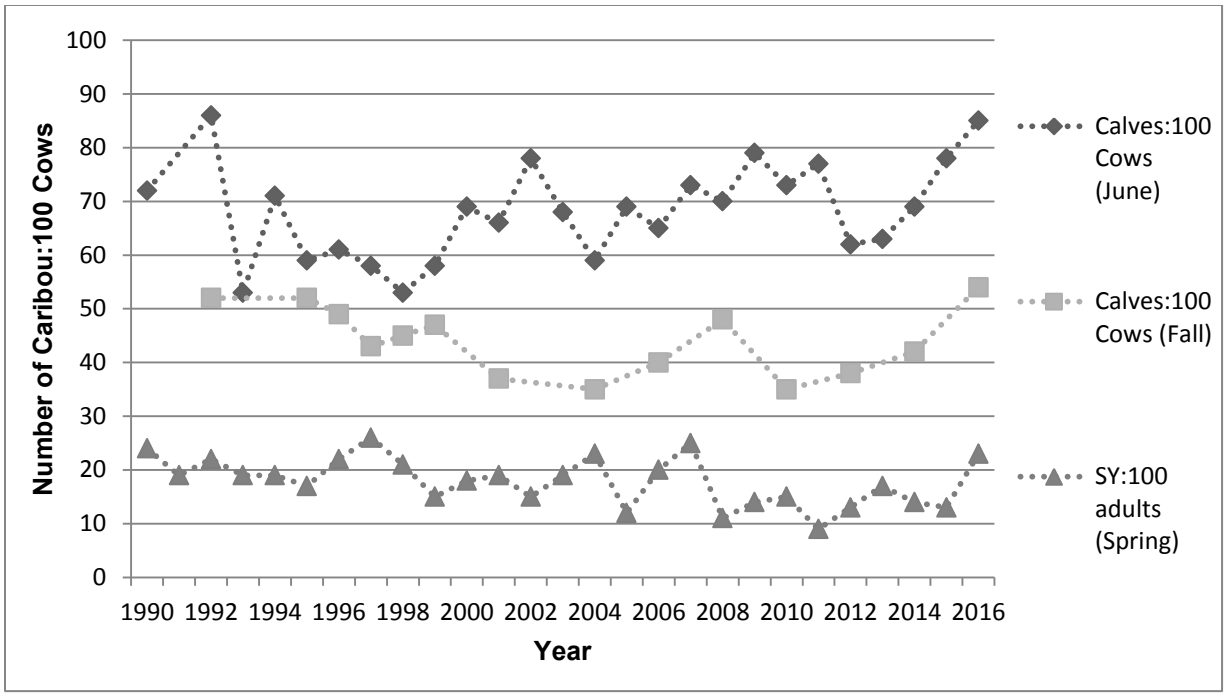


Figure 6. Calf:cow and short-yearling (SY):adult ratios for the WACH (Dau 2013, 2015a, 2016a, ADF&G 2017c). Short -yearlings are 10-11 months old caribou.

Habitat

Caribou feed on a wide variety of plants including lichens, fungi, sedges, grasses, forbs, and twigs of woody plants. Arctic caribou depend primarily on lichens during the fall and winter, but during summer they feed on leaves, grasses and sedges (Miller 2003). The importance of high use areas for the TCH at Teshekpuk Lake during the summer has been well documented (Person et al. 2007, Carroll 2007, Parrett 2011, Wilson et al. 2012, Smith et al. 2015). Presumably the importance of areas to the north, south, and east of Teshekpuk Lake during calving is due to the high concentration of sedge-grass meadows (Wilson et al. 2012) and extremely low predator densities (Parrett 2017, pers. comm.). In 2013 BLM closed 3.1 million acres around Teshekpuk Lake in the NPR–A to oil and gas development in recognition of the importance of these areas for caribou, waterfowl and shorebirds (BLM 1998, 2008, 2013; Cameron et al. 2005, Arthur and Del Vecchio 2009).

Harvest History

Reliance on caribou from a particular herd varies by community. Weather, distance of caribou from the community, terrain, and high fuel costs are some of the factors that can affect the availability and accessibility of caribou (Parrett 2015a). Local residents in Units 21D, 23, 24, 25A, 26A and 26B are defined as those having customary and traditional use determinations in these units (**Table 1**). Generally, in State harvest monitoring efforts, local residents are those that reside within the range of the WACH, TCH, or CACH. Point Hope, which is located in Unit 23, and Anaktuvuk Pass, which is located in Unit 24B near the border with Unit 26A, have a customary and traditional use determination for caribou in Units

26A and 26B. Documentation of harvest for Alaska residents has varied depending on whether they live north or south of the Yukon River. Prior to 2017/2018, Alaska residents who lived north of the Yukon River were not required to obtain harvest tickets although they were required to register with ADF&G or an authorized vendor and return a harvest report form. Compliance with registration requirement was low and not enforced (Braem 2017a, pers. comm.). Harvest by Alaska residents who live south of the Yukon River and nonresidents was monitored using harvest tickets and harvest reports (Lenart 2015, Dau 2015a).

Understanding the overlap between caribou hunting by local users and nonlocal users is complicated by the lack of annual information on the exact location, harvest numbers, and caribou herd used by local hunters. Recently enacted State regulations requiring registration permits for residents hunting caribou within the range of the Western Arctic and Teshekpuk herds in Units 22, 23, and 26A seek to improve harvest monitoring and allow for more detailed analysis of harvest trends and distribution. Harvest ticket are required under State regulations for Units 24 and 26B.

Central Arctic Caribou Herd

Although most of the harvest from the CACH comes from Unit 26B, some occurs in Units 24A, 24B, 25A, 26A, and 26C. Less than 10% of the harvest in Unit 25A (range 250-400) is estimated to come from the CACH (Caikoski 2015). Harvests in summer and early fall that occur in Units 24A, 24B, 25A, and 26C are primarily from other herds such as the PCH, TCH, or WACH. Additional harvest from the CACH may occur when the CACH is located near Kaktovik (Unit 26C) in the summer, near Wiseman and Coldfoot (Unit 24A) in the fall and winter, and near Arctic Village (Unit 25A) in the fall and winter.. During the fall and winter some caribou from the TCH and WACH occasionally mix with the CACH. For the purposes of documenting the annual harvest from the CACH, Lenart (2017a) used an estimate of 100 caribou (Lenart 2017b) based on community harvest surveys by local residents outside of Unit 26B (**Table 5**). Harvest information presented for the CACH will refer to Unit 26B unless noted otherwise.

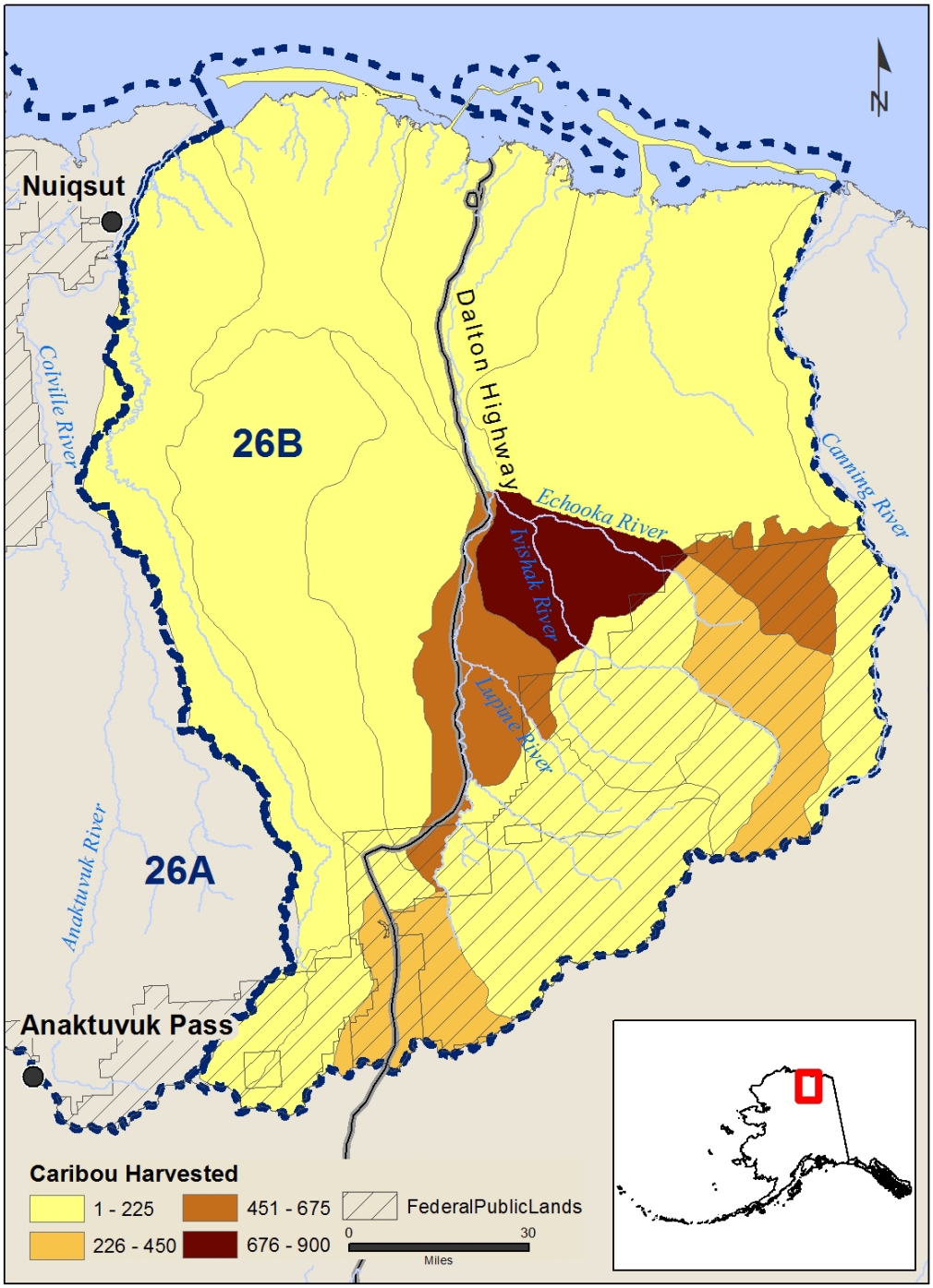
Harvest by local hunters from Nuiqsut occurs in the summer and fall, from July through September, and during the spring, from March through April (Braem et al. 2011, Brown et al. 2016). A little more than 50% of the caribou harvest taken by Nuiqsut hunters occurs during the summer and fall and is from both the TCH and CACH (Lenart 2015). Nuiqsut hunters,represent most of the local harvest from the CACH, even though they tend to hunt west of the community. Based on the distribution of caribou and the timing and location, Braem et al. (2011) estimated that 13% of the total harvest between 2002 and 2007 by Nuiqsut residents, was in Unit 26B, just east across the border with Unit 26A where the community is located. Braem et al. (2011) estimated that Nuiqsut hunters averaged approximately 61 caribou from the CACH annually from 2002 and 2007. The average total annual caribou harvest by Nuiqsut hunters, which includes TCH and CACH, from 2000-2007 was 469 caribou. In 2014, 774 caribou were estimated to have been harvested by Nuiqsut residents (Brown et al. 2016). Nuiqsut residents harvested approximately 317 caribou (41%) from the CACH in 2014 (Braem 2017b). In 2014, Nuiqsut residents harvested caribou in all months except May. The most productive months were June (114), July (189), and August (215). Harvest declined sharply after August, only 73 caribou were harvested in September. The fewest caribou were taken in April (2) and November (4). There were 43 caribou harvested for which the date of harvest

was not known. Of the caribou harvested in 2014, 72% were bulls. An estimated 166 cows were harvested in 2014 with 45% being harvested in January and February (Brown et al. 2016).

The average annual CACH harvest by nonlocal hunters from 2013/14 to 2015/16 in Unit 26B was approximately 937 caribou. (**Table 5**) (Lenart 2017a, WinfoNet 2017). Bow hunters took approximately 21% of the total harvest during this time. The average number of bulls harvested annually from the CACH from 2012-2015 was 699 and the average number of cows harvested was 234 (**Table 5**). A majority of the reported caribou harvest from the CACH occurs in August and September (Lenart 2015).

The proportion of resident and nonlocal harvest has fluctuated with CACH population trends (WinfoNet 2017) (**Figure 7, Table 6**). In general resident harvest has decreased with the recent population decline and the nonresident harvest has increased slightly (**Figure 7, Table 6).** Nonlocal residents accounted for 89% of the total caribou harvest from 2013-2015, which is approximately 827 caribou annually (Lenart 2017a). The location and total caribou harvest by NFQU hunters from the CACH during the population decline from 2011-2016 is shown in **Map 3**. It should be noted that the displayed spatial data is reflective of reported harvest records with locational data at fine scales; records lacking spatial specificity are not represented. Assuming unreported data is proportional to available data, **Maps 3, 5, and 6** represent general spatial harvest patterns. Between 2011 and 2016, a total of 5,049 caribou were harvested by NFQU in Unit 26B. Among those, 3,433 (68%) were from nonlocal Alaska residents and 1,616 (32%) and from nonresidents (WinfoNet 2017). The annual cow harvest by NFQU in Unit 26B increased from 47 in 2006-2009 to 234 in 2010-2016 (**Figure 8**). This increase coincided with the change in the harvest limits from two to five caribou and harvest season for cows from Oct.1-Apr. 30 to July 1-Apr. 30 in the 2010 State regulations.

Although a harvest rate of 5% of the population has been used as a guideline by ADF&G since 1991 to determine the allowable harvest, the reported harvest has been well below the harvestable surplus, averaging less than 2% since 2000/01 (Lenart 2015). However, with the recent population decline, Lenart (2017a) recommended a harvest level of 3% of the population which would allow for some growth in the herd and some harvest opportunity. ADF&G adopted new caribou regulations for Unit 26B for 2017/2018 with the intended goal of reducing the annual harvest from an average of 937 caribou from 2013-2015 to 680 (3% of 22,360) and reducing the cow harvest from approximately 200 to 75 (Lenart 2017a). Preliminary data from the 2016 fall hunt indicates about 155 caribou were taken along the DHCMA which is significantly less than 800, the annual average from 2010-2015 (Lenart 2017c).



Map 3. Reported caribou harvest in Unit 26B from the CACH by NFQU during the population decline 2011-2016 (WinfoNet 2017).

Table 5. Reported harvest from the Central Arctic Caribou Herd by sex and method of take in Alaska, 2006-2015 (Lenart 2013, 2015, 2017a; ADF&G 2017b).

Regulatory Year[a]	Male	Female	Unit 26A Residents[a]	Total Harvest (# harvested by bow)[b]	Total Hunters
2006/07	795	32	100	927 (301)	1,331
2007/08	596	65	100	761 (183)	1.380
2008/09	658	47	100	805 (180)	1,362
2009/10	750	45	100	895 (224)	1,317
2010/11	976	234	100	1,310 (296)	1,622
2011/12	808	344	100	1,252 (330)	1,401
2012/13	727	276	100	1,103 (285)	1,430
2013/14	721	134	100	955 (190)	1,423
2014/15	717	195	100	1,012 (198)	na[c]
2015/16	522	222	100	844 (92)	na[c]
Mean	699	234	100	1,033 (219)	–

[a] Estimated yearly average from Unit 26A and 26C residents from community harvest surveys, Nuiqsut and Kaktovik

[b] Total includes bow harvest and harvest from Unit 26A residents

[c] Not available

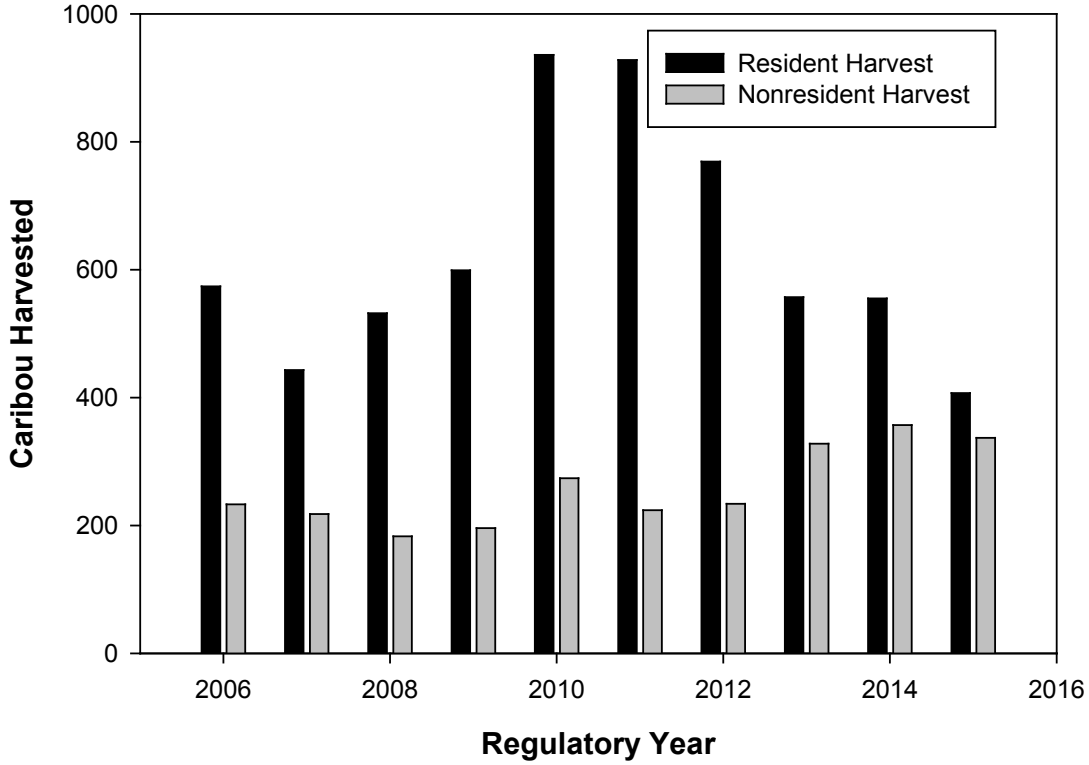


Figure 7. Reported CACH harvest by residency, 2006-2015 (Lenart 2017a).

Table 6. Characteristics of the Central Arctic Caribou Herd average annual harvest in Unit 26B by residency, 2013-2015. The proportion of the total Unit 26B caribou harvest by residency for 2006-2015 is included for comparison (Lenart 2017a).

Residency	Total CACH Harvest	Female CACH Harvest	Proportion of the Harvest (%) 2013-2015	Proportion of the Harvest (%) 2006-2015	Hunters	Success Rate (%)
Unit 26A Residents	100	20	11%	10%	na	na
Other Alaskan Residents	490	158	53%	64%	910	38%
Nonresident	340	24	36%	26%	430	62%
Total	930	202	-	-	-	-

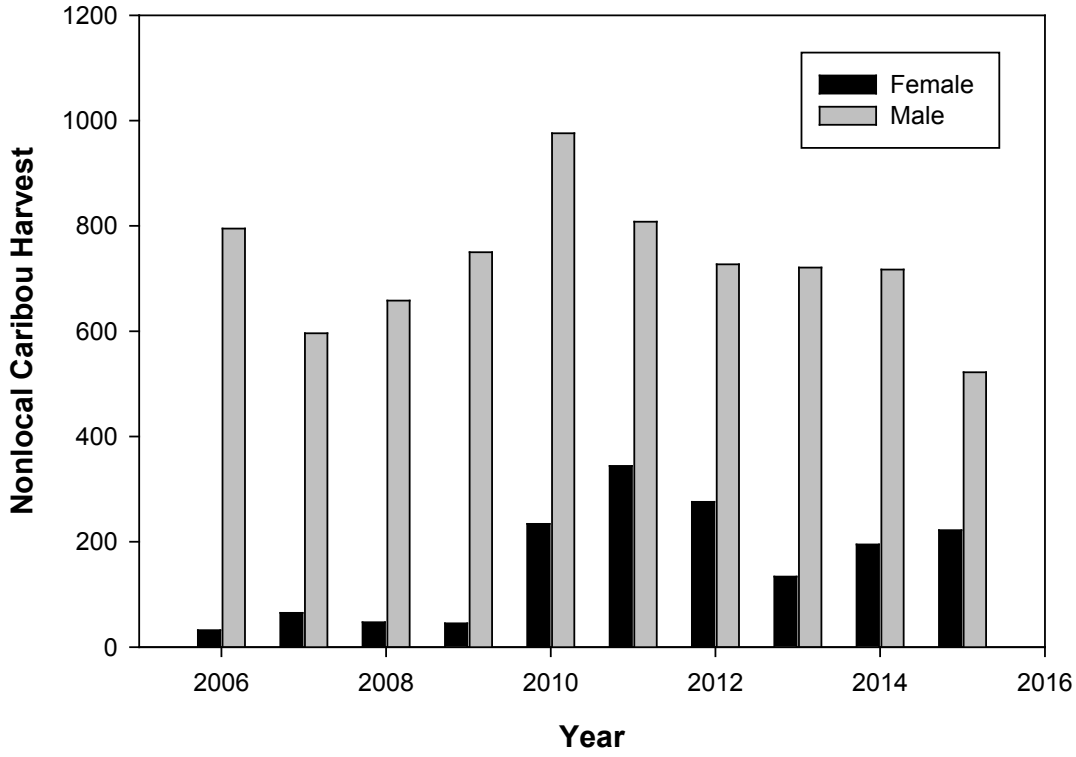
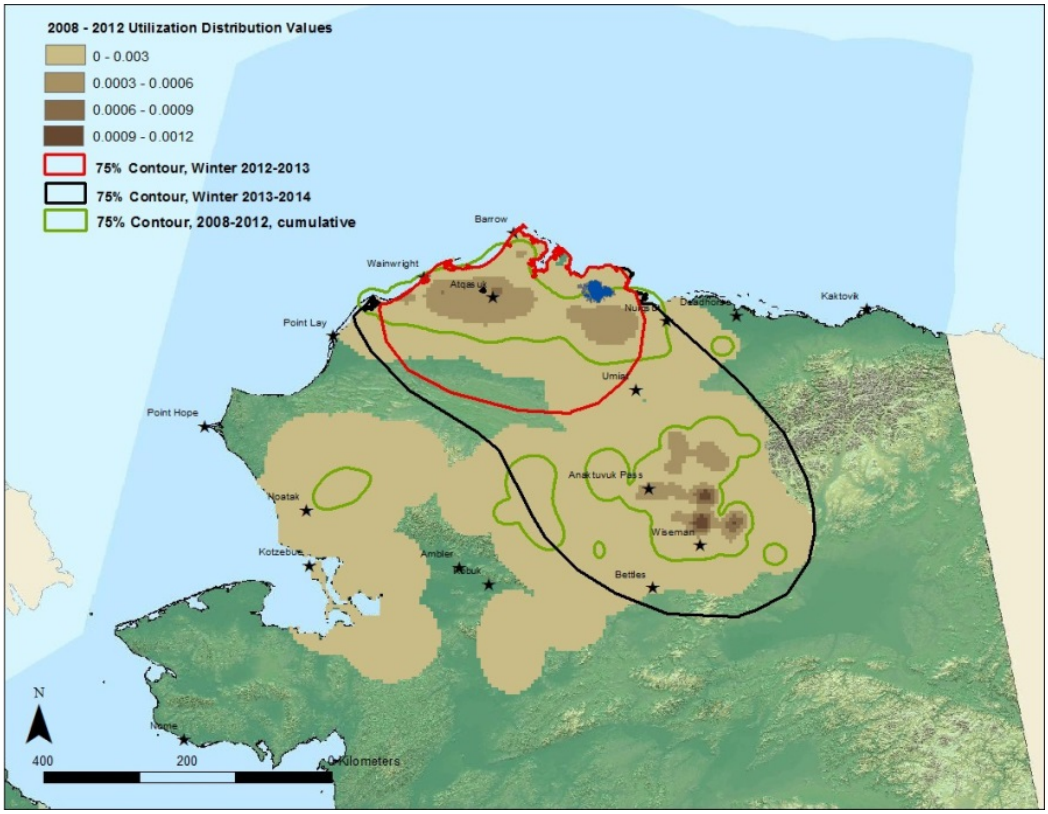


Figure 8. Central Arctic caribou herd harvest by sex by nonlocals in Unit 26B, 2006-2016 (Lenart 2017a)

Teshekpuk Caribou Herd

The TCH annual harvest is 4,000-5,000 (Parrett 2015a). Most of the harvest is by local Federally qualified subsistence users (FQSU). Less than 1% of the TCH harvest is by nonlocal residents in Alaska and nonresidents (Parrett 2011, Parrett 2015a). Residents of Atqasuk, Utqiagvik, Nuiqsut, and Wainwright harvest caribou primarily from the TCH while residents from Anaktuvuk Pass, Point Lay, and Point Hope harvest caribou primarily from the WACH (**Table 7**) (Dau 2011, Parrett 2011). For example the TCH winter range did not overlap Anaktuvuk Pass in 2012/2013 but did in 2013/2014 (**Map 4**). Residents of Nuiqsut, which is on the northeast corner of Unit 26A, harvest approximately 77% and 86% of their caribou from the TCH between 2002 and 2007 and 2010 and 2010, respectively (Parrett 2013). A little more than 50% of the caribou harvest taken by Nuiqsut hunters occurs in the summer and fall and is from both the TCH and CACH (Lenart 2015). Although some harvest from the TCH occurs outside of Unit 26A in Units 23, 24, and 26B, it is unlikely that the overall harvest is significant when the TCH is mixed with other caribou herds (Parrett 2013, 2015a).



Map 4. Cumulative Teshekpuk caribou herd winter range, Alaska, 2008-2012, with utilization distribution values depicted in shades of brown, 75% kernel contour from the 2008-2012 in green. The 75% contours from the two individual winters from 2012-2014 are depicted by the red and black outlines (Parrett 2015a).

Range overlap between the three caribou herds, frequent changes in the wintering distribution of the TCH and WACH, and annual variation in the community harvest survey effort and location make it difficult to determine the proportion of the TCH, WACH and CACH in the harvest. Knowledge of caribou distribution at the time of the reported harvest is often used to estimate the proportion of the harvest from each herd.

The use of harvest tickets, required by nonlocal hunters, provides time and location of the harvest and, together with knowledge of the caribou distribution and allows for a more accurate assessment of the proportion of caribou harvested from each herd by nonlocals. For harvests by FQSU, analysis of the proportional harvest from different herds has been difficult due to poor or non-existent reporting, variation in the timing and effort of community harvest surveys, changes in the distribution and timing of TCH migration, and overlapping distribution with adjacent herds. However, previous efforts from 2002-2007 determined that Utqiagvik residents harvest primarily from the TCH (Parrett 2013, Braem 2017b). If used throughout the range, harvest tickets would allow for better tracking of the FQSU harvest with respect to the overlapping caribou herds. Community harvest surveys continue to be the preferred method to estimate

harvest by FQSU, since previous attempts to conduct registration hunts were not effective (Georgette 1994, Parrett 2015a).

For communities where harvest surveys have not been conducted or the estimates are unreliable, the Division of Wildlife Conservation estimated annual harvests based on the current community population, previous per capita harvest estimates and yearly caribou availability. A general overview of the relative utilization of caribou herds by community from 2008/09 to 2009/10 is presented in **Table 7** (Parrett 2011, Dau 2011, and Lenart 2011). These years were chosen because there was good separation between the herds during this period. The total estimated annual harvest from the TCH during 2008/09 (3,219 caribou) (Parrett 2011) was similar to 2012/13 and 2013/14 (3387 caribou) (Parrett 2015a) **(Table 7**). Most of the caribou harvest in 2012/2013 and 2013/2014 occurred in August and September (Parrett 2015a). The estimated annual harvest by local residents during 2012/13 and 2013/14 using this method was approximately 3,387 (Parrett 2015a).

Table 7. Estimated caribou harvest of the Teshekpuk, Western Arctic and Central Arctic caribou herds during the 2008/2009 regulatory years by FQSU in Unit 26A (Parrett 2011, Dau 2011, Lenart 2011, Sutherland 2005). Note: Due to the mixing of the herds, annual variation in the community harvest surveys and missing data, the percentages for each community do not add up to 100%.

Community	Human population[a]	Per capita caribou harvest[bc]	Approximate total community harvest	Estimated annual TCH harvest (%)[d]	Estimated annual WACH harvest (%)[d]	Estimated annual CACH harvest (%)[d]
Anaktuvuk Pass	298	1.8	524	157 (30)	431 (82)	
Atqasuk	218	0.9	201	197 (98)	6 (2)	
Barrow (Utqiagvik)	4,127	0.5	2,063	2,002 (97)	62 (3)	
Nuiqsut	396	1.1	451	388 (86)	3 (1)	58 (13)
Point Lay	226	1.3	292	58 (20)	210 (72)	
Point Hope	689	0.3	220	0	220 (100)	
Wainwright	547	1.3	695	417 (60)	48 (15)	
Total Harvest				3,219	980	58

[a] Community population size based on 2007 census estimates
[b] Citations associated with per-capita caribou harvest assessment by community can be found in **Table 6** (Parrett 2011).
[c] Sutherland (2005)
[d] Percent of the total community harvest

The harvest estimate for Utqiagvik, from household surveys conducted by ADF&G in 2014/15 was 4,231 caribou (Brown et al. 2016). Based on data collected by the North Slope Borough Wildlife Department and others, the average annual harvest estimate for Utqiagvik from 1992-2003 was 2096 caribou (Brown et al. 2016).

Currently the harvestable surplus for the TCH is estimated to be approximately 2,500 at a 6% harvest rate. A conservative estimated harvest rate for the period between 2012/13 to 2013/14 is approximately 10% of the 2013 (3,917 caribou) population estimate of 39,172 (range 32,000-45,000) (Parrett 2015a). However, due to the mixing of TCH with the WACH and CACH, the lack of annual harvest data for FQSU and the lack of spatial data, it is difficult to determine the actual TCH harvest. The conservative harvest rate estimate for the TCH is10%, which is almost double the harvest rate estimates for the WACH and CACH (Parrett 2015a) and a conservation concern. If the TCH population declines to below 35,000 the harvest rate may be reduced to 4-5%, assuming that the harvest composition remains consistent at approximately 15% bulls and 2% cows (Parrett 2017a, pers. comm.).

Due to the remoteness and inaccessibility of much of the area, most of the TCH harvest is by local hunters (Parrett 2015a). TCH harvest by local hunters in recent years has occurred primarily from July to October (Braem et al. 2011, 2015; Parrett 2011) whereas nonresidents and nonlocal residents typically harvest most of their caribou from the WACH, along the Colville River drainage, in August and September (Parrett 2015a). For example, greater than 95% of the caribou harvested by nonresidents and nonlocal residents in 2012/13 and 2013/14 occurred in August and September (Parrett 2015a). The nonresident and nonlocal resident harvest from the TCH, which averages about 10 caribou a year, or 3% of the total TCH harvest, is split evenly between the nonlocal and nonresidents (Parrett 2013).

Western Arctic Caribou Herd

Annual caribou harvest by local residents is estimated from community harvest surveys, when available. In 2015 the linear model (Sutherland 2005) used to estimate caribou harvests by hunters who live within the range of the WACH was replaced by a new analysis of covariance developed by Adam Craig, a biometrician with ADF&G's Division of Wildlife Conservation Region V (Arctic and Western Alaska). These models incorporate factors such as community size and availability of caribou (Dau 2015a). In 2015, changes to the methods developed by Sutherland (2005) by Craig to analyze the harvest data, resulted in changes to local caribou harvest estimates from past years. While Craig's model accurately reflects long-term trends in annual local harvests, it is too insensitive to detect short-term changes in harvest levels useful to real time management decisions to regulate harvests and does not accurately reflect actual harvest levels or harvest levels by Unit (Dau 2015a). This analysis only considers the updated harvest estimates using the new model (Dau (2015a). The accuracy of harvest reporting by locals may improve with the new State requirements for registration permits and harvest permits for those that live north of the Yukon River. Caribou harvest by NFQU is based on harvest ticket reports (Dau 2015a).

From 2000–2014, the estimated harvest from the WACH averaged 11,984 caribou/year, ranging from 10,666-13,537 caribou/year (**Figure 9**) (Dau 2015a). The total harvest during 2012/13 and 2013/14 was 13,352 and 12,713 caribou, respectively. These harvest estimates assumed that 95% of all caribou harvested by nonlocal hunters in Unit 26A were from the WACH and the remainder from the TCH. Using the 2011 and 2013 population estimates, the total annual harvest during 2012/13 and 2013/14 was approximately 4-5% of the population (Dau 2015a). These harvest levels are within or below the conservative harvest level specified in the WACH Management Plan (**Table 3**). However, harvest estimates do not include wounding loss or caribou killed but not salvaged, which may be hundreds of

caribou (Dau 2015a). Subsistence hunters throughout the range of the WACH take caribou whenever they are available. Thus the seasonal harvest patterns among communities are dependent upon the seasonal movements of the caribou. Despite year-round seasons prior to 2015, most of the caribou taken by FQSU and NFQU has been between Aug. 25 and Oct. 7 (Dau 2015a). Local residents, defined as living within the range of the WACH, account for approximately 95% of the WACH harvest, with residents of Unit 23 accounting for approximately 58% (**Figure 10**) (Parrett 2017a, pers. comm.). Approximately 37% of the total annual WACH harvest is taken by local residents in Units 22, 24, and 26A (**Figure 10**).

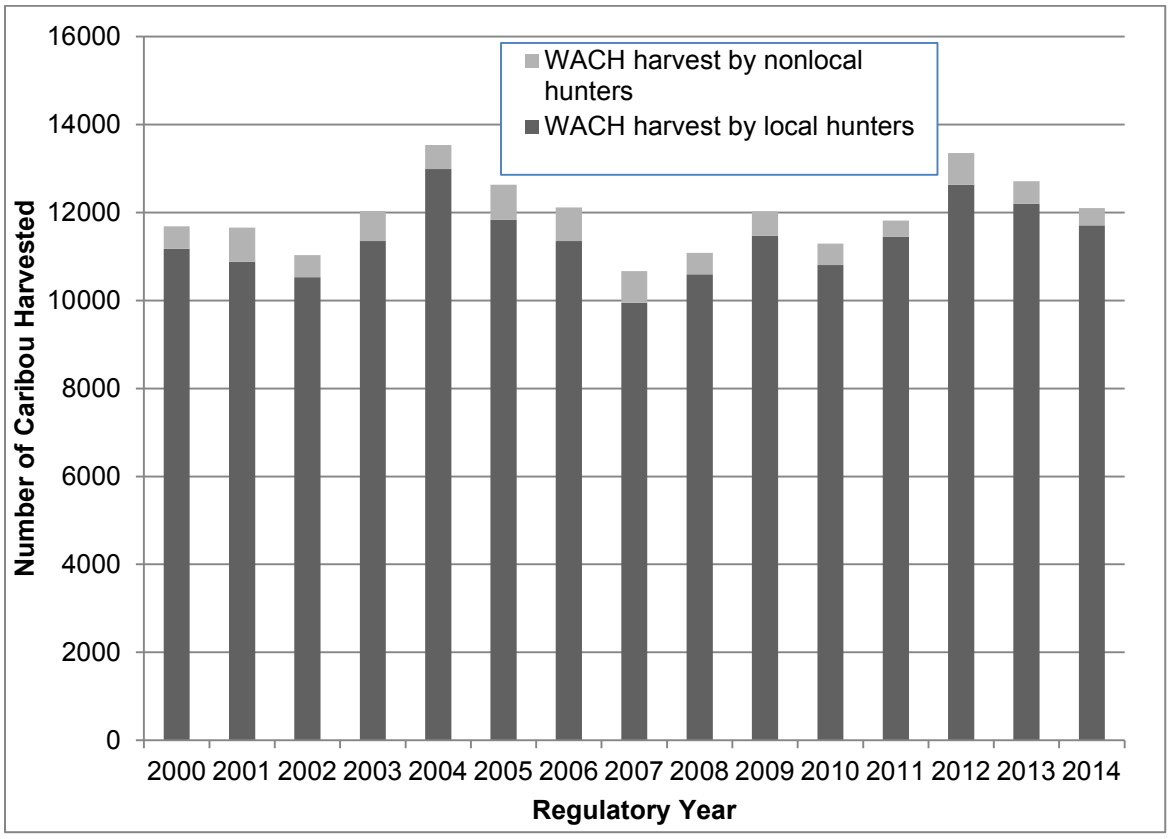


Figure 9. Estimated number of caribou harvested from the WACH by residency (Dau 2015a).

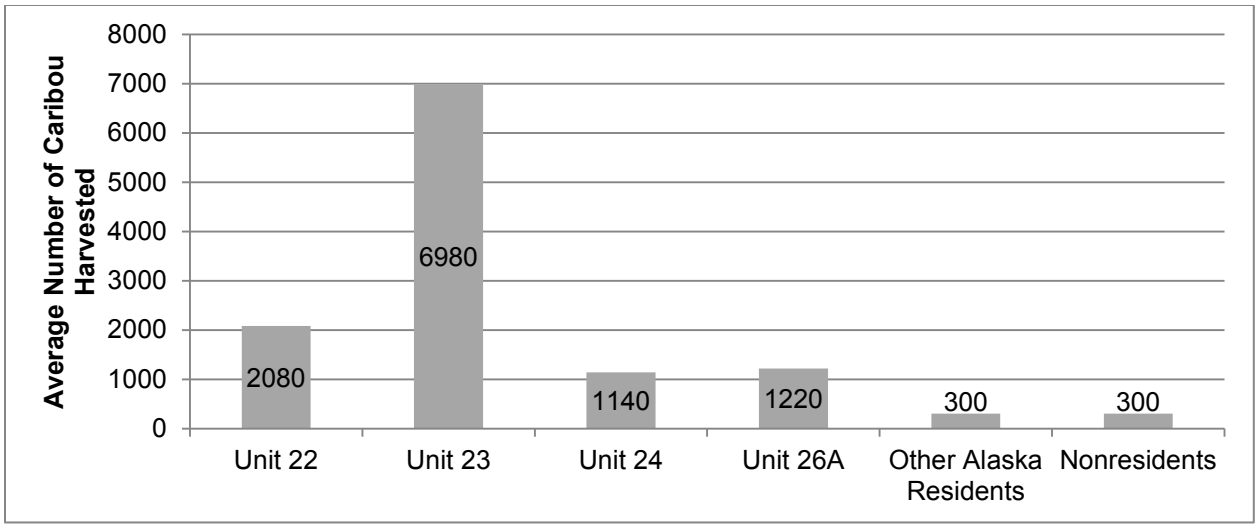


Figure 10. Average WACH annual caribou harvest by unit and residency from 1998-2015 (Parrett 2017a, pers. comm.).

The WACH are on their periphery of their winter range when on the Seward Peninsula (Unit 22). Consequently movements and locations are much less predictable than the core part of the range. Due to the lack of established migratory patterns, local subsistence users need flexibility with respect to the hunting season for bulls and cows so that they can take advantage when the caribou are present. Hunters in the northern areas get access to bulls earlier than in more southern wintering areas of the WACH in Unit 22. Hunters in the more southern locations also consider bulls palatable much later in the fall than hunters up north (Joly 2015).

From 2001-2013, total average annual nonlocal WACH harvest was 598 caribou (range 421-793) (WinfoNet 2017) (**Figure 11**). Over the same time period, nonlocal WACH harvest from Units 26A, 26B, and 24B averaged 102 caribou/year (range 60-144) (**Figure 11**). Nonlocal WACH harvest from Unit 23 and Units 26A, 26B, and 24B combined accounts for 76% and 14% of the total nonlocal WACH harvest on average, respectively.

Between 1998 and 2014, the number of NFQU hunting caribou and the number of caribou harvested by NFQU in Unit 23 averaged 487 hunters (range: 404-662) and 511 caribou (range: 248-669), respectively (**Figure 12,** USFWS 2017). In 2015, after the BOG enacted restrictions, the number of NFQU and caribou harvested by NFQU decreased appreciably (340 hunters and 230 caribou). In 2016, during the closure of Federal lands to NFQU, the number of NFQU and caribou harvested by NFQU decreased even further (149 hunters and 111 caribou), although there may still be some outstanding 2016 harvest reports from nonlocal residents (**Figure 12,** WinfoNet 2017). Based on patterns in submission rates and timing of harvest reports, the State estimated a 50% reduction in the number of nonlocal hunters(230 vs 463) and caribou harvest by nonlocal hunters (139 vs 273) in Unit 23 compared to the previous 3 years during 2016/17 as a result of the closure (Parrett 2016b, 2017b; ADF&G 2017d). Preliminary numbers suggest that nonlocal hunters declined 65% compared to 2013-2015 (Parrett 2017b).

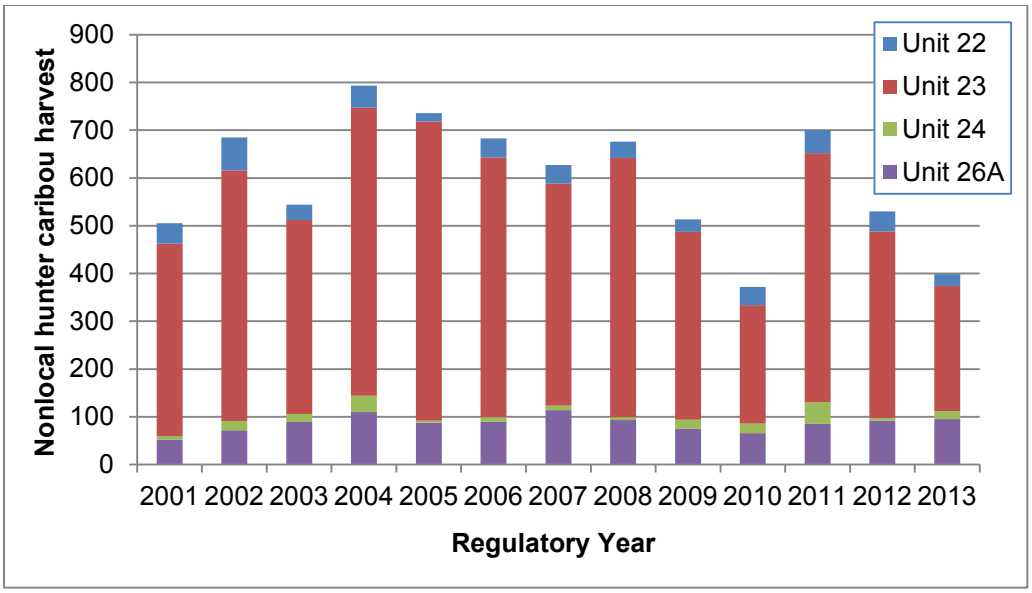


Figure 11. Nonlocal WACH harvest by unit (Dau 2013, 2015a, WinfoNet 2017). Unit 21D was not included as only 0-2 caribou have been harvested from this unit each year.

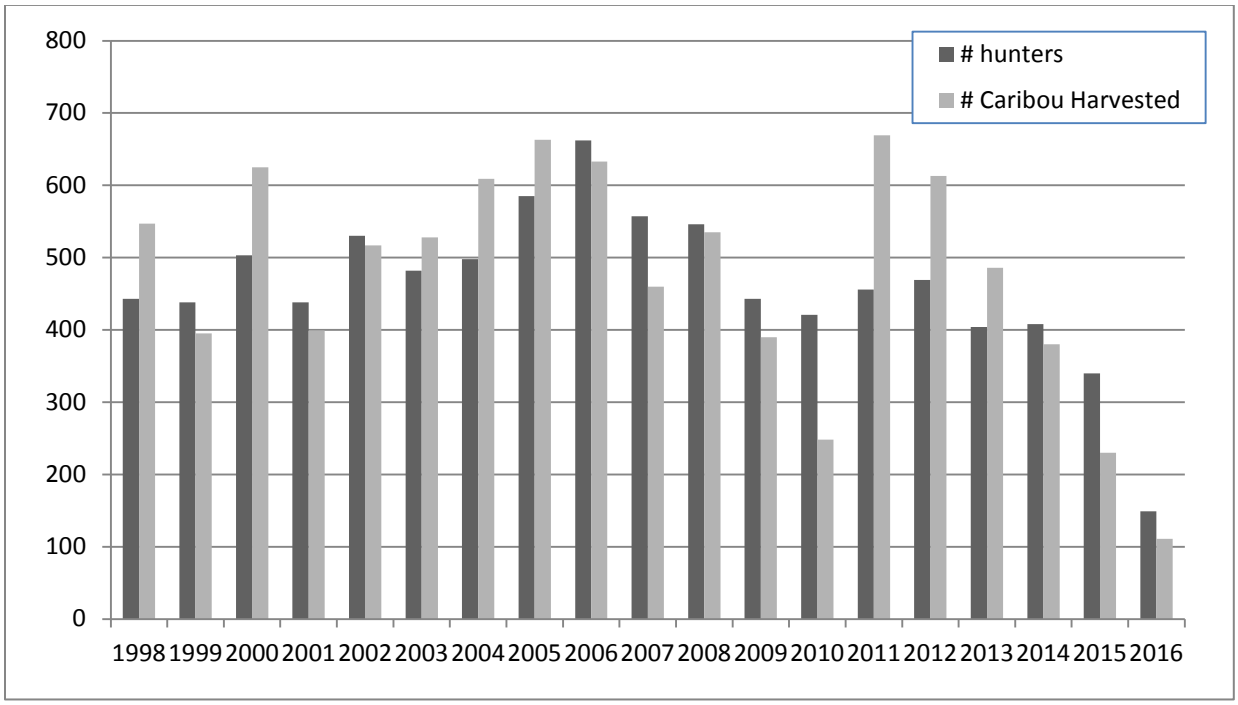


Figure 12. Number of non-Federally qualified users (NFQU) and number of caribou harvested by NFQU in Unit 23 (ADF&G 2016c, USFWS 2016, WinfoNet 2017).

Based on those hunters that provided harvest ticket reports for Unit 26A, the number of nonresidents compared to Alaska residents outside the WACH range that harvested caribou from the WACH increased from 2011-2015 (**Figure 13**). Approximately 95% of the total Unit 26A caribou harvest was from the WACH and by residents within the WACH range (Dau 2013). The annual harvest by NFQU is a very small percentage (≈1%) of the total WACH harvest (**Figures 11 and 14)**. Ten percent of the NFQU harvest from Unit 26A from 2006-2016 were female (range 2-19).

Harvestable surplus for the WACH is calculated as 6% of the population (Braem 2017a, pers. comm.). In recent years, as the WACH population has declined, the total harvestable surplus has also declined (Dau 2011, Parrett 2015a). In 2015/16, the combined TCH/WACH harvestable surplus declined from an estimated 13,250 caribou in 2014/15 to an estimated 12,400 caribou. While there is substantial uncertainty in the harvestable surplus estimates, the overall trend is decreasing and it is likely that sustainable harvest will soon be exceeded if the decline continues (Parrett 2015a, Dau 2015a). Of particular concern is the overharvest of cows, which has probably occurred since 2010/11 (Dau 2015a). Dau (2015a) states, "Even modest increases in the cow harvest above sustainable levels could have a significant effect on the population trajectory of the WACH. Harvest from the WACH, which has remained fairly consistent, is one of the factors that prompted the BOG to enact restrictions to WACH and TCH caribou harvest in March 2015.

Using the percentage of harvest reported by community from the WACH in 2008/09 (**Table 7**) and the 2014 community harvest estimates for Utqiagvik, Anaktuvuk Pass, Nuiqsut, and Point Hope (Brown et al. 2016) and the 2014 total nonlocal harvest (117 caribou) (Dau 2015a), the total WACH caribou harvest for Unit 26A in 2014 was approximately 1,185 caribou. Adding another 120 caribou from Point Lay and Atqasuk (Parrett 2011) would bring the total to approximately 1,305 caribou harvested from the WACH in 2014 in Unit 26A. This year was chosen because it was the most recent community harvest records for the North Slope (Brown et al. 2016).

Comparison of the two year period from 2013-2014 (**Map 5**) with 2015-2016 (**Map 6**) shows an increase in 2015-2016 of the harvest within the vicinity of Anaktuvuk Pass in Unit 26A. These changes in harvest patterns may be due in part to hunters shifting hunting areas and intensity to areas within Unit 26A and 26B in response as a result of the closure of Federal public lands to caribou hunting by NFQU in Unit 23 in 2016/2017 or changes in the movement of the caribou herds.

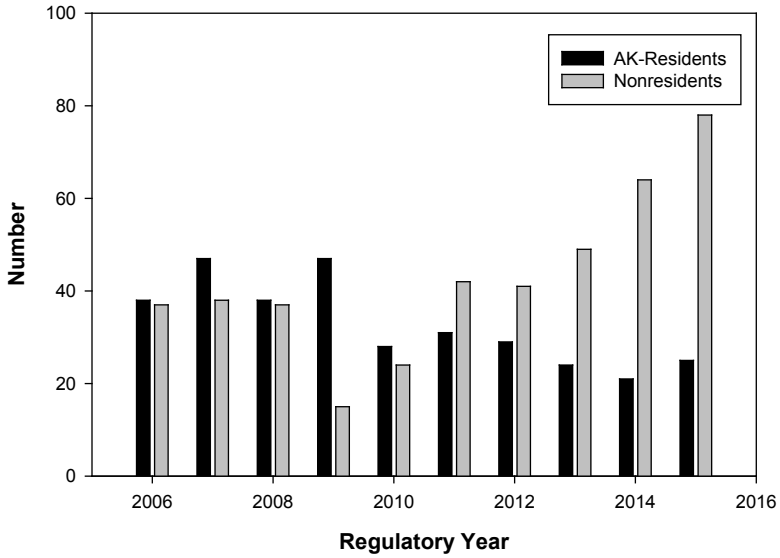


Figure 13. Residency of successful nonlocal caribou hunters from the WACH in Unit 26A, 2006-2015 (Dau 2013, 2015a).

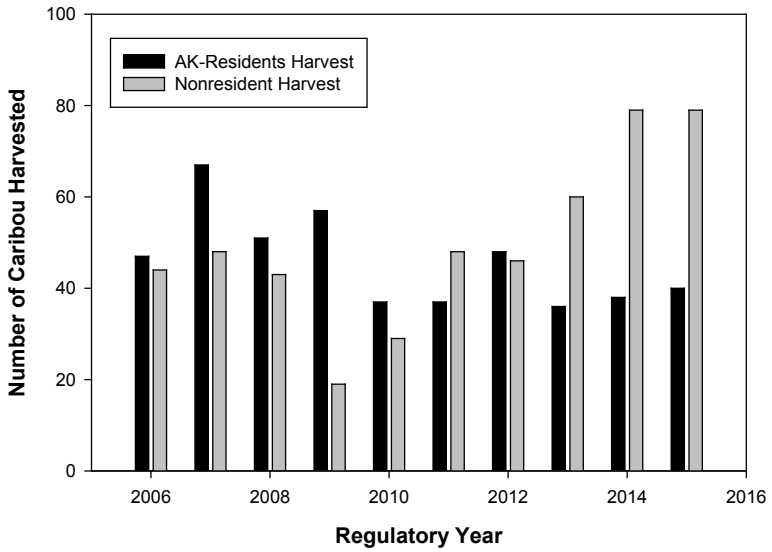
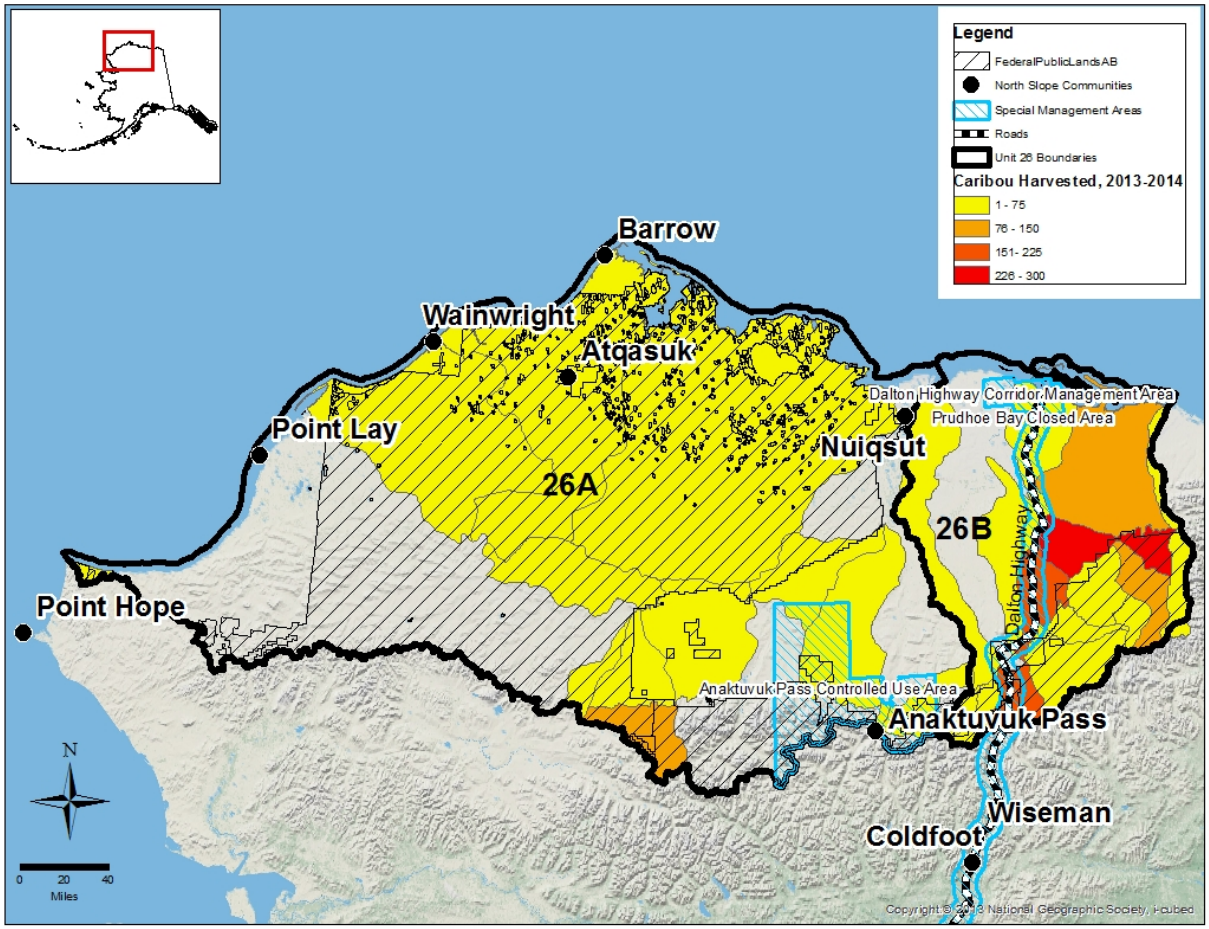
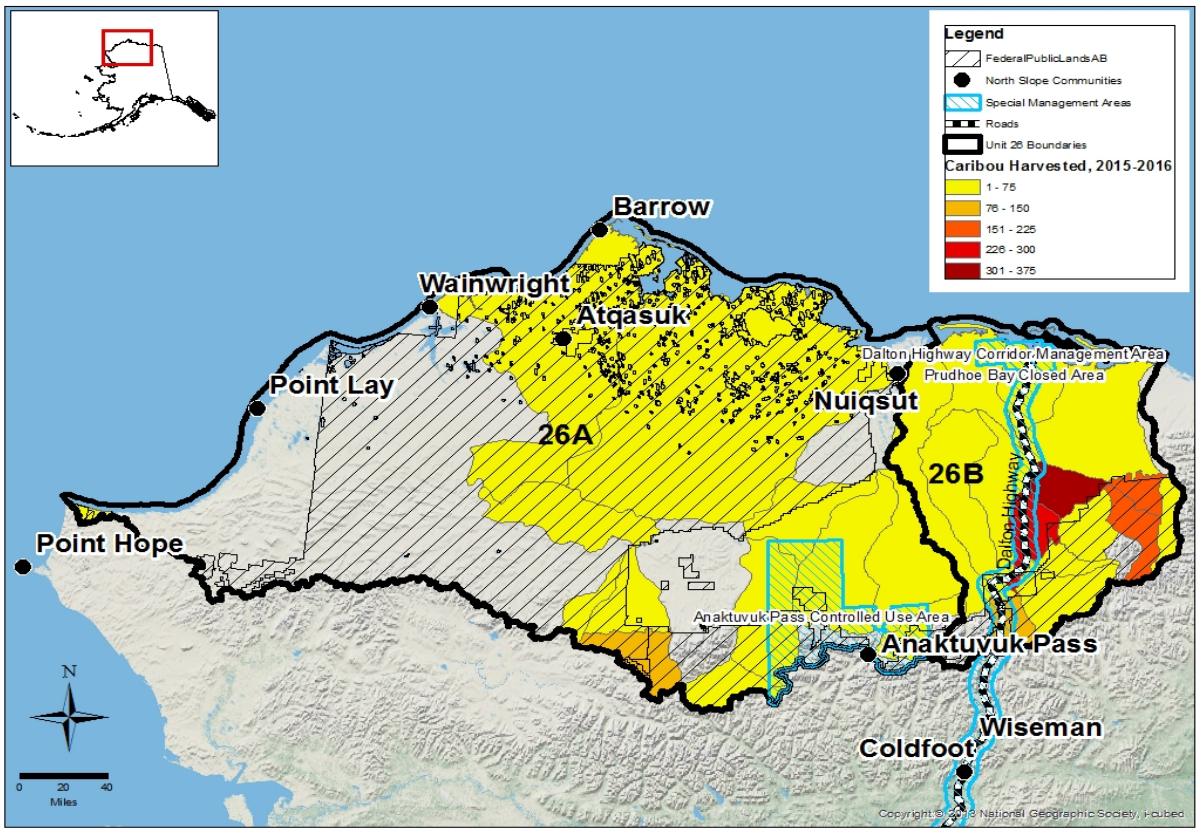


Figure 14. Nonlocal WACH harvest in Unit 26A, 2006-2015 (Dau 2013, ADF&G 2017b).



Map 5. Reported caribou harvest in Units 26A and 26B from the WACH, TCH, and CACH by NFQU , 2013-2014 (WinfoNet 2017).



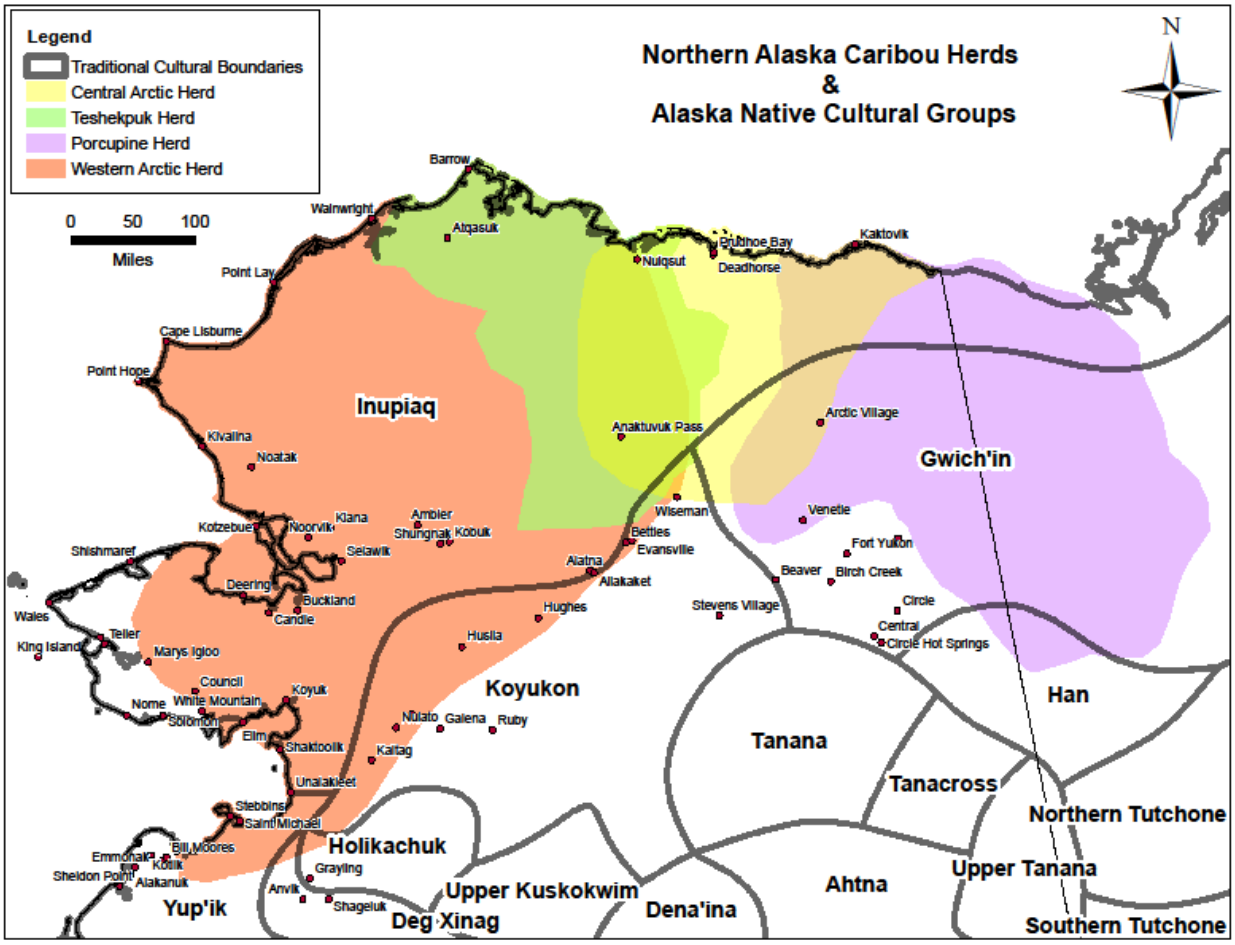
Map 6. Reported caribou harvest in Units 26A and 26B from the WACH, TCH, and CACH by NFQU , 2015-2016 (WinfoNet 2017).

Cultural Knowledge and Traditional Practices

Meeting the nutritional and caloric needs of Arctic and Subarctic communities is important and is the foundation of subsistence activities. Still, the meaning of subsistence extends far beyond human nutrition for Alaska's Native peoples. Holthaus (2012) describes subsistence as the base on which Alaska Native culture establishes its identity though "philosophy, ethics, religious belief and practice, art, ritual, ceremony, and celebration." Fienup-Riordan (1990) also describes subsistence in terms of the cultural cycles of birth and death representing the close human relationship and reciprocity between humans and the natural world. Concerning caribou specifically, Ms. Esther Hugo, a lifelong resident of Anaktuvuk Pass, describes the human-caribou relationship as a "way of life" (NWARAC 2017).

The effects of this proposal span the range of several caribou herds and the traditional territories of several cultural groups (**Map 7**). These cultural groups include the Inupiat of the North Slope, Northwest Arctic and the Seward Peninsula, the Koyukon Athabascans of the Western Interior, and the Gwich'in Athabascans of the Eastern interior. The range of the PCH also includes a small portion of traditional Han Athabascan territory within Alaska, while the range of the WACH includes a small portion of Holikachuk

and Deg Xinag Athabascan territory in Alaska. The southernmost extent of the WACH range extends into the northern extent of the Yup'ik cultural group in the vicinity of Stebbins and Saint Michael.



Map 7. Map depicting the overlap of northern Alaska caribou herds and traditional territories of Alaska Native cultural groups.

Caribou have been a significant resource for Inupiat and Athabascan peoples for thousands of years (Burch 1984, Caulfield 1983, Brown et al. 2004). Caribou bones dating from 8,000 to 10,000 years ago have been excavated from archeological sites on the Kobuk River (ADF&G 1992). Foote (1959, 1961) wrote about caribou hunting in the Noatak region forty years ago, noting that life would not be possible in Noatak without this source of meat. Caribou were traditionally a major source of both food and clothing and continue today to be among the most important land animal consumed in these regions (Burch 1984, 1994, 1998; ADF&G 1992). Uhl and Uhl (1979) documented the importance of caribou as a main source of red meat for Noatak residents as well as other communities in the region. Betcher (2016) also documents the critical contemporary importance of caribou to people residing throughout the Northwest Arctic.

The WACH population declined rapidly in the Northwest Arctic beginning in the late 1800s. At its low point, its range had shrunk to less than half its former size. Famine ensued, primarily due to the absence of caribou. In the early 1900s, reindeer were introduced to fill the need for food and hides. The WACH

began to rebound in the 1940s. Currently, among large terrestrial mammals, caribou are among the most abundant; however, the population in any specific area is subject to wide fluctuations from year to year as caribou migration routes change (Burch 2012).

The availability of WACH, TCH, CACH, and PCH herds within the traditional territories of the interior Athabascans is more variable and depends on annual migratory patterns. Harvest of caribou in these communities depends on the proximity of the migration to each village (Brown et al 2004). Within Koyukon Athabascan territory, Allakaket, Alatna and Huslia have been documented as the largest communities that harvest caribou, although several hunters from Galena have been documented traveling long distances to harvest this species (Brown et al 2004). Communities from this region are thought to primarily harvest WACH caribou (Brown et al 2004). In terms of the use of caribou (which includes caribou received from other households) within Koyukon territory, a 2002-2003 study documented 0% use among households in Kaltag and Ruby, 96% in Allakaket, and 100% in Alatna (Brown et al 2004).

Within traditional Gwich'in Athabascan territory, particularly those villages located in proximity to the Upper Yukon and Porcupine Rivers, residents primarily harvest from the PCH, although Central Arctic and Fortymile Herd animals are occasionally harvested (Caulfield 1983). Residents of other areas in this region have also been documented as traveling north to obtain caribou meat, including residents of Beaver traveling along the Yukon River to the vicinity of Charley Creek [Kandik River] (Schneider 1976) and residents of Fort Yukon traveling above Circle for caribou (Caulfield 1983). Caribou in this region are usually first seen in mid-August while migrating south from the coastal plain along alpine ridges. Caribou meat is generally stored by freezing or drying and is typically prepared by boiling but may also be baked or fried (Caulfield 1983).

Historically the North Slope Inupiat hunted caribou year-round (Braem 2013). Traditionally, coastal groups tended to store caribou frozen in ice cellars while inland groups more commonly stripped and dried the meat (Braem 2013). Today, caribou is frozen, dried, and eaten fresh (Braem 2013). As a food resource, caribou remain important to meeting the subsistence needs of Inupiaq families on the North Slope. In 1989 the coastal community of Wainwright harvested approximately 83,187 lb. of caribou (178 lb. per capita), representing 24% of the community's harvest in that year (ADF&G 2017c). Comparatively, Wainwright harvested approximately 243,594 lbs. of marine mammals (521 lb. per capita), representing 69% of the community's harvest (Brown et al. 2016). Utqiagvik, the largest community in the region, harvested 4,231 caribou in 2014, representing 103 lb. per capita of edible weight.

Historically, during fall and spring caribou migrations, people built "drive fences" out of cairns, bundles of shrubs, or upright logs. These fences were sometimes several miles long and two to three miles wide. Ideally, the closed end of the fence crossed a river, and caribou were harvested while crossing the river and retrieved later; or the fence would end in a corral where caribou were snared and killed with spears (Burch 2012, Caulfield 1983). Caribou drives allowed a large number of caribou to be harvested in a short time (Burch 2012, Spencer 1959, Murdoch 1988). These methods were replaced with firearms in the 19th century.

Caribou were traditionally harvested any month of the year they were available in the Northwest Arctic Region. The objective of the summer hunt was to obtain the hides of adult caribou with their new summer coats. They provided the best clothing material available to the Inupiat. The fall hunt was to acquire large quantities of meat to freeze for winter (Burch 1994). The timing and routing of migration determined caribou hunting. Hunting seasons change from year to year according to the availability of caribou (ADF&G 1991). The numbers of animals and the duration of their stays varies from one year to the next (Burch 1994) and harvest varies from community to community depending on the availability of caribou. Generally, communities in the southern portion of Unit 23 (Buckland, Deering) take a majority of their caribou in the winter and spring, while the other communities in Unit 23 take caribou in the fall, winter, and spring. Kivalina and Point Hope also take caribou in the summer in July (ADF&G 1992) and Selawik residents regularly hunt in the fall (Georgette 2016, pers. comm.). In Gwich'in Athabascan territory, caribou were typically harvested in the fall, winter and spring (Caulfield 1983). Caribou typically only remain available to Arctic Village and Venetie residents through winter and spring (Caulfield 1983).

Currently, caribou hunting by FQSU in Unit 23 is most intensive from September through November. Caribou can be harvested in large numbers, when available, and can be transported back to villages by boat before freeze-up. Hunters often search for caribou and attempt to intercept them at known river crossings. Ideally, caribou harvest occurs when the weather is cool enough to prevent spoilage of meat. If not, meat is frozen for later use. Prior to freeze-up in Inupiaq regions, bulls are preferred because they are fatter than cows (Braem et al. 2015, Georgette and Loon 1993). In Athabascan regions, hunters often select cows between October and February when they are fatter and better tasting than bulls (Caulfield 1983). At other times, bulls or cows may be taken (Caulfield 1983).

Small groups of caribou that have over-wintered may be taken by hunters in areas that are accessible by snowmachine. Braem et al. (2015:141) explain,

> "Hunters harvest cows during the winter because they are fatter than bulls . . . . Caribou harvested during the winter can be aged completely without removing the skin or viscera . . . . Then in the spring, the caribou is thawed. Community members cut it into strips to make dried meat, or they package and freeze it."

In spring, caribou start their northward migration. The Inupiat consider caribou taken at this time to be "lean and good for making dried meat (*paniqtuq*) during the warm, sunny days of late spring" (Georgette and Loon 1993:80).

Caribou are especially important for inland communities such as Atqasuk and Anaktuvuk Pass for which marine mammals are not available. While whaling communities tended to be more permanent, inland peoples traditionally tended toward annual and seasonal movements to reflect caribou migrations (Spencer 1984). The abandonment of this more mobile lifestyle has probably had significant consequences for the adaptability of hunters and their ability to meet subsistence needs. The two dominant modes of subsistence were intertwined by trading relationships between inland and coastal communities that sometimes helped to supplement dietary needs (Spencer 1984).

In 2014, the inland community of Anaktuvuk Pass harvested approximately 104,664 lbs. of caribou (330 lbs. per capita), representing 84% of the community harvest in that year (Brown et al. 2016). Among the harvested animals, 51% were bulls, 39% were cows, and 10% were of unknown sex (Brown et al. 2016). Cows were primarily harvested between November and April while bulls were primarily harvested throughout the rest of the year (Brown et al. 2016). In 2011 approximately 85% of the bulls were taken during the months of August and September (Holen et al. 2012). Approximately 89% of Anaktuvuk Pass households reported using caribou in 2014, with 47% of households giving caribou away and 68% of households receiving caribou (ADF&G 2017c); use and sharing of caribou in this community remains high and has led to food security concerns in recent years when caribou migration patterns shifted away from the community.

User conflict concerns have been voiced in the North Slope region over time, especially regarding the effect of non-local hunting activity on caribou migration patterns (NWARAC and NSRAC 2016, WIRAC 2016, NSRAC 2015, 2016, 2017). Despite documented concerns through repeated public testimony, information is lacking on the degree of impact that these hunting activities have on both short and long-term caribou migration patterns. User conflict on the North Slope has centered primarily on the caribou migration patterns in the vicinity of Anaktuvuk Pass. A long-held cultural practice in the region requires that lead adult female caribou be allowed to establish migratory paths unhindered by human activity. Dau (2015a) suggests that once lead caribou establish migration routes, the caribou behind them will follow regardless of hunting or other disturbances such as aircraft. In response to complaints from Anaktuvuk Pass residents about caribou migration being affected by non-subsistence hunter activity, ADF&G attempted to document such effects from 1991-93, but none were found (OSM 1995).

In 1995 the Board adopted a proposal from the City of Anaktuvuk Pass to close Federal public lands in Unit 26A, south of the Colville River, upstream from and including the Anaktuvuk River drainage, to NFQU from August 1st through September 30th. The justification was to allow for caribou migrations to take their normal route into Anaktuvuk Pass. Concerns have frequently been expressed about activities that disturb caribou migrations by guides and transporters north of Anaktuvuk Pass, especially in light of severe food security concerns for that community in recent years (NWARAC and NSRAC 2016, WIRAC 2016). The BOG established the Anaktuvuk Controlled Use Area in in 2005, to reduce the user conflict during the caribou hunting season and to provide more opportunity for Anaktuvuk Pass residents to harvest caribou. The current regulations close the area to the use of aircraft for hunting caribou, including the transportation of caribou hunters, their hunting gear, or parts of caribou from August 15 through October 15; however, this provision does not apply to the transportation of caribou hunters, their hunting gear, or parts of caribou by aircraft between publicly owned airports. Residents of Anaktuvuk Pass stated that the closure of Federal public lands to non-Federally qualified users for caribou hunting in Unit 23 during the 2016-2017 regulatory year was perceived as having improved the situation, allowing for the resumption of historical migration patterns and harvest activities (OSM 2017a, 2017b).

User conflicts between local and nonlocal hunters have been well documented in Unit 23, specifically in the Noatak NP, the Squirrel River area, and along the upper Kobuk River (Georgette and Loon 1988, Jacobson 2008, Harrington and Fix 2009 *in* Fix and Ackerman 2015, Halas 2015, NWARAC 2015, Braem et al. 2015), even during times of high caribou abundance. Local hunters have expressed concerns over aircraft

and "nonlocal" hunters disrupting caribou migration by "scaring" caribou away from river crossings, landing and camping along migration routes, and shooting lead caribou (Halas 2015, Fix and Ackerman 2015, NWARAC 2015).

Halas (2015; **Map 5**), in a case study of Noatak caribou hunters and their interactions with transported hunters, examined the links between caribou behavior and migration, user group interactions, and changes to subsistence caribou hunting. In describing observations by Noatak hunters in 2012 and 2014 Halas (2015:81) explained,

> Observations of caribou behavior ("spooked" caribou, deflected caribou groups from river crossings) due to aircraft are likely witnessed as a dramatic event not easily forgotten by a waiting Noatak hunter. Whether the aircraft intentionally or unintentionally may be "influencing" caribou movement, observing "scared" caribou can be a powerful experience for hunters.

Some studies and local observations of WACH caribou response to aircraft have suggested that animal response is limited in temporal and spatial scale (Fullman et al. 2017) and that many factors contribute to larger scale shifts in migration. Dau (2015a) noted that substantial transporter traffic in the Anisak drainage, which is within the Noatak NP, has not diverted migrating WACH caribou. Fullman et al. (2017) studied the effects of environmental features and sport hunting on caribou migration in northwestern Alaska. These authors found that caribou tended to avoid rugged terrain and that the migration of caribou through Noatak NP does not appear to be hindered by sport hunting activity. They indicated that their results do not preclude the possibility of short-term effects (< 8 hours) altering the availability of caribou for individual hunters, and that the lack of observed influence of hunting activity could be related to limitations in the telemetry and sport hunter datasets used in the study (i.e. caribou locations were only recorded every 8 hours, not every sport hunter camp was included, and only landings events from transporter aircraft were considered).

Concerns over the impact of sport hunting activities on caribou migration have also been expressed. Aircraft can affect caribou behavior in the short-term (< 8 hours), which can impact hunting success. However, aircraft are unlikely to have long-term impacts on caribou migration through the Noatak NP (Fullman et al. 2017, Halas 2015, Dau 2015a). The WACH have migrated through Unit 23 for thousands of years, although specific migration routes change annually (Figure 4). The long-held Inupiaq tradition of letting lead caribou pass unmolested in order to establish migration routes also suggests that once migration routes are established, other caribou will follow regardless of hunting or other disturbances such as airplanes (Dau 2015a).

Shifts in caribou migration paths have created difficulty for Noatak, Kivalina, and Kotzebue hunters (Dau 2015a). Local WACH harvest has been relatively stable in Unit 23 since the 1990s, but residents of some communities have had to "greatly increase their expenditure of money and effort to maintain these harvest levels" (Dau 2015a:14-30). This is due in part to having to travel farther, more frequently, and for longer durations to find caribou (Halas 2015). Some communities such as Unalakleet and Noatak have "not met their subsistence needs in many recent years" (Dau 2015a:14-30). This was also expressed by Northwest

Arctic Council members during meetings in October 2015 and March 2016 (NWARAC 2015, NWARAC and NSRAC 2016).

Northwest Arctic Council members reported ongoing concerns about extensive user conflicts in Unit 23 prior to the closure of Federal public lands (NWARAC 2015). Council members have testified that these conflicts have confounded their ability to successfully harvest caribou for subsistence purposes in some areas, and that these conflicts have caused degradation to their subsistence lifestyle through landscape modifications (e.g. abandoned structures and trash; landing strips; ATV trails), herd diversion and positioning (e.g. pushing or scaring caribou with low-flying aircraft for hunting, sightseeing, photography and other purposes; creating camp structures along migratory paths), and hunting of lead caribou. Aircraft activity was of particular concern and includes operations by transporters, guides, "nonlocal" hunters utilizing personal aircraft, and recreational users. Specifically, aircraft in the vicinity of the Squirrel River was cited as particularly problematic (NWARAC 2015).

Effects of the Proposal

If this proposal is adopted, Federally qualified subsistence users would have less opportunity to harvest cow and bull caribou from the WACH, TCH, and CACH due to shorter harvest seasons on Federal public lands in Units 21D, 22, 23, 24, 25A (west), 26A, and 26B. The peak of the caribou harvest from these populations in Units 23, 24, 25A, 26A and 26B occurs during late summer and fall from mid-August to early October. Starting the cow season on October 1 would eliminate September, which has traditionally been a heavily used month by Federally qualified subsistence users (FQSU). Limiting the bull hunt in Unit 22 from July 1 to Oct. 10 will limit the hunt to primarily bulls that reside there year-round and would reduce flexibility to hunt bull caribou when they are present. The North Slope Subsistence Regional Advisory Council (NSRAC) discussed the start date for the bull season following the rut, when changes were made to the caribou regulations in 2016, and they were adamant that bull caribou are edible by early December versus Feb. 1 as proposed by the proponent. If adopted the Federal regulations would be misaligned with the State regulations and which could increase regulatory complexity and user confusion

There are some potential benefits to delaying the start of the cow season until October 1 as the more restrictive cow harvest season would allow calves to stay with cows longer in the fall, thus increasing their survival. Also, delaying the hunting season may give cows from the WACH, TCH, and CACH more time to establish their preferred migration routes prior to disturbance from hunters if this is occurring given the current level of hunting activity. This may benefit local subsistence hunters if the caribou establish routes closer to the communities and traditional hunting corridors. However, it should be noted that many caribou will still be in migration, and thus, the possibility of deflecting the herds still exists.

OSM CONCLUSION

Oppose Proposal WP18-32.

Justification

Modifying the cow seasons as suggested by the proponent would likely reduce the overall cow harvest and increase calf survival which may lessen the population decline and aid in recovery. However, the changes proposed for cow and bull seasons would have little effect in reducing deflections of the caribou herds. This is due to the variability of the timing and location of migration patterns between calving, summer, and winter areas of the WACH, TCH, and CACH, the location of communities and their dependence on these caribou, traditional hunting patterns of local subsistence users, and current Federal and State regulations already in place to protect caribou in each unit. In addition to human disturbance, population expansion and contraction, long-term effects of habitat fragmentation, climate change, habitat loss, and industrial development also affect variation in the migratory patterns and seasonal habitat use by the WACH, TCH, and CACH.

Ending the cow caribou season on Feb. 1, which is approximately 2 months before the start of the spring migration, is an unnecessary conservation measure for the protection of migrating caribou although it may help reduce the overall cow harvest. Shortening the start of the bull season is likely to have little impact as most subsistence hunters will not hunt bull caribou in the rut and those that do, for example in Unit 22, would oppose this change (WACH 2016).

For the proposed changes to the cow and bull caribou seasons to be fully effective, similar changes would need to be made to State regulations by the BOG. Rather than seasonal changes to minimize caribou migration deflections over the range of the three herds in seven Game Management Units as suggested by the proponent a more effective approach may be to have local Federal and State land managers in each unit enact short term seasonal hunting restrictions when needed to allow the lead animals to migrate through undisturbed. In response to the declines in the WACH and TCH populations, the BOG and the Board adopted caribou hunting restrictions regulations in 2015 and 2016 to reduce the cow harvest and overall harvest. Recently enacted conservation actions for the WACH, TCH, and CACH need to be given time, to determine if they are effective in reducing the caribou harvest in slowing down or reversing the population declines in the WACH, TCH, and CACH, before additional changes are made to the caribou regulations and to see what effect, if any, they have on the migratory patterns of caribou. Reasons for the OSM Justification are discussed on a unit-specific basis below.

Unit 26B

The primary caribou herd in Unit 26B is the CACH. NFQU are responsible for a majority (89%) of the caribou harvest in Unit 26B. Under State regulations, Unit 26B is divided up into two hunt areas, one in the northwest corner of Unit 26B and Unit 26B remainder. State caribou regulations for the northwestern corner have liberal seasons and harvest limits to support local subsistence users, primarily from Nuiqsut. In response to the recent decline in the CACH population, the State adopted new caribou hunting regulations which eliminated the cow harvest, reduced the harvest from 5 caribou per day to 2 bull caribou for residents, and 1 bull caribou for nonresidents in Unit 26B remainder for 2017/2018. The combination of variable migratory patterns of the CACH from year to year, hunting pressure that is distributed across the landscape, the relatively small percentage of Federal lands, and high use of State lands by NFQU suggest the restricted cow season would have little effect on reducing disturbance to the fall CACH migration across the DHCMA. The newly enacted State regulations for Unit 26B, which will likely reduce the overall

CACH caribou harvest and have the greatest effect on reducing harvest pressure and impact to migrating caribou across the DHCMA, need to be given time to determine if they are effective.

The start for the bull season following the rut was discussed extensively by the NSRAC for the previous caribou regulations enacted in 2015 and 2016. The Dec. 10 start date versus the proposed Feb. 1 start date provides more opportunity for FQSU.

Unit 26A

The availability of caribou to local communities in Units 26A is dependent on the seasonal movements of the TCH and WACH. Utqiagvik, Wainwright, and Atqasuk harvest primarily from the TCH and Point Hope, Point Lay, and Anaktuvuk Pass harvest primarily from the WACH. Most of the caribou migration through Unit 26A occurs prior to Oct. 1, the proposed start date for the cow season, and thus would have the desired effect of allowing the caribou to migrate through Federal public lands undisturbed. However, it would also eliminate the prime caribou hunting season for cows from the WACH and TCH, which occurs during the months of August and September. Federally qualified subsistence users would also have less opportunity to harvest caribou if they were restricted to a bull only harvest during August and September. The potential benefit of a later cow season to allow unrestricted migration of the cows from the WACH and TCH does not outweigh the need for FQSU to harvest caribou when they are available.

The start for the bull season following the rut was discussed extensively by the NSRAC for the previous caribou regulations enacted in 2015 and 2016. The Dec. 6 start date following the rut versus the proposed Feb. 1 start date provides more opportunity for FQSU.

Unit 25A (West)

Although caribou in Unit 25A are harvested from three herds (PCH, Forty Mile Herd, and the CACH), the PCH is the primary herd for subsistence users. Arctic Village is the primary subsistence community in Unit 25A. Overlap with the PCH and CACH on the wintering grounds makes it difficult to determine the percentage of harvest from each herd. Although there is lack of data on the CACH harvest and migration in Unit 25A, it is estimated that <10% of the harvest is from the CACH. The PCH is at an all-time high, so sex-specific season restrictions to protect migration of the small proportion of wintering caribou from the CACH are not warranted.

Unit 24

Residents of Anaktuvuk Pass, who are highly dependent on caribou, have expressed concerns that NFQU have been responsible for deflecting WACH from their normal migration routes, thus causing hardship for local users. The closure of caribou hunting in Unit 23 to NFQU during the 2016-2017 regulatory year was perceived as having improved the situation, allowing for historical migration patterns and harvest activities in Anaktuvuk Pass in 2016. Changing the start date to Oct. 1 for the cow season may have the desired effect of allowing some of the cow caribou to migrate on Federal public lands undisturbed but the fall migration of the CACH typically continues through November (Lenart 2015). However, to be fully effective similar regulations would have to be adopted by the Alaska Board of Game. However, it would

also eliminate the prime caribou hunting season for cows from primarily the WACH, and to a lesser extent the TCH, which occurs during the months of August and September. Federally qualified subsistence users would also have less opportunity to harvest caribou if they were restricted to a bull only harvest during August and September. The potential benefit of a later cow season to allow unrestricted migration of the cows from the WACH and TCH does not outweigh the need for FQSU to harvest caribou when they are available.

Unit 23

A majority of the harvest from the WACH occurs in Unit 23. The start of the cow migration can vary by a month, which adds to the complexity of trying to establish a cow season to protect the migration of the lead cows. Some of the caribou in the northern portion of the unit will have migrated through the Unit by Oct. 1 while many more will still be migrating through the southern portion of Unit 23. In addition, changing the cow season to Oct.1 - Feb.1 would eliminate the month of September which overlaps with the primary hunting period from the WACH of Aug. 25-Oct. 7 (Dau 2015a). Setting the end date for the cow caribou season as February is two months prior to the start of the spring migration so will have no effect to the migration at that time but would allow cows to pass unmolested during spring migration and reduce the overall cow harvest. It also would reduce the opportunity of FQSU to harvest cows by two months compared to the current Federal regulations. Given the seasonal, yearly, and spatial variability during the WACH spring and fall migration, establishment of Oct. 1 as the start date for the cow season in Unit 23 does not meet the proponent's objectives in Unit 23. Additionally, caribou harvest by NFQU is already somewhat reduced due to the 2015 changes to State regulations (e.g. reduction in nonresident harvest limit) (**Figures 9 and 12**).

Unit 22

On average, cows cross the Selawik River during the fall migration around Oct. 15th, so cow caribou would still be migrating on Oct. 1, the proposed start date for the cow season. Restricting the bull season to July1 - Oct. 10 and Feb. 1 to June 30 would limit the hunt to bull caribou that reside year-round. In addition, many of the Federally qualified subsistence users have expressed the need for longer not shorter caribou hunting seasons because of the lack of established migration patterns in this unit and the need to be able to hunt caribou whenever they become available. For example, FQSU in the north typically have access to caribou much earlier than hunters in the southern areas.

Unit 21D

The number of cows making it to this unit prior to Oct. 1 is negligible, so the proposed fall date does little to meet the proponent's goal. There is no spring season in Unit 21, so any deflection of lead cow caribou by NFQU is not an issue.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Western Interior Alaska Regional Advisory Council

Oppose WP18-32. The Council noted the proposal is premature, and may have some viability someday if the herd continues to decline, but there needs to be a longer period to allow recent regulatory actions to take effect and see how it affects the populations. The Council also noted recent changes by the Alaska Board of Game on cow caribou harvest and the known fact that cow caribou lead the migration, so shooting bulls does not affect the caribou migration. The Council also noted that the Board of Game and Federal Subsistence Board need to understand caribou better to overcome misperceptions that drive regulatory and management decisions. The Council further emphasized the need for protecting cow caribou.

Seward Peninsula Regional Advisory Council

Oppose WP18-32. The Council strongly opposed this proposal and believes that attempting to apply changes for the Western Arctic Caribou Herd (WACH) across vast regions is impractical and does not take into consideration herd dynamics or community needs. The proposed season for Unit 22 would conflict with traditional hunting periods and decrease access due to poor traveling conditions. These changes could also increase conflicts with reindeer herds and/or resident caribou that do not migrate across the region and are harvested by locals.

Northwest Arctic Regional Advisory Council

Oppose WP18-32 (Unit 23 only). The Council emphasized each region should have the discretion to decide harvest regulations for their region, not other units. Additionally, the Council stated cow caribou need to be protected. The Council also expressed opposition to changing the caribou harvest dates in Unit 23, explaining that Federally qualified subsistence users in the region are already having a hard time getting caribou under current regulations.

Eastern Interior Alaska Regional Advisory Council

Oppose WP18-32. The Council noted that the proposal is very vast and incredibly complicated. If passed, it would create great discrepancies between the Federal and State seasons, increasing user confusion. The Council also noted that the home region Regional Advisory Council and other regions did not support the proposal as well.

North Slope Regional Advisory Council

Oppose WP18-32. The Council raised concerns that the wide range of the herds made some of the dates unrealistic for the North Slope region, and that uniformity of harvest season across the range of the herd was not appropriate due to differencing in timing of the migration of the herd across the entire region. Some of the dates proposed would take away opportunity to harvest when subsistence hunters in the North Slope region communities would normally be harvesting. The Council stressed that each community and region within the range of the WACH knows the best time based on local and traditional knowledge when the caribou are good to harvest.

The Council also noted that overall the proposal is premature since more time is needed to see what happens with new regulations and other proposals that have been put forward regarding conservation of the WACH. Those measures should be given time to address the conservation concern. There is a lack of evidence on the record to suggest that this proposal would be warranted due to the varying dates across the range of the herds, as to calving, migration, and timing of the fall rut.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-32: This proposal, submitted by the Western Interior Regional Subsistence Advisory Council, would change the season dates for caribou hunting in Units 21D, 22, 23, 24, 25A (West), 26A and 26B.

Introduction: This proposal asks to align season dates and bag limits across a broad area of northern and western Alaska on federal lands in order to protect cows during fall and spring migration and to prohibit bull harvest during the rut when they are not palatable. It covers most of arctic Alaska and the northern half of the west coast of Alaska. There are four large caribou herds that are hunted in these units: the Porcupine Caribou Herd (PCH), the Central Arctic Herd (CAH), the Teshekpuk Lake Caribou Herd (TLCH) and the Western Arctic Herd (WAH). There are also four small resident herds in Units 21, 24, and 25A that would be affected by this proposal: the Galena Mountain, Ray Mountains, Wolf Mountain, and Hodzana Hills herds. These small herds are rarely hunted because they are relatively inaccessible during the hunting season. Each of these herds is unique with different herd size, composition, movement patterns and harvest patterns.

Hunt management for the WAH and TLCH has changed in the past several years. With the decline of the WAH, two new registration permits (RC800 and RC907) have been required for hunters. RC907 is in the first year of use so data from this permit are preliminary. RC800 has only been required for one year. These new permits were put in place to allow managers to assess harvests of both herds on a timelier basis.

Impact on Subsistence Uses: If adopted, this proposal would prohibit harvesting bulls for a long period of time (October 10 through February 1). It would also prohibit the harvest of cows in the fall before October 1 and during the entire spring and summer after February 1. Depending on where a hunter is hunting, this could have very little impact or a great deal of impact on an individual hunter or community.

Impact on Other Uses: Since the proponent does not ask to limit caribou hunting to only federally qualified users, hunters could still use state regulations to hunt. At the end of the proposal the author does say that they intend to submit an agenda change request (ACR) to the state Board of Game to change the state season to match this proposal. The ACR deadline was September 11, 2017, and no ACR was submitted.

Opportunity Provided by State:
State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use in Units 21, 22, 23, 24, and 26 for the Western Arctic herd and Teshekpuk Lake herd; in Units 25A, 25B, 25D, 26B, and 26C for the Porcupine herd; in Unit 26B for the Central Arctic herd; and in Units 20F, 21B, 21C, 21D and 24 for the Galena Mountains, Wolf Mountains, and Ray Mountains herds (the Hodzana herd was considered part of the Ray Mountains herd at the time of the finding).

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for Western Arctic herd and Teshekpuk Lake herd is 8,000–12,000 caribou. The ANS for the Porcupine herd is 1,250-1,550 caribou. The ANS for the Central Arctic herd is 250-450 caribou. The ANS for the Galena Mountains, Wolf Mountains, and Ray Mountains herds is 150-200 caribou.

Unit/Area	Bag Limit	Open Season – Resident (Permit/Hunt #)	Open Season – Non-resident (Permit/Hunt #)
Unit 22A remainder 22B, 22C, 22D, 22E	1 bull calves may not be taken		May be announced (Harvest ticket)
Units 23 & 26A	5 per day (varies by season and sex) Calves may not be taken	Varies (see conditions below) (RC907)	
Units 23 & 26A 30	1 Bull Calves may not be taken		July 15 – September (Harvest ticket)

Unit/Area	Bag Limit	Open Season – Resident (Permit/Hunt #)	Open Season – Non-resident (Permit/Hunt #)
Unit 24(A), that portion south of the south bank of the Kanuti River, and that portion of Unit 25(D) drained by the west fork of the Dall River west of 150_W.long.	1 caribou	August 10 – March 31 (Harvest ticket)	August 10 – September 30 (Harvest ticket)
Remainder of Unit 24(A)	10 caribou 2 bulls	July 1 – April 30 (Harvest ticket)	 August 1 – September 30 (Harvest ticket)
Unit 24(B), that portion south of the south bank of the Kanuti River, upstream from and including that portion of the Kanuti-Kiloitna River drainage, bounded by the southeast bank of the Kodosin-Nolitna Creek, then downstream along the east bank of the Kanuti-Kilolitna River to its confluence with the Kanuti River	1 caribou	August 10 – March 31 (Harvest ticket)	August 10 – September 30 (Harvest ticket)
Unit 24(B) remainder	5 caribou per day; as follows: however, calves may not be taken: Up to 5 bulls per day Up to 5 cows per day 1 bull; however, calves may not be taken	 July 1 – October 14 (Harvest ticket) February 1 – June 30 (Harvest ticket) July 15 – April 30 (Harvest ticket)	 August 1 – September 30

Unit/Area	Bag Limit	Open Season – Resident (Permit/Hunt #)	Open Season – Non-resident (Permit/Hunt #)
Units 24(C) and 24(D)	5 caribou per day, as follows: however, calves may not be taken: Up to 5 bulls per day Up to 5 cows per day 1 bull; however, calves may not be taken	 July 1 – October 14 (Harvest ticket) February 1 – June 30 (Harvest ticket) September 1 – March 31 (Harvest ticket)	 August 1 – September 30 (Harvest ticket)
Units 25(A), 25(B) and 25(D) remainder	10 caribou 2 bulls	July 1 – April 30 (Harvest ticket)	 August 1 – September 30 (Harvest ticket)
Unit 26(A), that portion of the Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Sea South and west of, and including the Utukok River drainage	5 caribou per day, as follows: Up to 5 bulls per day Up to 5 cows per day 1 bull	 July 1 – October 14 (Harvest ticket) February 1 – June 30 (Harvest ticket) July 15 – April 30 (Harvest ticket)	 July 15 – September 30 (Harvest ticket)
Remainder of Unit 26(A)	5 bulls 5 caribou per day 3 cows per day 5 caribou per day 1 bull	July 1 – July 15 March 16 – June 30 July 16-October 15 October 16-December 31 January 1 – March 15 (RC 907)	 July 15 – September 30 (Harvest ticket)

Unit/Area	Bag Limit	Open Season – Resident (Permit/Hunt #)	Open Season – Non-resident (Permit/Hunt #)
Unit 26(B), that portion north of 69° 30' N. lat. and west of the east bank of the Kuparuk River to a point at 70° 10' N. lat., 149° 04' W. long., then west approximately 22 miles to 70° 10' N. lat. and 149° 56' W. long., then following the east bank of the Kalubik River to the Arctic Ocean	5 caribou per day, as follows: Bulls Cows 1 bull	 No closed season (Harvest ticket) July 15 – September 30 (Harvest ticket)	 August 1 – September 15 (Harvest ticket)
Unit 26 (B) remainder	2 bulls 1 bull	Aug 1 – April 30 (Harvest ticket)	 August 1 – September 15 (Harvest ticket)

Special instructions:
For RC800:

- PERMIT AVAILABILITY: Permits available online, at the Nome ADF&G office, and license vendors within Unit 22 beginning June 15.
- WHEN AND WHERE: Unit 22A, north of Golsovia River drainage; remainder of 22B; 22D, in the Kuzitirin River drainage (excluding the Pilgrim River drainage) and the
- Agiapuk River drainages; and 22E, east of and including Sanaguich River drainage:
- Bulls: July 1 - June 30, Cows: July 1 - March 31 BAG LIMIT: Five (5) caribou per day, calves may not be taken; annual bag limit of 20 caribou.
- Unit 22B, west of Golovin Bay, west of the west banks of Fish and Niukluk rivers below the Libby River, and excluding the Niukluk River drainage above, and including the
- Libby River drainage; 22D, Pilgrim River drainage:
- Bulls: October 1 - April 30, Cows: October 1 - March 31 BAG LIMIT: Five (5) caribou per day, calves may not be taken; annual bag limit of 20 caribou.
- Remainder of 22A, 22C, remainder of 22D, and remainder of 22E:
- May be announced

For RC907

- PERMIT AVAILABILITY: Permits available online, at the Kotzebue and Barrow ADF&G offices, and license vendors within Units 23 and 26A beginning June 15.

- WHEN AND WHERE: Unit 23 north of and including Singoalik River drainage AND 26A, that portion of the Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Seas south and west of and including the Utukok River drainage:
- Bag Limit: Five caribou per day, calves may not be taken
- Season:
    - Bulls: July 1 – October 14; February 1 - June 30
    - Cows: July 15 - April 30
- Remainder of Unit 23:
    - Bag Limit: Five caribou per day, calves may not be taken
    - Season:
        - Bulls: July 1 – October 14; February 1 - June 30
        - Cows: Sept. 1 - March 31
- Remainder of 26A:
    - Bag Limit: Five bulls per day, calves may not be taken
    - Season: July 1 - July 15; Mar 16 - June
    - Five caribou per day, three of which may be cows; calves may not be taken, and cows with calves may not be taken July 16 - October 15
    - Three cows per day, calves may not be taken Oct 16 - December 31
    - Five caribou per day, three of which may be cows; calves may not be taken January 1 - Mar 15

For RC800 & RC907

- REPORTING: Successful Hunters: Report within 15 days of taking a legal annual bag limit. Un-successful hunters, those who did not hunt, and hunters who were successful but harvested less than 20 caribou must submit their report by July 15. Report in person, online at hunt.alaska.gov, by telephone (907) 443-2271 or (800) 560-2271 (you can leave a recorded message at Ext 8191), outside drop box at Nome ADF&G, or by pre-paid mail.
- WHO QUALIFIES: Alaska residents are qualified to hunt in all areas. Immediately upon taking an animal you must completely remove the number corresponding to that part of your bag limit and fill in the date you killed the animal as well as its sex in ink.
- PENALTY FOR FAILURE TO REPORT: If you fail to report you will not be eligible to receive any permits (Drawing, Targeted, Tier II, or Registration, including Tier I Nelchina Caribou) during the next regulatory year. In addition, your name may be turned over to the Alaska Wildlife Troopers for enforcement action.
- SIGNATURE: You must sign your permit and comply with the permit hunt conditions and any additional restrictions found in the Alaska Hunting Regulations. You must carry your signed permit while hunting or transporting caribou within the registration permit area and you must show it to any person authorized to enforce state and federal laws who requests to see it.

Dalton Highway Corridor Management: The portion of Units 24A, 25A, and 26B remainder within 5 miles of either side of the Dalton Highway is within the Dalton Highway Corridor Management Area. Alaska

statute, as well as hunting regulations, prohibit motor vehicle use and firearm use. The area within the Prudhoe Bay Closed Area prohibits taking of big game.

Conservation Issues: The proposal seeks to change the seasons and bag limits across areas that have different caribou herds with unique management strategies. The Alaska Board of Game changed the seasons and bag limits for the PCH, CAH, the TCH and WAH in February 2017. These changes reflect the harvestable surplus for each herd as well as an effort to align hunting seasons within the range of each herd. The impact of these changes will not be known for several years. Any conservation concerns about these individual herds should already be addressed by these new regulations.

Enforcement Issues: Adoption of this proposal would create inconsistency in federal and state caribou regulations across a large area of the state.

Recommendation: ADF&G is **OPPOSED** to the proposal. The proposal states that it would reduce cow harvest while herds are migrating and would avoid changing the course of the herd's migration caused by hunting. The current regulations in these different units are appropriate for providing sustainable hunting opportunity, and the harvestable surplus is adequate to provide for the various ANSs of the herds. Recent regulatory actions taken by the Board of Game should help address concerns about migratory deflections with conservation as the goal.

State seasons for the CAH were addressed and modified by the Alaska Board of Game in 2017 in order to reduce harvest so that it does not exceed the harvestable surplus, which also provides for the ANS for this herd. These changes primarily decreased nonlocal and nonresident seasons and bag limits, including eliminating cow harvest. Areas hunted mostly by local residents were minimally impacted by extending seasons during late spring and summer. While WP18-32 would align the federal regulations in Units 21D, 24, 25A (West), and 26B with WAH regulations, it is primarily the CAH and PCH and the 4 small local herds that occupy these areas during hunting seasons. Harvest tickets are required of all hunters in these areas, which is adequate to monitor harvest of these herds.

Residents of communities heavily reliant on caribou have expressed concerns that caribou leading a migration are predominately female, and that harvesting the lead caribou deflects or changes their migration patterns. Further research would be needed to quantify the effect of harvesting the lead caribou during a migration.

Appendix A

Regulatory History

Unit 21D

In 1991, the Federal Subsistence Board (Board) adopted Proposal P91-132 with modification to designate new hunt areas in Unit 21D and establish a to-be-announced winter season with a harvest limit of two caribou (FWS 1991).

In 1992, the Board approved Temporary Special Action S92-06 to open a temporary winter season for caribou in Unit 21D north of the Yukon River and east of the Koyukuk River (FWS 1992).

In 2007, the Board adopted Proposal WP07-33, closing Unit 21D north of the Yukon River and east of the Koyukuk River to caribou hunting during the Federal fall season. This was done in order to conserve the declining Galena Mountain Caribou Herd (FWS 2007).

Unit 22

In 1994, the Board adopted Proposal P94-63A with modification to allow snowmachines to be used to take caribou and moose in Unit 22 (OSM 1994a).

In 1996, the Board adopted Proposal P96-049 with modification to provide a customary and traditional use determination for caribou in Unit 22 for rural residents of Unit 21D west of the Koyukuk and Yukon rivers, Units 22 (except St. Lawrence Island), 23, 24. The Proposal also provided a customary and traditional use determination for caribou in Unit 22A for residents of Kotlik, Emmonak, Marshall, Mountain Village, Pilot Station, Pitka's Point, Russian Mission, St. Mary's, Sheldon Point, and Alakanuk (OSM 1996).

In 1997, the Board adopted Proposal P97-54 with modification to add residents of Hooper Bay, Scammon Bay, and Chevak to the customary and traditional use determination for caribou in Unit 22A (OSM 1997).

In 2000, the Board adopted Proposal WP00-53 with modification allowing the use of snowmachines to position a hunter to select individual caribou for harvest in Units 22 and 23. This was done to recognize a customary and traditional practice in the region (OSM 2000a).

In 2002, the ADF&G issued two emergency orders addressing caribou/reindeer conflicts. The first, EO 05-03-02, closed the portion of Unit 22D within the Pilgrim River drainage south of the Pilgrim River bridge to caribou hunting between Aug. 31, 2002 and June 30, 2003. The purpose of this action was to prevent the harvest of reindeer, since no caribou were present in the area during this time. The second, EO 05-04-02, opened this same area to the harvest of caribou from Oct. 17, 2002 through Jun. 30, 2003. This emergency order provided harvest opportunity after caribou had moved into the area (Dau 2005).

In 2003, the Board adopted Proposal WP03-40 with modification to establish a harvest season of July 1-June 30 and a 5 caribou per day harvest limit in portions of Units 22D and 22E. This was done because caribou had expanded their range into these subunits and harvest was not expected to impact the caribou or

reindeer herds, to provide additional subsistence hunting opportunities, and to align State and Federal regulations (OSM 2003).

In 2005, the Alaska Board of Game (BOG) adopted a proposal creating two new hunt areas for caribou in Units 22B and 22D. This proposal also changed the season for these newly described areas to Oct. 1 – Apr. 15.

In 2006, the Board adopted Proposal WP06-37 with modification, which designated a new hunt area in Unit 22B with an open season of Oct. 1-Apr. 30 and a closed season from May 1-Sept. 30 unless opened by a Federal land manager. This was done to prevent incidental take of privately-owned reindeer and to reduce user conflicts (OSM 2006a).

In 2016, the BOG adopted Proposal 140 as amended to make the following changes to Unit 22 caribou regulations: establish a registration permit hunt (RC800), set an annual harvest limit of 20 caribou total, and lengthen cow and bull seasons in several hunt areas.

Unit 23

In 1995, the Board adopted Proposal P95-51 to increase the caribou harvest limit from 5 per day to 15 per day to increase opportunity for subsistence hunters to maximize their hunting when the caribou were available (FWS 1995a).

In 1997, the Board adopted Proposal P97-66 with modification to provide a positive customary and traditional use determination for caribou in Unit 23 for rural residents of Unit 21D west of the Koyukuk and Yukon rivers, Galena, Units 22, 23, 24 including residents of Wiseman, but not other residents of the Dalton Highway Corridor Management Area and Unit 26A (FWS 1995b, 1997b).

In 2000, Board adopted Proposal WP00-53 with modification allowing the use of snowmachines to position and select individual caribou for harvest in Units 22 and 23. This was done to recognize a customary and traditional practice in the region (FWS 2000a).

In 2013, an aerial photocensus indicated significant declines in the TCH (Caribou Trails 2014), WACH (Dau 2011), and the Central Arctic Caribou Herd (CACH) populations. In response, the BOG adopted modified Proposal 202 (RC76) in March 2015 to reduce harvest opportunities for both residents and nonresidents within the range of the WACH and the TCH. These regulation changes – which included lowering bag limits, changing harvest seasons, modifying the hunt area descriptors, and restricting bull and cow harvest and prohibiting calf harvest – were adopted to slow or reverse the population decline.

In 2015, The Board approved Temporary Special Action WSA15-03/04/05/06 with modification to simplify and clarify the regulatory language; maintain the current hunt areas in Units 23; decrease the harvest limit from 15 to 5 caribou per day, shorten the cow and bull seasons and prohibit the harvest of calves and cows with calves in Unit 23 (OSM 2015).

In 2015, the Northwest Arctic Subsistence Regional Advisory Council submitted Temporary Special Action Request WSA16-01 to close caribou hunting on Federal public lands in Unit 23 to non-Federally qualified users (NFQU) for the 2016/17 regulatory year (OSM 2016a). The Council stated that their request was necessary for conservation purposes but were also needed because nonlocal hunting activities were negatively affecting subsistence harvests. In April 2016, the Board approved WSA16-01, basing its decision on the strong support of the Northwest Arctic and North Slope Councils, public testimony in favor of the request, as well as concerns over conservation and continuation of subsistence uses (FSB 2016).

In June 2016, the State submitted Temporary Special Action Request WSA16-03 to reopen caribou hunting on Federal public lands in Unit 23 to NFQU, providing new biological information (e.g. calf recruitment, weight, body condition) on the WACH. The State specified that there was no biological reason for the closure and that it could increase user conflicts. In January 2017, the Board rejected WSA16-03 due to the position of all four affected Councils (Northwest Arctic, North Slope, Seward Peninsula, and Western Interior Alaska Regional Advisory Councils), public testimony, and Tribal consultation comments opposing the request. Additionally, the Board found the new information provided by the State to be insufficient to rescind the closure (FSB 2017, OSM 2017a).

In January 2017, the BOG adopted Proposal 2, requiring registration permits for residents hunting caribou within the range of the Western Arctic and Teshekpuk herds in Units 22, 23, and 26A (a similar proposal was passed for Unit 22 in 2016). ADF&G submitted the proposal in order to better monitor harvest and improve management flexibility (ADF&G 2017a).

Also in January 2017, the BOG rejected Proposal 45, which proposed requiring big game hunting camps to be spaced at least three miles apart along the Noatak, Agashashok, Eli, and Squirrel Rivers. The Noatak/Kivalina & Kotzebue Fish and Game Advisory Committee (AC) submitted the proposal to allow caribou to migrate through those areas with less disruption and barriers. The proposal failed as it would be difficult to enforce.

In March 2017, the Northwest Arctic Subsistence Regional Advisory Council submitted Temporary Special Action Request WSA17-03 to close caribou hunting on Federal public lands in Unit 23 to NFQU for the 2017/18 regulatory year. The Northwest Arctic Subsistence Regional Advisory Council stated that the intent of the proposed closure was to ensure subsistence use in the 2017/18 regulatory year, to protect declining caribou populations, and to reduce user conflicts. In June 2017, the Board approved Temporary Special Action WSA17-03 with modification to close Federal public lands to caribou hunting within a 10 mile wide corridor (5 miles on either side) along a portion of the Noatak River and within the Squirrel River drainage for the 2017/2018 regulatory year. While these closures may help reduce user conflicts along these high use areas, the Board concluded that closure of all Federal public lands to NFQU was not warranted.

Unit 24

In 2000, the Board adopted Proposal P00-44 to expand the hunting area north of the Kanuti River for caribou to allow Federally qualified subsistence users additional opportunities to harvest from the WACH (OSM 2000b). The harvest limit was set at 5 caribou per day with the restriction that cows may not be

taken from May 16-June 30 (FWS 2000b). The Board, however, did not change the harvest limit of one caribou in the southern section of Unit 24B and 24A which was enacted to protect the Ray Mountain Caribou Herd, a small population of about 1,000 animals, on their wintering range (Jandt 1998).

In 2015, The Board approved Temporary Special Action WSA15-03/04/05/06 with modification to shorten the cow and bull seasons and to prohibit the harvest of calves in Unit 24 remainder (OSM 2015).

Unit 25A

In 2010 the Board adopted Proposal WP10-94 with modification to increase the caribou hunting season to year-round and restricted the harvest season to bulls only from May 16- June 30. The increase to a year-round harvest season was in response to increasing trend of the CACH. Restricting the harvest to bulls only during May and June was implemented to protect calving females. The hunt occurs in the area where the CACH winter in Unit 25A (OSM 2010).

Unit 26A and 26B

The Board adopted Proposal P94-82 with modification to allow motor-driven boats and snowmachines to be used to take caribou in Unit 26A and to allow swimming caribou to be taken with a firearm in Unit 26A (OSM 1994b).

In 1995, the Federal Subsistence Board (Board) adopted Proposal P95-64 to increase the harvest limit from 5 caribou per day to 10 caribou per day in Unit 26 to increase opportunity for subsistence hunters (OSM 1995a). The Board also adopted Proposal P95-62 which closed the area east of the Killik River and south of the Colville River to NFQU (OSM 1995b). This closure was enacted to prevent NFQU from harvesting lead animals, which may have caused the migration to move away from the area that local subsistence users hunted in Unit 26A (OSM 1995b).

In 2005, the BOG established a Controlled Use Area for the Anaktuvuk River drainage that prohibited the use of aircraft for caribou hunting from Aug. 15–Oct. 15. The intent of this proposal was to limit access by nonlocal hunters, reduce user conflicts, and lessen the impact on caribou migration.

In 2006, the Board adopted Proposal WP06-65 which opened the area east of the Killik River and south of the Colville River to NFQU (OSM 2006b). The 1995 closure was lifted for several reasons. First, due to changes in land status, lands formerly managed by BLM were transferred to Alaska Native corporations or the State pursuant to the Alaska Native Claims Settlement Act or the Statehood Act, respectively. However, only the lands east of Anaktuvuk Pass were affected by the closure, making the closure less effective. Second, the WACH, TCH, and CACH populations, which traverse Unit 26A, were healthy and could support both subsistence and non–subsistence uses.

In 2013, an aerial photocensus indicated significant declines in the TCH (Caribou Trails 2014), WACH (Dau 2011), and possibly the CACH (Caribou Trails 2014). In response, the BOG adopted modified Proposal 202 (RC76) in March 2015 to reduce harvest opportunities for both residents and non-residents within the range of the WACH and the TCH. These regulation changes, which included lower bag limits,

changes to harvest seasons, modification of hunt areas, restrictions on bull and cow harvest and a prohibition on calf harvest, were adopted to slow or reverse the population decline. These regulatory changes, which were the result of extensive discussion and compromise among a variety of user groups, took effect on July 1, 2015.

In an effort to enact conservation measures the North Slope Subsistence Regional Advisory Council submitted four temporary wildlife special actions (WSA) for Units 23, 24, 26A, and 26B to change caribou harvest regulations on Federal public lands for the 2015/16 regulatory year. The Board approved Temporary Special Actions WSA15-03/04/05/06 with modification, which were similar to the changes made to State regulations in an attempt to reverse or slow the decline of the WACH and TCH. To address two primary factors contributing to the decline, low calf survival and high adult cow mortality, WSA15-03/04/05/06 prohibited the harvest of cows with calves, prohibited the harvest of calves, and reduced the harvest limit from 10 to 5 caribou per day, and shortened the cow and bull seasons in Unit 26A. Compared to the new State caribou regulations, it requested 3 additional weeks to the bull harvest season (Dec. 6- Dec. 31). In Unit 26B WSA15-03/04/05/06 reduced the harvest limit from 10 to 5 caribou and shortened the cow and bull seasons (OSM 2015). These special actions took effect on July 1, 2015.

Changes to caribou regulations in 2015 by the State Board of Game and the Federal Subsistence Board represented the first time in over 30 years that major changes to the harvest regulations were implemented for the WACH and TCH. These restrictions for the WACH were also supported by management recommendations outlined in the Western Arctic Herd Management Plan (WACH Working Group 2011). The intent of these regulations was to reduce the overall harvest and cow mortality to allow the WACH and TCH populations to recover. In 2015, three proposals were submitted for the 2016-2018 wildlife regulatory cycle concerning caribou regulations in Unit 26A and 26B, two from the North Slope Subsistence Regional Advisory Council (WP16-63 and WP16-64) and one from Jack Reakoff (WP16-37). The Board adopted WP16-37 with modification and took no action on WP16-63/64 based on action taken on WP16-37 (OSM 2016b). Changes to the 2016-2018 Federal regulations in Unit 26A included a reduction from ten to five caribou per day harvest limit, splitting Unit 26A into two hunt areas based on range and migration patterns of the WACH and TCH, selecting the opening date for bulls in the winter season as December 6, a prohibition on the take of calves, and protection of cows with calves from July 16-Oct. 15. Changes to caribou regulations in Unit 26B which include harvest from the CACH were: a reduced harvest limit from ten to five caribou per day; splitting Unit 26B into two hunt areas, one south of 69^{o}30’ N. lat. west of the Dalton Highway and 26B remainder; a restricted cow season from July to April/May; and a reduction in the cow and bull seasons.

In January 2017, the BOG adopted Proposal 2, requiring registration permits for residents hunting caribou within the ranges of the WACH and TCH in Units 23 and 26A. Registration permits are required for Units 22, 23, and 26A and harvest tickets are required for Unit 21, 24, 25, 26B, and 26C (Proposal 85 in 2016) under State regulations. ADF&G submitted the proposal in order to better monitor harvest and improve management flexibility. The BOG rejected Proposal 3 (deferred Proposal 85 from 2016) due to action taken on Proposal 2.

In February 2017, in response to the decline in the CACH, the BOG adopted Proposal 105 (RC22) with amendments to eliminate the cow harvest and reduce the harvest to 2 bulls for residents and 1 bull in Unit 26B remainder. The State objective was to reduce overall caribou harvest from 930 to 680 and the cow harvest from 202 to 75 in Unit 26B (Lenart 2017a).

In March 2017, the Norwest Arctic and North Slope Subsistence Regional Advisory Councils submitted Temporary Special Action Requests WSA17-03, and WSA-04, to close caribou hunting on Federal public lands in Unit 23 and in Units 26A and 26B, respectively to NFQU for the 2017/18 regulatory year. Both Councils stated that the intent of the proposed closures was to ensure continuation of subsistence uses in the 2017/18 regulatory year, to protect declining caribou populations, and to reduce user conflicts. In June 2017, the Board approved Temporary Special Action WSA17-03 with modification to close Federal public lands to caribou hunting within a 10 mile wide corridor (5 miles on either side) along a portion of the Noatak River;within the Squirrel River drainage; and within the northern and southern boundaries of the Eli and Agashasshok River drainages; for the 2017/2018 regulatory year. While these closures may help reduce user conflicts along these high use areas, the Board concluded that closure of all Federal public lands to NFQU was not warranted at that time.

In June 2017, the Board rejected WSA17-04 for a variety of reasons including: 1) the relatively small cow harvest by NFQU in Unit 26A; 2) the need for adequate time to determine if the recently enacted conservation actions for WACH, TCH, and CACH are effective in reducing the caribou harvest and reversing or slowing down the population declines; 3) the closure of Federal public lands in Unit 26A would likely shift hunters to State lands around Anaktuvuk Pass; 4) closure of Federal public lands in Unit 26B, which makes up only about 30% of the unit, is not likely to have as much effect as recent BOG regulations to protect the CACH; and 5) a reduction in hunting pressure along the Dalton Highway Corridor Management Area (DHCMA), which is thought to affect the migration of the CACH, is unlikely to be effective, as most NFQU will use the DHCMA to access adjacent State lands.

WP18–33/36 Executive Summary	
General Description	Proposal WP18-33 requests that the Unit 21E moose season be shortened 12 days from Aug. 25-Sept. 30 to Sept. 1-Sept. 25. *Submitted by: Western Interior Alaska Subsistence Regional Advisory Council.* Proposal WP18-36 requests that the Unit 21E moose season be shortened 12 days from Aug. 25-Sept. 30 to Sept. 1-Sept. 25 and that a State registration permit be required. *Submitted by: Grayling, Anvik, Shageluk, Holy Cross Fish and Game Advisory Committee.*
Proposed Regulation	WP18-33 **Unit 21E—Moose** *Unit 21E—1 moose; however, only bulls may be taken from ~~Aug. 25~~**Sept. 1**-Sept. ~~30~~ **25**.* — *~~Aug. 25~~**Sept. 1**-Sept. ~~30~~ **25** Feb. 15-Mar. 15* *During the Feb. 15-Mar.15 season, a Federal registration permit is required. The permit conditions and any needed closures for the winter season will be announced by the Innoko NWR manager and after consultation with the ADF&G area biologist and the Chairs of the Western Interior Regional Advisory Council and the Middle Yukon Fish and Game Advisory Committee as stipulated in a letter of delegation. Moose may not be taken within one-half mile of the Innoko or Yukon River during the winter season.* WP18-36 **Unit 21E—Moose** *Unit 21E—1 moose **by State registration permit**; however, only bulls may be taken from ~~Aug. 25~~**Sept. 1**-Sept. ~~30~~ **25**.* — *~~Aug. 25~~**Sept. 1**-Sept. ~~30~~ **25** Feb. 15-Mar. 15* *During the Feb. 15-Mar.15 season, a Federal registration permit is required.*

WP18–33/36 Executive Summary	
	The permit conditions and any needed closures for the winter season will be announced by the Innoko NWR manager and after consultation with the ADF&G area biologist and the Chairs of the Western Interior Regional Advisory Council and the Middle Yukon Fish and Game Advisory Committee as stipulated in a letter of delegation. Moose may not be taken within one-half mile of the Innoko or Yukon River during the winter season.
OSM Conclusion	**Support** Proposal WP18-36 **with modification** to clarify the regulatory language for permit requirement during the fall season and to remove the regulatory language referring to permit conditions and season closures for the Feb. 15 – Mar. 1 season and delegate authority to set permit conditions and announce season closures for the winter season via a delegation of authority letter only (**Appendix A)**; and **Take No Action** on WP18-33. The modified regulation should read: **Unit 21E—Moose** *Unit 21E—1 moose; however, only bulls may be taken from ~~Aug. 25~~**Sept. 1**-Sept. ~~30~~ **25**. **During the Sept. 1-Sept. 25 season, a State registration permit is required.* *During the Feb. 15-Mar.15 season, a Federal registration permit is required. ~~The permit conditions and any needed closures for the winter season will be announced by the Innoko NWR manager and after consultation with the ADF&G area biologist and the Chairs of the Western Interior Regional Advisory Council and the Middle Yukon Fish and Game Advisory Committee as stipulated in a letter of delegation.~~ Moose may not be taken within one-half mile of the Innoko or* ~~*Aug. 25*~~***Sept. 1****-Sept. ~~30~~ **25*** *Feb. 15-Mar. 15*

WP18–33/36 Executive Summary	
	Yukon River during the winter season.
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	**Take No Action**
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	**Support** WP18-36 **as modified by OSM** **Take No Action** on WP18-33
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	

WP18–33/36 Executive Summary	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient bases for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Support as modified by OSM**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-33/36

ISSUES

Proposal WP18-33, submitted by the Western Interior Alaska Subsistence Regional Advisory Council (Western Interior Council), requests that the Unit 21E moose season be shortened 12 days from Aug. 25-Sept. 30 to Sept. 1-Sept. 25.

Proposal WP18-36, submitted by the Grayling, Anvik, Shageluk, Holy Cross Fish and Game Advisory Committee (GASH AC), requests that the Unit 21E moose season be shortened 12 days from Aug. 25-Sept. 30 to Sept. 1-Sept. 25 and that a State registration permit be required.

DISCUSSION

The Western Interior Council states that this proposal would align State and Federal moose seasons in Unit 21E, which would reduce regulatory complexity and user confusion.

The GASH AC states that the current discrepancy between State and Federal moose seasons and reporting requirements in Unit 21E leads to confusion among Federally qualified subsistence users. The proponent states that few Federally qualified subsistence users hunt during the August season due to heat, insects, and leaves still being on trees, and that the proposed changes are not expected to affect subsistence use or the moose population. The proponent also states that a registration permit hunt will benefit management by providing more accurate harvest information.

Existing Federal Regulation

Unit 21E—Moose

Unit 21E—1 moose; however, only bulls may be taken from Aug. 25-Sept. 30.	*Aug. 25-Sept. 30* *Feb. 15-Mar. 15*
During the Feb. 15-Mar.15 season, a Federal registration permit is required. The permit conditions and any needed closures for the winter season will be announced by the Innoko NWR manager and after consultation with the ADF&G area biologist and the Chairs of the Western Interior Regional Advisory Council and the Middle Yukon Fish and Game Advisory Committee as stipulated in a letter of delegation. Moose may not be taken within one-half mile of the Innoko or Yukon River during the winter season.	

Proposed Federal Regulation

WP18-33

Unit 21E—Moose

*Unit 21E—1 moose; however, only bulls may be taken from ~~Aug. 25~~**Sept. 1**-Sept. ~~30~~ **25**.*	*~~Aug. 25~~**Sept. 1**-Sept. ~~30~~ **25*** *Feb. 15-Mar. 15*
During the Feb. 15-Mar.15 season, a Federal registration permit is required. The permit conditions and any needed closures for the winter season will be announced by the Innoko NWR manager and after consultation with the ADF&G area biologist and the Chairs of the Western Interior Regional Advisory Council and the Middle Yukon Fish and Game Advisory Committee as stipulated in a letter of delegation. Moose may not be taken within one-half mile of the Innoko or Yukon River during the winter season.	

WP18-36

Unit 21E—Moose

*Unit 21E—1 moose **by State registration permit**; however, only bulls may be taken from ~~Aug. 25~~**Sept. 1**-Sept. ~~30~~ **25**.*	*~~Aug. 25~~**Sept. 1**-Sept. ~~30~~ **25*** *Feb. 15-Mar. 15*
During the Feb. 15-Mar.15 season, a Federal registration permit is required. The permit conditions and any needed closures for the winter season will be announced by the Innoko NWR manager and after consultation with the ADF&G area biologist and the Chairs of the Western Interior Regional Advisory Council and the Middle Yukon Fish and Game Advisory Committee as stipulated in a letter of delegation. Moose may not be taken within one-half mile of the Innoko or Yukon River during the winter season.	

Existing State Regulation

Unit 21E—Moose

Resident: One antlered bull by permit available online at http://hunt.alaska.gov, from license vendors in Unit 21E, or ADF&G in McGrath and Fairbanks beginning Aug. 1	*RM836*	*Sept. 1-Sept. 25*
Nonresident: One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side by permit	*DM837/ 839*	*Sept. 5-Sept. 25*

Extent of Federal Public Lands

Federal public lands comprise approximately 60% of Unit 21E and consist of 47% Bureau of Land Management (BLM) managed lands and 12% U.S. Fish and Wildlife Service (USFWS) managed lands.

Customary and Traditional Use Determinations

Residents of Unit 21E, Aniak, Chuathbaluk, Kalskag, Lower Kalskag, and Russian Mission have a customary and traditional use determination for moose in Unit 21E south of a line beginning at the western boundary of Unit 21E near the mouth of Paimiut Slough, extending easterly along the south bank of Paimiut Slough to Upper High Bank, and southeasterly in the direction of Molybdenum Mountain to the juncture of Units 19A, 21A, and 21E.

Residents of Unit 21E and Russian Mission have a customary and traditional use determination for moose in Unit 21E remainder.

Regulatory History

The Paradise Controlled Use Area (CUA) is almost entirely within Unit 21E. It was established in 1978 by the Alaska Board of Game (BOG) in response to concerns that hunter success rates favored non-rural users and that the total moose harvest in the area was threatening the population. Within the Paradise CUA, use of aircraft for moose hunting, including transport of hunters or harvested moose is prohibited. The Paradise CUA access restrictions were adopted by the Federal Subsistence Board (Board) in 1990.

In 1990, Federal moose regulations for Unit 21E were: 1 bull, Sept. 5–Sept. 25 and 1 moose, Feb. 1–10. Residents of Unit 21E and Russian Mission were considered Federally qualified subsistence users.

In 1993, the Alaska Department of Fish and Game (ADF&G) submitted a request for reconsideration, R93-08, to the Board requesting a half mile restriction for moose hunting along the Yukon River in Unit 21E. Requests R93-08 was deferred to the 1994/95 regulatory cycle as Proposal P94-58. The Board deferred Proposal P94-58 at its spring 1994 meeting due to the oversight of including all affected regional advisory councils in the review process (FSB 1994). The Board adopted Proposal P94-58 at its meeting in November 1994. The intent of Proposal P94-58 was to protect overwintering moose and to align State and Federal regulations in order to alleviate law enforcement concerns as distinguishing land status in the area was impracticable (OSM 1994).

In 1995, the Board adopted Proposal P95-40, establishing the half mile restriction for moose hunting along the Innoko River due to concerns over hunting disturbance to moose concentrated on critical winter feeding grounds. The Board also adopted Proposal P95-39 with modification to extend the fall moose season from Sept. 5-Sept. 25 to Aug. 20-Sept. 25 to provide additional opportunity.

In 1999, Proposal P99-045 sought to close the islands in the Innoko and Yukon Rivers to moose hunting during the winter season to protect the moose population, which concentrate on these islands during the

winter. This proposal was rejected as hunting was already restricted within one half mile of these rivers, including islands, under the existing Federal subsistence regulations.

In 2003, the BOG adopted Proposal 172, eliminating the winter moose hunting season (Feb. 1-Feb. 10) in Unit 21E. This closure occurred based on recommendations from the GASH AC and due to concerns that the moose population was declining and could not sustain a large cow harvest or a winter hunt open to all Alaska residents (ADF&G 2003, 2006).

In 2010, the Board adopted Proposal WP10-65, which changed the winter moose season from Feb. 1-Feb. 10 to Feb. 15-Mar. 15, required a Federal registration permit for the winter season, and delegated authority to the Innoko National Wildlife Refuge (NWR) manager to establish permit conditions and closures. The Board determined that the longer winter season would provide hunters with more opportunity and flexibility and that a registration hunt would provide more accurate harvest data to inform management decisions.

The Board also adopted Proposal WP10-66, which changed the fall season dates from Aug. 20-Sept. 25 to Aug. 25-Sept. 30 in order to provide users greater opportunity to harvest moose later in the season when moose are moving around more.

In 2012, the Board adopted deferred Proposal WP10-69, which gave a customary and traditional use determination for moose to the communities of Aniak, Chuathbaluk, Kalskag, and Lower Kalskag in the Paimiut Slough area in Unit 21E.

In 2014, the Board adopted Proposal WP14-32 to extend the boundary for the Paradise CUA two miles to the east, paralleling the Innoko River. This was done to lessen user conflicts between local and non-local users who were circumventing restrictions by accessing lakes via aircraft within two miles of the Paradise CUA to hunt moose.

Also in 2014, the BOG adopted Proposal 60 to require a registration permit for moose in Unit 21E. The proposal was submitted by the GASH AC and adopted by the BOG in order to improve harvest reporting and management of the Unit 21E moose population.

In 2016, the Board rejected Proposal WP16-38 to open the half mile corridor along the Innoko and Yukon Rivers to moose hunting during the winter season. This was due to recommendations from the Western Interior and Yukon-Kuskokwim Councils, which expressed concerns over the small amount of Federal public lands and difficulty in distinguishing land status in the area, law enforcement, and potentially detrimental effects on moose, which concentrate near rivers in winter.

In 2017, the BOG adopted Proposal 76 to lengthen the resident moose season in Unit 21E from Sept. 5-Sept. 25 to Sept. 1-Sept. 25. This proposal was submitted by the GASH AC in order to align State and Federal moose seasons in Unit 21E. In their proposal, the GASH AC indicated that they also intended to submit a Federal wildlife proposal requesting a season of Sept. 1-Sept. 25 and that a State registration permit be required in order to align State and Federal seasons and permit requirements and to reduce user confusion.

Biological Background

In January 2005, a cooperative moose planning effort called the Yukon-Innoko Moose Management Working Group was launched. The goal of the planning effort was to develop a proactive management plan to help maintain the moose population while also providing for high levels of human consumptive uses in Units 21A and 21E (ADF&G 2006). The working group included representatives of the GASH and Lower Yukon ACs, the Western Interior and Yukon-Kuskokwim Delta Councils, as well as nonlocal hunters and representatives who had commercial interests associated with hunting in the area.

The result of the planning effort was the Yukon-Innoko Moose Management Plan (YIMMP), which was completed in March 2006. The Board endorsed the YIMMP in May 2006 through Resolution 06-0201. The YIMMP presented recommendations for harvest management at different moose population levels and levels of hunting pressure, predation management, and habitat management (ADF&G 2006). It also listed goals, objectives, and strategies for cooperative moose management and information needs.

Current State management and harvest objectives for moose in Unit 21E are the same as those in the 2006 YIMMP and are as follows (ADF&G 2006, Peirce 2014):

- Manage to achieve the IM (intensive management) objective of 9,000-11,000 moose.
- Maintain a minimum post hunt bull:cow ratio of 25-30 bulls:100 cows.
- Maintain a minimum post hunt calf:cow ratio of 30-40 calves:100 cows.
- Maintain at least 20% calves in the late winter moose population.
- Maintain a harvest of ≤4% of the estimated moose population until the IM population objective has been met.
- Provide for a sustained harvest of up to 40 antlerless moose in a winter season.
- Provide for the harvest of approximately 310 moose by residents of Unit 21E and other Alaska residents.

Aerial population surveys for moose in Unit 21E have been sporadically conducted since 2000. Between 2000 and 2012, the winter moose population in Unit 21E remained relatively stable, but below management objectives (**Figure 1**). Moose density ranged from 0.9-1.3 moose/mi^2 and averaged 1.1 moose/mi^2 (Peirce 2014). In 2016, the Unit 21E moose population had increased significantly to a unit-wide estimate of 9,931 moose, meeting management objectives (**Figure 1**). The 2016 moose density within the survey area was 2.0 moose/mi^2 (Peirce 2017, pers. comm.).

Between 2007 and 2016, Unit 21E bull:cow ratios were above management objectives, ranging from 32-74 bulls:100 cows and averaging 56 bulls:100 cows (**Table 1**, Peirce 2012, 2017, pers. comm.). The lower ratio in 2009 (**Table 1**) may be due to differences in survey area, as weather prevented surveying an area where high numbers of bulls had been observed during previous surveys (Peirce and Seavoy 2010).

Between 2007 and 2016, Unit 21E calf:cow ratios were above management objectives in all years, except 2009. Fall ratios ranged from 18-66 calves:100 cows, averaging 43 calves:100 cows (**Table 1**, Peirce 2012, 2017, pers. comm.). However, survey conditions in 2009 may have confounded the calf:cow ratio as

well. Fall calf:cow ratios of < 20 calves:100 cows, 20-40 calves:100 cows, and > 40 calves:100 cows may indicate declining, stable, and growing moose populations, respectively (Stout 2010). The high calf:cow ratios observed since 2007 likely contributed to the population increase observed in 2016.

Twinning rates provide an index of nutritional status (Boertje et al. 2007). Between 2007 and 2015, twinning rates for moose in Unit 21E ranged from 28-50% and averaged 38%, indicating habitat is not limiting the Unit 21E moose population (**Table 2**, Peirce 2014, 2017, pers. comm.).

Major factors influencing the Unit 21E moose population include predation, weather, and hunting (Peirce 2014). During a movement study in the 1980s, about 50% of radiocollared cows and 25% of radiocollared bulls spent their entire year in the lowlands. Most of the remaining moose spent winters in the lowlands and summers in the mountains (Peirce 2014).

Habitat

Browse surveys conducted by ADF&G in 2006 noted abundant felt leaf willow (typical winter browse) in riparian areas and abundant diamond leaf willow (typical summer/autumn browse) in meadows (ADF&G 2006). Based on browse removal and twinning rates, nutrition is considered adequate to support moose population growth in Unit 21E (Boertje et al. 2007, Peirce and Seavoy 2010, Peirce 2014).

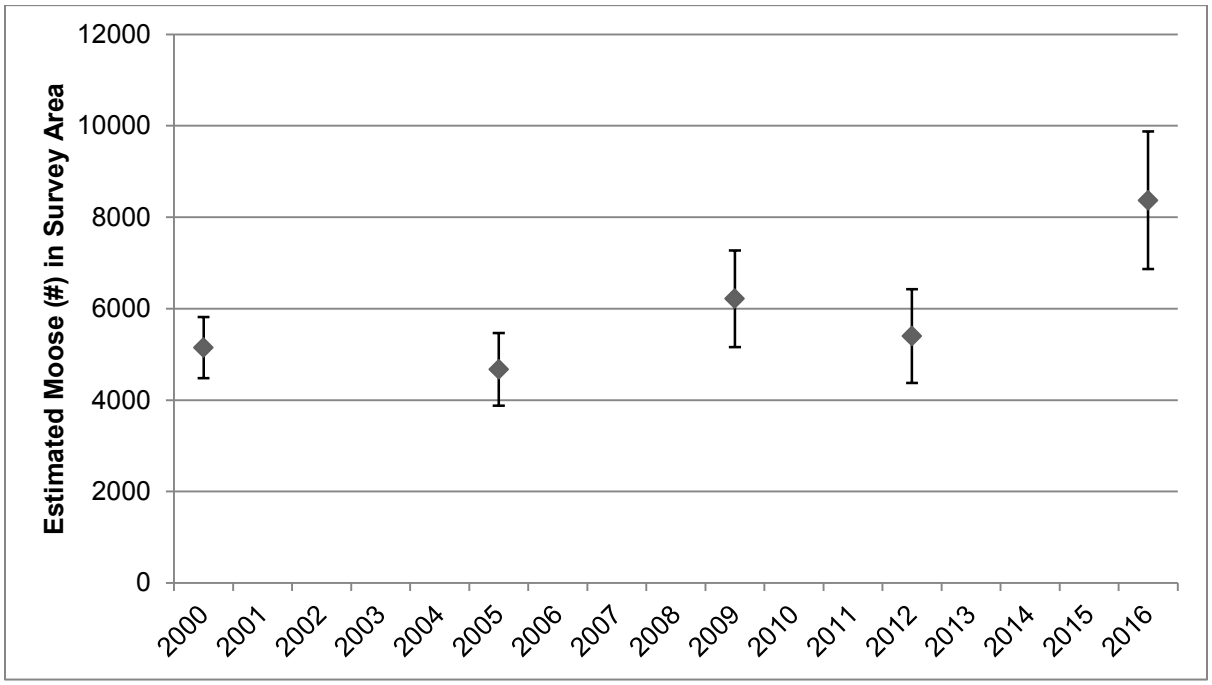


Figure 1. Moose population estimates (± 90% CI) within Unit 21E survey areas. Estimates prior to 2012 do not include a sightability correction factor (SCF) and are for a 5,070 mi^2 survey area. 2012 and 2016 estimates include a SCF and are for the wolf control focus area (WCFA), which is 4,094 mi^2. (Peirce and Seavoy 2010, Peirce 2012, 2017, pers. comm.).

Table 1. Unit 21E moose composition data from fall surveys (Peirce 2012, 2017, pers. comm.).

Year	Moose observed	Bulls:100 cows	Yearling bulls:100 cows	Calves:100 cows
2007	84	74	26	66
2008	186	62	29	37
2009	153	32	21	18
2010	287	61	15	51
2011	201	64	22	47
2016	248	40	22	40

Table 2. Unit 21E moose twinning rates from spring surveys (Peirce 2012, 2014, 2017, pers. comm.).

Regulatory Year	Total Moose	Cows with 1 calf	Cows with 2-3 calves	Twinning rate (%)
2007/08	148	18	7	28
2008/09	194	17	15	47
2009/10	182	12	12	50
2010/11	256	32	22	41
2012/13	339	38	18	32
2014/15		35	16	31
2015/16		44	28	39

Cultural Knowledge and Traditional Practices

Nine communities are included in the customary and traditional use determination for moose in Unit 21E. The communities are the following: Aniak, Anvik, Chuathbaluk, Grayling, Holy Cross, Kalskag, Lower Kalskag, Russian Mission, and Shageluk. In 2010, the populations of these communities range from a low of 83 people in Shageluk to a high of 501 people in Aniak. Approximately 1,963 people live in the area (ADLWD 2017).

Located in the Yukon River drainage in Unit 21E, Anvik, Grayling, and Shageluk share a close history and are primarily *Doy Hit'an* (Holikchuk) and *Deg Hit'an* (Ingalik) Athabascan communities. Residents of the settlement of Holikachuk along the Innoko River moved to the present-day site of Grayling in the 1950s (Brown et al. 2005, Wheeler 1998:63). People continue to return to the Innoko River drainage to harvest wild resources. Shageluk is the only year round community situated alongside the Innoko River. Nearby Paimiut was the farthest upriver settlement whose residents spoke only *Yup'ik* (Oswalt and VanStone 1967:1). Between 1950 and 1960, some Paimiut residents initially moved to Kalskag and Lower Kalskag alongside the Kuskokwim River, and then some of those people again relocated to Russian Mission in the 1960s (Pete 1991:18-19). A trail runs from the Paimiut Portage, linking Kalskag to the now-abandoned village of Paimiut on the Yukon River (Burch 1976:1–10). A Jesuit mission and a boarding school operated until 1956 at Holy Cross and attracted new residents to the Yup'ik settlement situated alongside

the Yukon River. Most residents have Yup'ik or Deg Hit'an Athabascan ancestry (Moncrieff and Klein 2003:15).

On the Kuskokwim River, Crow Village, an abandoned village that was located near present-day Chuathbaluk, was the farthest upriver settlement whose residents spoke only Yup'ik (Oswalt and VanStone 1967:1). The Russian trading fort Kolmakovsky Redoubt was about 12 miles from present-day Chuathbaluk when people built the Orthodox Church at the site of Chuathbaluk. For a while, small migrations of Deg Hit'an Athabascans and Yup'ik moved to the church site. In the 1950s, the Orthodox Church was rebuilt and families again moved to the site at Chuathbaluk. Kalskag, Lower Kalskag, and Chuathbaluk are composed primarily of Yup'ik Eskimos. Aniak, the regional center, is composed of both non-Native and Yup'ik people (Charnley 1984).

With the exception of a State-maintained 4.2-mile gravel road connecting Kalskag and Lower Kalskag, no road connections exist between the other communities (ADCCED 2017). However, boats are used to travel between villages, and trails and the frozen river are used by people on snow machines and ATVs during winter (Brown et al. 2012, Oswalt 1980).

The Unit 21E region supported a limited number of moose until the 1920s when the population began to increase. Oswalt (1990) noted that an unknown number of moose were present in the central river region of Yup'ik territory in the 1840s and that the population became more numerous along the central and upper river by the 1920s. After the 1950s, moose became an ever more important subsistence resource for food, tool production, and clothing purposes (Huntington 1993, Oswalt 1967, Spencer 1959). Traditionally, upriver Yup'ik groups hunted moose whenever they were available with bow and arrows and valued them as a food source that added variety to their diet (Spencer 1959, Oswalt 1967). Antlers were prized and used in the creation of tools, handles, harnesses, snaps, and wedges among the interior Central-Yup'ik (Spencer 1959).

Snow (1981) noted that the Deg Hit'an hunted moose mainly during the winter months via snares, bows and arrows, and various forms of deadfalls. Occasionally moose were taken at summer camp but the focus during this time was on fishing (Snow 1981). The Holikachuk used painted moose and caribou skins for clothing until at least 1880, at which point they began obtaining cloth and sea-mammal skins from the coastal Yup'ik and non-Native traders (Snow 1981).

Based on community household surveys conducted with selected communities 1983–2011, the majority of households in each community used moose during one-year study periods, and a large proportion of households harvested moose. Moose harvest levels ranged from an estimated low of 9 lb of edible weight per person at Chuathbaluk in 2004 to a high of 314 lb per person at Holy Cross in 1990. Estimated harvests ranged from a low of 1 moose at Chuathbaluk in 2004 to a high of 111 moose at Holy Cross in 1990 (ADF&G 2017a, **Table 3**).

In recent harvest surveys, communities reported searching for moose in Units 18, 19, and 21. Harvest and search areas specific to Unit 21E were over large portions of the Holy Cross, Anvik, Grayling, Holikachuk, and Shageluk area and within about five miles of the west bank of the Innoko River (Ikuta et al. 2016).

Table 3. The harvest and use of moose at communities that have a customary and traditional use determination in Unit 21E, based on household harvest surveys (source:ADF&G 2017a).

Community	Study year	Percentage of households:		Moose harvest		
		Use moose	Harvest moose	Estimated harvest of moose	95% confidence interval	Per person harvest in pounds
		%	%	moose	+/- %	lb
Aniak	2003	85	15	24	53	25
	2004	80	23	38	33	43
	2005	80	25	46	19	46
	2009	72	21	35	14	38
Anvik	1990		75	45	16	364
	2003	81	45	16	11	79
	2004	97	64	24	8	112
	2011	88	42	15	27	90
Chuathbaluk	1983		24	16		87
	2003	29	18	5	103	23
	2004	59	6	1	0	9
	2005	29	10	4	147	17
	2009	77	20	7	29	32
Grayling	1990		78	76	9	289
	2002	96	43	33	6	101
	2003	100	53	36	0	106
	2004	100	42	28	0	87
	2011	98	39	23	21	58
Holy Cross	1990		74	111	18	314
	2002	90	59	48	7	138
	2003	94	59	38	8	100
	2004	92	44	26	11	66
Kalskag	2003	74	29	21	51	46
	2004	72	16	9	14	26
	2005	59	18	12	78	24
	2009	92	25	15	22	40
Lower Kalskag	2003	74	24	18	17	32
	2004	36	17	30	75	53
	2005	40	3	12	29	25
	2009	81	24	2	279	5
Russian Mission	1985	100	55	33	0	98
	2011	91	59	59	20	103
Shageluk	1990		38	20	27	126
	2002	97	55	31	21	134
	2003	98	55	28	0	112
	2004	100	41	16	0	77
	2013	100	35	11	19	71

Blank cell=information not available.

Hunting and search areas also included the areas south and southeast of Holy Cross (Brown et al. 2012, Ikuta et al. 2014).

Harvest History

Moose harvest data in Unit 21E comes from harvest ticket and permit reports as well as household surveys. Between 1990 and 2015, reported moose harvest under State regulations ranged from 98-233 moose/year and averaged 147 moose/year (**Figure 2**, ADF&G 2015, 2017b). Over the same time period, reported harvest by Federally qualified subsistence users in Unit 21E (residents of Unit 21E and Russian Mission) ranged from 28-86 moose/year and averaged 42 moose/year (**Figure 2**). Reported harvest by Federally qualified subsistence users is likely slightly higher post 2012 as residents of Aniak, Chuathbaluk, Kalskag, Lower Kalskag were granted C&T for moose in a small portion of southern Unit 21E. Reported harvest during the Federal winter season (FM2104 and FM2015) has been low, averaging 6 total moose/year and 3.4 cows/year since the hunt began in 2010 (**Table 4**, OSM 2015, Havener 2017, pers. comm.). This is well below the management objective of up to 40 antlerless moose harvested during a winter season.

Reported harvests are well within the management objective of harvesting ≤4% of the estimated moose population annually. While low harvest reporting by Unit 21E residents has confounded harvest assessment (**Table 5**, Peirce 2014), reporting rates improved dramatically in 2014 when the BOG required registration permits, resulting in much more accurate harvest data (Peirce 2017, pers. comm.). Similarly, the YIMMP estimated 50% of moose harvests by residents of Units 18 and 19 in Unit 21E are not reported (ADF&G 2006).

In 2006, the YIMMP estimated the total annual moose harvest in Unit 21E as 340 moose (ADF&G 2006). The YIMMP used household survey data, reported harvest data, and assumptions about non-reporting rates to calculate this estimate. Moose harvest by Unit 21E residents was estimated at 143 moose/year; harvest by residents of Units 18 and 19 was estimated at 127 moose/year. Assuming an annual average harvest of 340 moose out of an estimated population of 9,931 moose, harvest is still within management objectives.

Between 2005 and 2015, 72% of reported moose harvests occurred in mid-September (Sept. 9-Sept. 22) on average while only 10% occurred in late September (after Sept. 22) on average (ADF&G 2017b). Boats are the primary transport method used by moose hunters in Unit 21E (~85% of hunters) followed distantly by airplanes (~10% of hunters) (Peirce 2014). Airplane use and access is limited by the Paradise CUA.

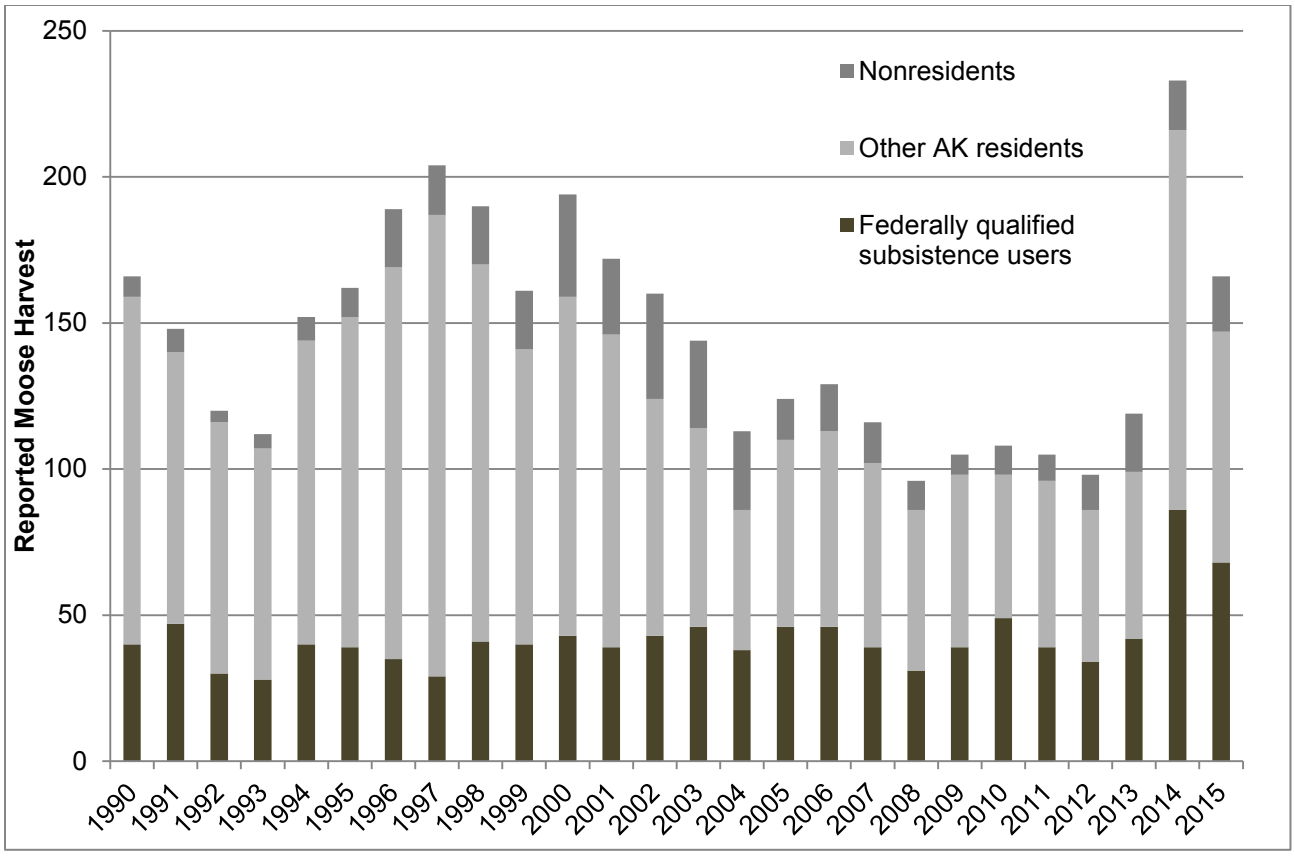


Figure 2. Unit 21E reported moose harvest by residency (ADF&G 2015, 2017b). Harvest is for fall season only. Federally qualified subsistence users include residents of Unit 21E and Russian Mission.

Table 4. Federal winter season moose harvest and permits issued in Unit 21E (FM2104 and FM2105) (OSM 2015, Havener 2017, pers. comm.).

Regulatory Year	Permits Issued	Total Harvest	Males Harvested	Females Harvested
2010/11	24	6	2	4
2011/12	14	4	2	2
2012/13	15	7	3	4
2013/14	17	2	1	1
2014/15	24	3	1	2
2015/16	27	8	3	5
2016/17	24	12	6	6
Average	20.7	6.0	2.6	3.4

Table 5. Reported and estimated moose harvest by GASH communities (ADF&G 2006, 2017b, 2017c). Reported harvest is from harvest ticket and permit reports. Estimated harvest is from household surveys. Values for 1996-1999 are annual averages.

Year	Reported Harvest	Estimated Harvest	% Difference
1990	40	222	81.98
1996-1999	33.5	226	85.18
2002	39	133	70.68
2003	43	118	63.56
2004	32	94	65.96
Average	37.5	158.6	73.47

Effects of the Proposal

If this proposal is adopted, the Federal fall moose season in Unit 21E would be shortened by 12 days, reducing opportunity for Federally qualified subsistence users. Current moose population estimates as well as trends in bull:cow and calf:cow ratios indicate that there is no biological reason to reduce opportunity.

However, adoption of this proposal would align Federal and State fall moose seasons in Unit 21E, reducing regulatory complexity and user confusion. The Federal winter season would still provide for a subsistence priority. Land ownership is Unit 21E is a checkerboard of Federal and non-Federal lands, particularly along the Yukon and lower Innoko Rivers where the majority of Federally qualified subsistence users hunt. It is impracticable for users to distinguish land status in this area. Therefore, aligning State and Federal seasons will ensure that hunters are in compliance with regulations and reduce law enforcement concerns. Season alignment was also supported by both the Western Interior Council and GASH AC, which represent local subsistence users. Additionally, as the majority of reported moose harvest occurs in mid-September, eliminating the August and end of September portions of the Federal season may have limited impacts on Federally qualified subsistence users. Federally qualified subsistence users also have additional opportunity to hunt during the Federal winter moose season.

Currently, a registration permit is required to hunt under State regulations while a harvest ticket is needed to hunt under Federal regulations. In 2016, the State issued a joint Federal/State registration permit. However, this permit is not legally required under Federal regulations. These dual reporting requirements result in user confusion and may result in double reporting if users submit both a State permit and harvest ticket. While formal concurrence would be needed from the State to allow Federally qualified subsistence users to use a State registration permit while hunting under Federal regulations, it seems unlikely that the State would disagree given the issuance of joint permits in 2016.

OSM CONCLUSION

Support WP18-36 **with modification** to clarify the regulatory language for permit requirements during the fall season and to remove the regulatory language referring to permit conditions and season closures for the Feb. 15 – Mar. 1 season and delegate authority to set permit conditions and announce season closures for the winter season via a delegation of authority letter only (**Appendix A)**; and **Take No Action** on WP18-33.

The modified regulation should read:

Unit 21E—Moose

*Unit 21E—1 moose; however, only bulls may be taken from ~~Aug. 25~~**Sept. 1**-Sept. ~~30~~ **25**. **During the Sept. 1-Sept. 25 season, a State registration permit is required.***	*~~Aug. 25~~**Sept. 1**-Sept. ~~30~~ **25***
During the Feb. 15-Mar.15 season, a Federal registration permit is required. ~~The permit conditions and any needed closures for the winter season will be announced by the Innoko NWR manager and after consultation with the ADF&G area biologist and the Chairs of the Western Interior Regional Advisory Council and the Middle Yukon Fish and Game Advisory Committee as stipulated in a letter of delegation.~~ Moose may not be taken within one-half mile of the Innoko or Yukon River during the winter season.	*Feb. 15-Mar. 15*

Justification

While this proposal reduces opportunity for Federally qualified subsistence users, it is being requested by the Western Interior Council and the GASH AC, which represent rural users in Unit 21E. Additionally, it will reduce regulatory complexity and user confusion by aligning State and Federal fall moose seasons. Distinguishing land status in Unit 21E is impracticable and aligning State and Federal seasons ensures hunters are in compliance with all applicable regulations.

Requiring a State registration permit aligns Federal and State reporting requirements, further reducing user confusion and regulatory complexity. Additionally, it may improve harvest reporting and preclude double reporting. However, concurrence from the State to allow Federally qualified subsistence users to use a State registration permit while hunting under Federal regulations would be needed.

Clarifying that State and Federal registration permits are required for the fall and winter moose seasons, respectively is necessary to avoid user confusion. Creation of a delegation of authority letter for the Federal in-season manager will serve to simplify regulations and allow for management flexibility through adjustment of in-season winter hunt parameters.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Yukon-Kuskokwim Delta Subsistence Regional Advisory Council

Take No Action on WP18-33/36. Motion died for lack of a second. The Council noted this proposal had no bearing on Unit 18.

Western Interior Alaska Subsistence Regional Advisory Council

Support WP18-36 **as modified by OSM** and **Take No Action** on WP18-33. The Council supported aligning State and Federal seasons and reporting requirements. Council members were supportive of eliminating the August portion of the hunt due to warm weather conditions at that time of the year, as those conditions lead to waste of meat.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient bases for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposals WP18-33 and WP18-36:

Proposal WP 18-33, submitted by the Western Interior Subsistence Regional Advisory Council, would shorten the Unit 21E moose season 12 days from August 25–September 30 to September 1–25.

Proposal WP18-36, submitted by the Grayling, Anvik, Holy Cross, Shageluk Fish and Game Advisory Committee, would shorten the Unit 21E moose season 12 days from August 25–September 30 to September 1–25 and a joint state-federal registration permit would be required.

Introduction: These proposals would shorten the Unit 21E federal season and one would require participants to acquire a joint state-federal registration permit. This would align the state and federal seasons, reduce confusion among local users, and improve harvest reporting.

Impact on Subsistence Uses: Subsistence hunters will not have to be concerned about identifying state and federal lands where checkerboard land ownership occurs. Subsistence hunters will be able to hunt using a single joint state-federal permit on state and federal lands.

Impact on Other Uses: The proposed change is not expected to impact other uses.

Opportunity Provided by State:
State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for moose in all of Unit 21.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for moose in Unit 21 is 600-800 animals.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
21E	1 antlered bull only by registration permit	September 1–25 (RM836)	
	1 bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side		September 5–25 (Drawing permit only)

Special instructions: The Paradise Controlled Use Area in Unit 21E prohibits use of aircraft for moose hunting, including transport of hunters or harvested moose.

Conservation Issues: No biological concerns were identified with this proposal. The population density was estimated to be 1.1 moose/mi^2 in 2012, and the population appears to be stable or increasing. Even though acquiring accurate harvest data has made it difficult to assess the potential impact of harvest on this population, the 2013-2014 average twinning rate of 32% indicates adequate habitat is available to support this moose population.

Enforcement Issues: This proposal reduces enforcement concerns by aligning state and federal regulations.

Recommendation: The Alaska Department of Fish and Game **SUPPORTS** this proposal. Low harvest reporting makes assessing harvest difficult. Reporting is likely to improve if this proposal is adopted because local hunters would have a better idea of where and when they can hunt. One permit will simplify paperwork. We support this proposal because it will put into regulation an effort initiated last year to use a joint state-federal permit.

Appendix A

Refuge Manager
Innoko National Wildlife Refuge
101 Front Street 287
Galena, Alaska 99741

Dear Refuge Manager:

This letter delegates specific regulatory authority from the Federal Subsistence Board (Board) to the Innoko National Wildlife Refuge Manager to issue emergency or temporary special actions if necessary to ensure the conservation of a healthy wildlife population, to continue subsistence uses of wildlife, for reasons of public safety, or to assure the continued viability of a wildlife population. This delegation only applies to the Federal public lands subject to Alaska National Interest Land Conservation Act (ANILCA) Title VIII jurisdiction within Unit 21E as it applies to moose on these lands.

It is the intent of the Board that actions related to management of moose by Federal officials be coordinated, prior to implementation, with the Alaska Department of Fish and Game (ADF&G) and the Chairs of the Western Interior Alaska and Yukon-Kuskokwim Delta Subsistence Regional Advisory Councils (Councils) to the extent possible. Federal managers are expected to work with managers from the State and other Federal agencies, the Council Chairs, and applicable Council members to minimize disruption to subsistence resource users and existing agency programs, consistent with the need for special action.

DELEGATION OF AUTHORITY

1. Delegation: The Innoko National Wildlife Refuge Manager is hereby delegated authority to issue emergency or temporary special actions affecting moose on Federal lands as outlined under the **Scope of Delegation** below. Any action greater than 60 days in length (temporary special action) requires a public hearing before implementation. Special actions are governed by regulation at 36 CFR 242.19 and 50 CFR 100.19.

2. Authority: This delegation of authority is established pursuant to 36 CFR 242.10(d)(6) and 50 CFR 100.10(d)(6), which state: "The Board may delegate to agency field officials the authority to set harvest and possession limits, define harvest areas, specify methods or means of harvest, specify permit requirements, and open or close specific fish or wildlife harvest seasons within frameworks established by the Board."

3. Scope of Delegation: The regulatory authority hereby delegated is limited to the following authorities within the limits set by regulation at 36 CFR 242.26 and 50 CFR 100.26:

- To set permit conditions and announce any needed closures for the winter season for moose on Federal public lands in Unit 21E.

This delegation may be exercised only when necessary to conserve moose populations, to continue

subsistence uses, for reasons of public safety, or to assure the continued viability of the population.

All other proposed changes to codified regulations, such as customary and traditional use determinations, adjustments to methods and means of take, or closures and restriction for take for only non-Federally qualified users shall be directed to the Federal Subsistence Board.

The Federal public lands subject to this delegated authority are those within Unit 21E.

4. Effective Period: This delegation of authority is effective from the date of this letter and continues until superseded or rescinded.

5. Guidelines for Delegation: You will become familiar with the management history of the wildlife species relevant to this delegation in the region, with current State and Federal regulations and management plans, and be up-to-date on population and harvest status information. You will review special action requests or situations that may require a special action and all supporting information to determine (1) consistency with 36 CFR 242.19, (2) if the request/situation falls within the scope of authority, (3) if significant conservation problems or subsistence harvest concerns are indicated, and (4) what the consequences of taking an action or no action may be on potentially affected subsistence users and non-Federally qualified users. Requests not within your delegated authority will be forwarded to the Federal Subsistence Board for consideration. You will maintain a record of all special action requests and rationale for your decision. A copy of this record will be provided to the Administrative Records Specialist in the Office of Subsistence Management (OSM) no later than sixty days after development of the document.

You will notify OSM and coordinate with local ADF&G managers and the Chairs of the Western Interior Alaska and Yukon-Kuskokwim Delta Subsistence Regional Advisory Councils regarding special actions under consideration. You will issue decisions in a timely manner. Before the effective date of any decision, reasonable efforts will be made to notify the public, OSM, affected State and Federal managers, law enforcement personnel, and Council representatives. If an action is to supersede a State action not yet in effect, the decision will be communicated to the public, OSM, affected State and Federal Managers, and the local Council representatives at least 24 hours before the State action would be effective. If a decision to take no action is made, you will notify the proponent of the request immediately. A summary of special action requests and your resultant action must be provided to the coordinator of the appropriate Subsistence Regional Advisory Council(s) at the end of each calendar year for presentation to the Council(s).

You may defer a special action request, otherwise covered by this delegation of authority, to the Federal Subsistence Board in instances when the proposed management action will have a significant impact on a large number of Federal subsistence users or is particularly controversial. This option should be exercised judiciously and may be initiated only when sufficient time allows for it. Such deferrals should not be considered when immediate management actions are necessary for conservation purposes. The Federal Subsistence Board may determine that a special action request may best be handled by the Board, subsequently rescinding the delegated regulatory authority for the specific action only.

6. Support Services: Administrative support for regulatory actions will be provided by the Office

of Subsistence Management, U.S. Fish & Wildlife Service, Department of the Interior.

Sincerely,

Tim Towarak
Chair, Federal Subsistence Board

cc: Assistant Regional Director, Office of Subsistence Management
Deputy Assistant Regional Director, Office of Subsistence Management
Chair, Western Interior Alaska Subsistence Regional Advisory Council
Chair, Yukon-Kuskokwim Delta Subsistence Regional Advisory Council
Council Coordinator, Western Interior Alaska Subsistence Regional Advisory Council, Office of Subsistence Management
Council Coordinator, Yukon-Kuskokwim Delta Alaska Subsistence Regional Advisory Council, Office of Subsistence Management
Federal Subsistence Liaison Team Leader, Alaska Department of Fish and Game
Federal Subsistence Board
Interagency Staff Committee
Commissioner, Alaska Department of Fish and Game
Administrative Record

WP18–35 Executive Summary	
General Description	Proposal WP18–35 requests that Federal regulations for moose in Unit 24B be adjusted to align with the recently adopted State regulations for the winter season in this area. It also requests that, in lieu of the current Federal registration permit requirement, State permits and tickets be used in all seasons. *Submitted by: Alaska Department of Fish and Game.*
Proposed Regulation	*Unit 24—Moose* *Unit 24B—that portion within the John River Drainage—1 moose* ***by State harvest ticket*** — *Aug. 1 – Dec.* ~~*31*~~***14*** ***or*** ***1 antlered bull by State registration permit*** — ***Dec. 15 – Apr. 15*** *Unit 24B, remainder* *1* ~~*antlered*~~ *bull* ~~*by Federal registration permit*~~ ***by State harvest ticket*** — *Aug. 25 – Oct. 1* ***or*** *1 antlered bull* ***by State registration permit*** — *Dec. 15 – Apr. 15* *Federal public lands in the Kanuti Controlled Use Area, as described in Federal regulations, are closed to taking of moose, except by Federally qualified subsistence users of Unit 24, Koyukuk, and Galena* ~~*hunting under these regulations*~~*.*
OSM Conclusion	**Support** Proposal WP18-35 **with modification** to retain the phrase "hunting under these regulations". The modified regulation should read: *Unit 24—Moose* *Unit 24B—that portion within the John River* — *Aug. 1 – Dec.* ~~*31*~~***14***

WP18–35 Executive Summary		
	Drainage—1 moose ***by State harvest ticket***	
	or	
	1 antlered bull by State registration permit	***Dec. 15 – Apr. 15***
	Unit 24B, remainder	
	1 ~~antlered~~ bull ~~by Federal registration permit~~ ***by State harvest ticket***	*Aug. 25 – Oct. 1*
	or	
	1 antlered bull ***by State registration permit***	*Dec. 15 – Apr. 15*
	Federal public lands in the Kanuti Controlled Use Area, as described in Federal regulations, are closed to taking of moose, except by Federally qualified subsistence users of Unit 24, Koyukuk, and Galena hunting under these regulations.	
Southeast Alaska Subsistence Regional Advisory Council Recommendation		
Southcentral Alaska Subsistence Regional Advisory Council Recommendation		
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation		
Bristol Bay Subsistence Regional Advisory Council Recommendation		

WP18–35 Executive Summary	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	**Support**
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Support**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-35

ISSUES

Proposal WP18-35, submitted by the Alaska Department of Fish and Game (ADF&G), requests that Federal regulations for moose in Unit 24B be adjusted to align with the recently adopted State regulations for the winter season in this area. It also requests that, in lieu of the current Federal registration permit requirement, State permits and tickets be used in all seasons.

DISCUSSION

Unit 24B contains a mix of Federal and State managed lands. In some areas, particularly near communities, these lands occur in a checkerboard pattern. This can cause confusion and result in unintentional noncompliance by Federally qualified subsistence users. The proponent believes that creating uniform State and Federal winter seasons, harvest limits and restrictions, and permitting requirements across Unit 24B will ameliorate the regulatory complexities caused by the diverse land status.

The requested changes would result in parallel State and Federal regulations Dec. 15 – Apr. 15, which would require the addition of a winter hunt in the John River drainage hunt area, removal of the requirement for a Federal registration permit in Unit 24B remainder, and adjustments to harvest restrictions throughout the Unit. The intent was discussed with the proponent and it was clarified that, in lieu of a Federal registration permit, Federally qualified subsistence users would report harvest via a State harvest ticket during the fall season and a State registration permit during the winter season. This would simplify permitting requirements for rural users and result in all harvest data being reported into a single system, improving harvest management.

On the whole, these changes represent an expansion of subsistence opportunity in the area. The proponent asserts that these changes will not result in additional harvest, and therefore do not pose a threat to the conservation status of moose in Unit 24B.

Existing Federal Regulation

Unit 24—Moose

Unit 24B—that portion within the John River Drainage—1 moose	*Aug. 1 – Dec. 31*
Unit 24B, remainder—1 antlered bull by Federal registration permit.	*Aug. 25 – Oct. 1* *Dec. 15 – Apr. 15*
Federal public lands in the Kanuti Controlled Use Area, as described in Federal regulations, are closed to taking of moose, except by Federally qualified subsistence users of Unit 24, Koyukuk, and Galena hunting	

under these regulations.

Proposed Federal Regulation

Unit 24—Moose

Unit 24B—that portion within the John River Drainage—1 moose ***by State harvest ticket***		*Aug. 1 – Dec.* ~~*31*~~***14***
or		
1 antlered bull by State registration permit		***Dec. 15 – Apr. 15***
Unit 24B, remainder		
1 ~~*antlered*~~ *bull* ~~*by Federal registration permit*~~ ***by State harvest ticket***		*Aug. 25 – Oct. 1*
or		
1 antlered bull ***by State registration permit***		*Dec. 15 – Apr. 15*

Federal public lands in the Kanuti Controlled Use Area, as described in Federal regulations, are closed to taking of moose, except by Federally qualified subsistence users of Unit 24, Koyukuk, and Galena ~~*hunting under these regulations*~~*.*

Existing State Regulation

Unit 24—Moose

Unit 24B		
1 bull	*HT*	*Sep. 1 – Sep. 25*
or		
1 antlered bull by permit available online at http://hunt.alaska.gov and in person in Hughes, Allakaket, and Fairbanks, beginning Dec. 7	*RM833*	*Dec. 15 – Apr. 15*

Extent of Federal Public Lands

Federal public lands comprise approximately 58% of Unit 24B and consist of 38% National Park Service (NPS) managed lands, 14% U.S. Fish and Wildlife Service (USFWS) managed lands, and 6% Bureau of Land Management (BLM) managed lands (**Map 1**).

Customary and Traditional Use Determinations

Residents of Unit 24, Koyukuk and Galena have a customary and traditional use determination for moose in Unit 24.

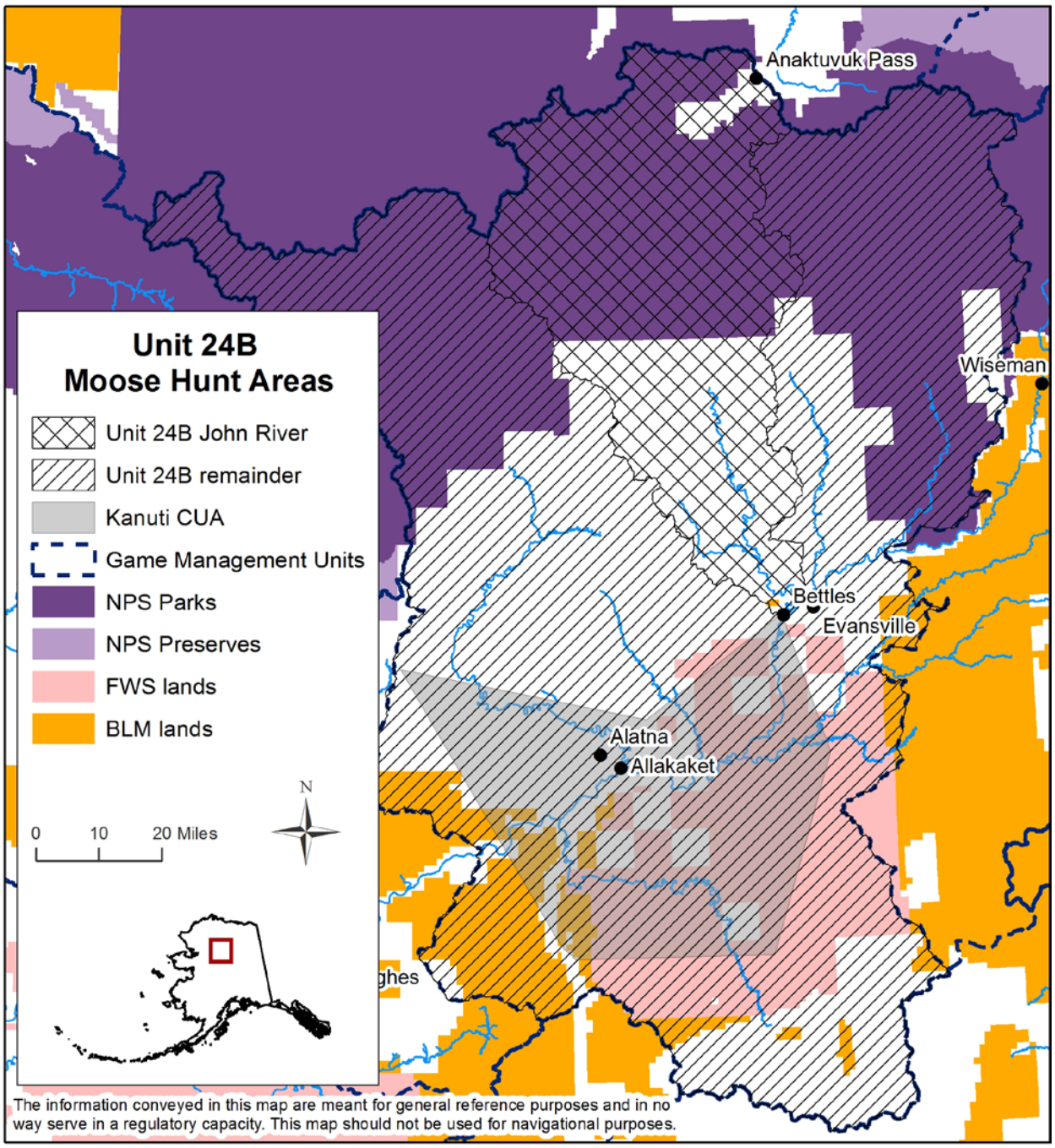
Regulatory History

Prior to 2006, Unit 24 was managed as a single Unit. In response to the complexities of managing wildlife populations in large game management units, the Alaska Board of Game (BOG) and the Federal Subsistence Board (Board) adopted regulations in 2006 to divide Unit 24 into Subunits A, B, C, and D. In Federal regulation, this was achieved through action on Proposal WP06-36. The Board also considered Proposal WP06-34 in 2006. As a result of the Board's action on these two proposals, the John River drainage hunt area had an Aug. 1 – Dec. 31 season with a limit of one moose; the hunt area north of the Koyukuk River, excluding the John River drainage had an Aug. 25 – Oct. 1 season, as well as a Mar. 1 – 5 may-be-announced season with a limit of one moose and including a Federal lands closure in the Kanuti Controlled Use Area; the remainder hunt area had an Aug. 25 – Oct. 1 season with a limit of 1 antlered bull.

Extreme cold weather and unmet subsistence needs in 2007 and 2008 resulted in the submission of several special action requests. Special Action WSA06-08, submitted by the Allakaket Tribal Council, requested that the Mar. 1 – 5, 2007 season be extended later in the month. The Board approved this request, which resulted in a Mar. 20 – 24 season. Special Action WSA07-09, submitted by the Kanuti National Wildlife Refuge (Refuge) requested that a Mar. 1 – 5 to-be-announced season be established in the Unit 24B remainder hunt area, with a harvest limit of one bull. It also requested that the harvest limit for the March season in the John River drainage be changed from one moose to one bull. This request was approved by the Board. Special Action WSA07-10 was subsequently submitted by the Refuge, requesting that four days, Mar. 7 – 10, be added to the Unit 24B remainder hunt. The request was approved with the modification that the hunt be reopened Mar. 8 – 10 with a harvest limit of one bull.

In 2010, Special Action WSA09-15 was submitted by the Refuge, again requesting that a five day may-be-announced season be established in Unit 24B remainder. The proponent reported that the existing winter season in the John River drainage wasn't utilized due to inaccessibility of the hunt area. The Board approved this request, resulting in a Mar. 27 – 31 season, with a harvest limit of one bull and quota of 5 bulls.

The BOG and the Board made several changes in Unit 24B regulations in 2010. The BOG adopted Proposal 94 in 2010, which reduced the size of the Kanuti CUA in State regulation. However, the Kanuti CUA boundaries have not been changed under Federal regulations. As a result, the boundary of the State CUA is currently out of alignment with Federal regulations.



Map 1. Unit 24B moose hunt areas and land status.

The same year, at their February meeting, the Alaska BOG adopted Proposal 90A, which replaced the existing Dec. 1–10 moose season with the Dec. 15 – Apr. 15 season in Unit 24B remainder. The harvest limit was set at one antlered bull and required the use of registration permit (RM833). The newly established winter season was adopted with a stipulation that it would sunset at the end of the 2013/2014 season.

Also in 2010, Proposal WP10-67, submitted by the Western Interior Alaska Subsistence Regional Advisory Council, was adopted with modification. As a result, the hunt area north of the Koyukuk River drainage was replaced with a hunt area that included Refuge and BLM lands within Unit 24B, and the remainder hunt area was modified accordingly. In the new hunt area, a Dec. 15 – Apr. 15 season was established with a harvest limit of one antlered bull, with the stipulation that the season would expire at the end of the 2013/2014 season. These changes in State and Federal regulations resulted in uniform winter season dates but inconsistent hunt areas.

In response to these inconsistencies, Proposal WP12-57 was submitted by ADF&G for the Board to consider in 2012. Adoption of this proposal adjusted the hunt area for the Federal winter moose season in Unit 24B and resulted in alignment of the State and Federal winter hunt areas. As a result, winter moose harvest was allowed in all drainages of the Koyukuk River downstream from and including the Henshaw Creek drainage under both Federal and State regulations. In conjunction with its action on Proposal WP12-57, the Board adopted Proposal WP12-58, submitted by the Refuge, with modification to require a Federal registration permit for all Federal public lands downstream from and including the Henshaw Creek drainage (FSB 2012).

In 2014, the BOG adopted modified Proposal 70 (RC 3) to reauthorize the winter moose registration hunt in Unit 24B. The same year, the Board adopted Proposal WP14-29, submitted by the Western Interior Alaska Subsistence Regional Advisory Council, which placed the Federal winter moose season 24B into permanent regulation as well.

In 2016, the Board adopted Proposal WP16-42, which resulted in consolidation of the hunt area downstream of Henshaw Creek drainage and the remainder hunt area. The Dec. 15 – Apr. 15 season was retained in the new, expanded hunt area, with a harvest limit of one antlered bull by Federal registration permit. This action again resulted in different State and Federal winter hunt areas.

Current Events Involving the Species

ADF&G submitted proposals to the State and Federal Boards aimed at aligning moose regulations in Unit 24B. The BOG adopted ADF&G's Proposal 96 in February 2017, which resulted in consolidation of the two existing State hunt areas into a single hunt area, and retention of the existing Dec. 15 – Apr. 15 season in the new, expanded hunt area. The current Federal proposal, if adopted by the Board, would create uniform State and Federal seasons, harvest limits and restrictions, and permitting requirements for moose across Unit 24B during winter.

Biological Background

The Koyukuk River Moose Management Plan (Management Plan), developed by ADF&G in cooperation with the Koyukuk River Moose Hunters' Working Group, addresses moose management within the Koyukuk River drainage. It prescribes ratios of up to 30-40 bulls:100 cows to allow for adequate breeding in this low-density population, and 30-40 calves:100 cows to support population growth (ADF&G 2001).

To assess population status, surveys have been conducted at different intervals and locations within Unit 24B. Within the Refuge, moose surveys have been conducted since 1989. This data set offers the most comprehensive look at moose population dynamics in Unit 24B. In conjunction with Refuge surveys, an additional ~1,000 mi^2 outside the Refuge boundary has been surveyed since 2010. Finally, the National Park Service conducted surveys in and around Gates of the Arctic National Park (GAAR) in 2004 and 2015.

For the Refuge surveys, the Geospatial Population Estimator (GSPE) technique (Ver Hoef 2002; Kellie and DeLong 2006) has been used since 1999. Since that time, moose densities have been 0.20 – 0.43 moose/mi^2 (**Table 1)**. The population estimate from the 2013 survey, which indicated a moose density of 0.20 moose/mi^2, is the lowest on record. It is believed that poor survey conditions were influential in the low estimate (Craig and Stout 2014). In contrast, the estimate from the 2015 survey, which indicated a moose density of 0.43 moose/mi^2, is the highest estimate obtained since GSPE surveys were initiated in 1999. These estimates are typical of Western Interior moose populations (Stout 2014) and, despite the variation in recent years, there is strong statistical evidence that the moose population on the Refuge is stable (Churchwell and Stout 2016).

Table 1. Estimates of moose population and composition in the Kanuti National Wildlife Refuge Survey Area (Churchwell and Stout 2016).

Year	Survey area (mi^2)	Population estimate (90% CI)	Moose density[a] (moose/mi^2)	Bulls: 100 cows	Yearling bulls: 100 cows	Calves: 100 cows	Calves: 100 adults
1999	2,715	1,003 (794–1211)	0.37	59	4	30	19
2004	2,710	842 (602–1,083)	0.31	62	9	46	28
2005	2,710	1,025 (581–1,470)	0.38	70	20	43	25
2007	2,714	588 (463–714)	0.22	60	13	53	33
2008	2,715	872 (669–1,075)	0.32	46	14	58	40
2010	2,714	1,068 (946–1,191)	0.39	51	7	33	22
2011	2,714	797 (644–951)	0.29	69	10	41	24
2013	2,714	551 (410–693)	0.20	65	11	36	22
2015	2,714	1,158 (947–1,370)	0.43	56	9	50	32

[a]Survey areas vary among years depending on how survey units are delineated.

Bull:cow ratios on the Refuge have been high, at 46–70 bulls:100 cows since 1999, consistently exceeding the Management Plan's objectives (**Table 1**). The most recent survey estimated that there were 56 bulls:100 cows on the Refuge (Churchwell and Stout 2016). Calf:cow ratios have been above or within the objective for adequate recruitment in all survey years since 1999 (**Table 1**), suggesting that this population is sufficiently productive to support population growth. The 2015 estimate of 50 calves:100 cows is one of the highest on record. This large calf cohort contributed to the higher population estimate in 2015 and would be expected to contribute to future population growth if it results in higher recruitment rates (Churchwell and Stout 2016). However, poor survey conditions have prevented subsequent population assessments, and the 2016-2017 winter included high snowfall (Churchwell 2017, pers. comm.), which can negatively affect moose survival. Historically, recruitment in the Unit 24 moose population has been lower than expected, with predation by bears and wolves a suspected contributor (Craig and Stout 2014).

Surveys in the Total Survey Area, which includes the Refuge survey area, yielded results similar to the Refuge surveys. The most recent survey, in 2015, indicates that the moose density was 0.41 moose/mi^2 and that there were 62 bulls:100 cows and 52 calves:100 cows (Churchwell and Stout 2016).

GSPE surveys were conducted in and around GAAR, including the Alatna, John, and North and Middle Forks of the Koyukuk river drainages, in 2004 and 2015. The 2004 surveys were conducted during the fall, while the 2015 surveys were conducted during the spring, confounding between-year comparisons. However, the population, age structure, and calf ratios are believed to be stable (Sorum et al. 2015).

In 2015, population parameters were calculated for the entire GAAR survey area, as well as for two additional subunits. The Koyukuk River Drainage (KRD), which overlaps the GAAR survey area, includes the North and Middle Forks of the Koyukuk rivers within Unit 24B and western Unit 24A. The Ambler Road Area (ARA), adjacent to the southern edge of the GAAR survey area, includes the proposed Ambler Road corridor within Unit 24B and extends north and west of Bettles. Moose densities in these survey areas are lower than current densities on and around the Refuge (**Table 2**). In addition, calf:adult ratios are lower for the GAAR and KRD areas compared to the Refuge, indicating lower productivity and lower potential for growth (Sorum et al. 2015).

Table 2. Estimates of moose population and composition in and around Gates of the Arctic National Park (GAAR), including the Koyukuk River Drainage (KRD) and Ambler Road Area (ARA) survey areas (Sorum et al. 2015).

Year	Survey unit	Survey area (mi^2)	Population estimate (90% CI)	Moose density (moose/mi^2)	Calves: 100 adults
2004	GAAR	5,106	968 (737–1,199)	0.19	14
2015	GAAR	5,106	833 (710–957)	0.16	10
2015	KRD	2,147	430 (354 –505)	0.20	10
2015	ARA	1,011	96 (54–137)	0.09	8

Habitat

Habitat studies are limited in Unit 24B. However, habitat does not appear to be limiting the moose population in this unit. Biomass of production and browse removal were measured at browse plots in Unit 24B in 2007 (Stout 2010). This assessment found little brooming of shrub species and indicated that 51% of sampled plants had no evidence of past browsing by moose (Stout 2010). Browse conditions throughout Unit 24 have been described as excellent (Stout 2010), and twinning rates (an indicator of nutritional status) were high in radio-collared cows (35%–60%) from 2008 to 2013 (Stout 2014).

Cultural Knowledge and Traditional Practices

Most hunters in the majority of communities in the customary and traditional use determination for moose in Unit 24B do not use the USFWS or ADF&G harvest reporting system (see Van Lanen et al. 2012 and Anderson and Alexander 1992 for a discussion). Instead, harvests are estimated through community-based research and house-to-house harvest surveys. Most communities, except Koyukuk, have participated in house-to-house surveys (see **Table 3**). Most communities reported that at least 75% of households used moose during one-year study periods, and at least 25% of households harvested moose (ADF&G 2017a). Galena has harvested between an estimated 67 and 131 moose annually, and Huslia has harvested between an estimated 67 and 88 moose annually. The estimated harvest in other communities has been lower but significant in terms of lb per capita in edible weight. The estimated harvest of moose in lb per capita ranged between 77 and 150 lb per capita during most years (ADF&G 2017a).

In recent harvest surveys, communities reported searching for moose in Unit 24. Harvest and search areas specific to subunit 24B were within the Brooks Range, along the Alatna River in the west, north along the Anaktuvuk, Chandler, and Siksikpuk rivers, east to Dalton Highway, and south to the Indian and Kanuti rivers (Brown et al. 2016; Holen et al. 2012). Locations also included areas around the communities of Alatna, Allakaket, Bettles, and Evansville (Holen et al. 2012).

The Nunamiut Inupiaq and Koyukon Athapaskans traditionally inhabited and hunted in Unit 24B (Oswalt 1967). The region supported a limited number of moose until the 1950s when the population began to increase; however, moose was one of several land mammal species that was sought when caribou numbers were down. (Coady 1980; Hall 1984; Huntington 1993; Oswalt 1967; Spencer 1959). After the 1950s, moose became an ever more important subsistence resource for food, tool production, and clothing purposes (Huntington 1993; Oswalt 1967; Spencer 1959). Traditionally, the Nunamiut hunted moose with bow and arrows and valued them as a food source that added variety to their diet (Spencer 1959; Oswalt 1967). Antlers were prized and used in the creation of tools, handles, harnesses, snaps, and wedges among the Nunamiut (Spencer 1959).

The Koyukon traditionally utilized all parts of moose; hair was used for insulation, bones were boiled and rendered to obtain fat and marrow, meat was cooked or jerked, and intestines along with blood vessels served as a food source (Huntington 1993). Some hunters would travel long distances in search for moose during the period when moose were scarce in Koyukon territory. Nelson (1983) documented that moose were absent from the entire Koyukon valley in the early 1900s so people would journey eastward

Table 3. Harvest and use of moose by residents of communities that have a customary and traditional use determination in Unit 24B, based on household harvest surveys (ADF&G 2017a).

		% of households					Harvest		
Community	Study year	Use moose	Attempt harvest moose	Harvest moose	Give away moose	Receive moose	Estimated harvest (moose)	95% CI (%)	Per person (lbs)
Allakaket/ Alatna	1982			77		26	31		102.2
	1983			47			26		70.1
	1984			58			39		106.7
Alatna	1997	100	82	46	46	64	9		194.4
	1998	100	80	30	30	80	5		100.0
	1999	100	86	43	43	100	6	68	96.4
	2001	91	55	45	27	64	6	0	124.6
	2002	100	67	67	50	83	12	41	180.0
	2011	100	83	33	50	100	4	101	77.1
Allakaket	1997	98	77	54	60	60	43	8	133.4
	1998	100	76	51	46	75	37	10	103.6
	1999	100	70	44	59	88	37	4	117.8
	2001	100	66	57	36	77	35	0	109.9
	2002	100	84	56	24	64	35	16	140.3
	2011	88	67	24	45	71	19	31	70.0
Bettles/ Evansville	1982			35		35	13		96.2
	1983			38			15		93.8
	1984			31			14		82.2
	2002	88	8	0	31	88	0		0.0
Bettles	1997	29	14	0	14	29	0	0	0.0
	1998	100	60	60	80	80	7	87	127.1
	1999	89	33	11	22	78	2	153	18.0
	2011	75	38	25	25	63	2	0	90.0
Evansville	1997	50	36	7	43	50	3	102	31.8
	1998	92	75	25	50	83	4	43	67.5
	1999	75	33	17	25	67	2	41	41.5
	2011	85	15	8	46	85	1	0	27.0
Coldfoot	2011	25				25	0		
Galena	1985	95	58	50	32	66	121	22	137.3
	1996	83	77	58	47	43	130	16	128.0
	1997	87	68	56	55	51	131	15	132.1
	1998	91	60	46	27	56	88	16	99.1
	1999	97	62	43	23	58	96	17	93.8
	2001	93	61	50	20	48	120	31	97.4
	2002	88	54	40	31	60	94	9	88.4
	2010	85	73	41	38	59	67	19	85.4
Hughes	1982			79		68	38		201.2
	2014	96	62	35	35	69	13	29	78.3
Huslia	1983			77	50	39	86	3	311.1
	1997	100	66	57	33	50	81	17	200.0
	1998	100	72	57	33	52	72	14	158.5
	1999	100	56	49	25	51	79	18	169.8
	2001	100	70	58	43	49	88	4	182.8
	2002	93	68	53	29	68	67	7	165.1
Wiseman	2011	100	80	60	60	40	4	0	166.2

into the Ray Mountains and Yukon drainage to obtain a moose. Moose hides were carefully cared for, dried, and tanned (Huntington 1993). The tanning process included a mixture of rotten moose brains and water. Tanned hides were used to create pants, shirts, jackets, moccasins, and mittens (Huntington 1993).

Russian explorer, Petr Vasil'evich established a trading post within the Koyukon territory in 1838. The arrival of the Russian explorers was followed by missionaries, traders, prospectors, and military personal (Clark 1984). The gold rush was in its height during the 1890s which brought considerable traffic and settlement of non-Native people into Koyukon country. Oil exploration in the 1970s increased traffic into the region (Clark 1984).

Harvest History

Moose are an important subsistence resource for residents of Unit 24B. Local users, defined here as those who have a customary and traditional use determination for moose in Unit 24, reported harvesting 10 moose annually for the 2000 – 2016 period (ADF&G 2017b; OSM 2017) (**Figure 1**). This represents 27% of the total reported harvest during this time period. Eighty percent of the reported local harvest is attributable to residents of Allakaket. However, underreporting is known to occur in rural areas, and reported harvest may not accurately reflect harvest trends among Federally qualified subsistence users. Reported harvest has remained relatively stable among non-local residents and non-residents, with non-local residents harvesting 18 moose annually and nonresidents harvesting 9 moose annually, on average, for the 2000 – 2016 time period (ADF&G 2017b; OSM 2017).

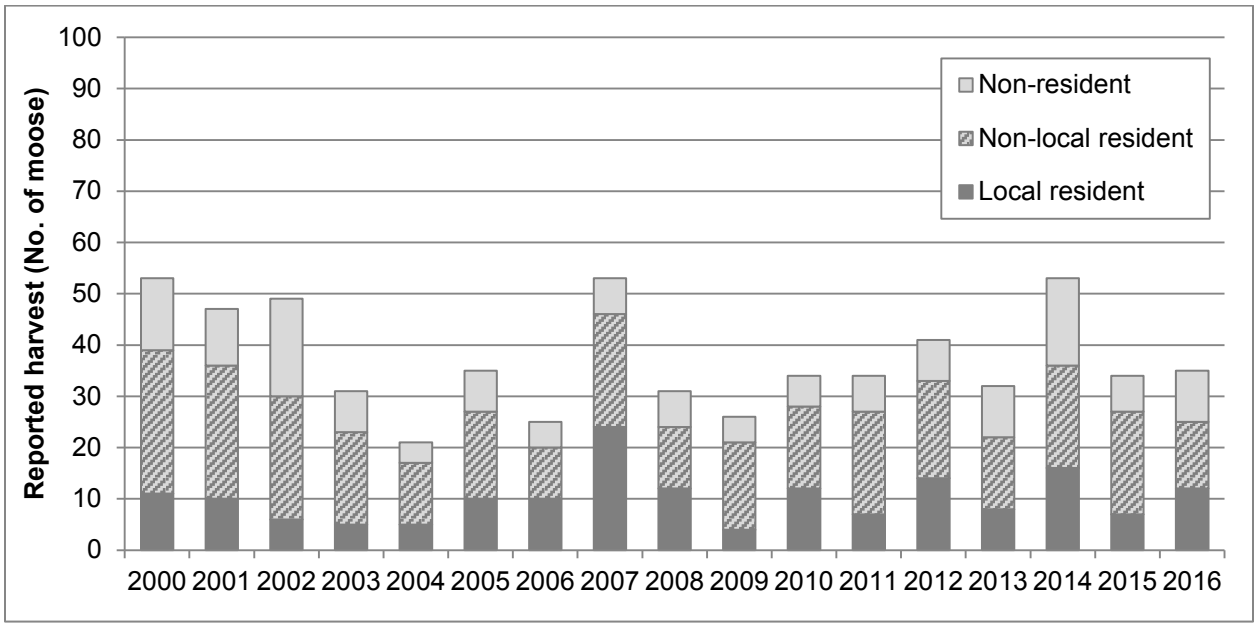


Figure 1. Reported moose harvested under State and Federal regulation in Unit 24B, 2000 – 2016 (ADF&G 2017b, OSM 2017).

Nearly all reported moose harvest in Unit 24B has occurred in September, particularly in recent years (**Table 4**). Since 2010, when the Dec. 15 – Apr. 15 season was established, only 2 of the 76 moose reported harvested by local users were taken during this winter season. Both of those moose were taken in

February 2013, 1 by State permit and 1 by Federal permit (ADF&G 2017b; OSM 2017). Although harvest is very low, there is interest in participating in this winter hunt based on the number of permits issued. Between 2010 and 2015, 95 State permits (RM833) were issued, and 35 of those permittees reported hunting (ADF&G 2017c). Thirty-five Federal permits were issued during this time period. However, this metric is less useful in gauging interest in the winter hunt, since Federal permits are valid for both the fall and winter seasons.

Spatial data, which is available for 87% of the harvest records, can be used to assess moose harvest patterns among Unit 24B moose hunters. For these records, between 2000 and 2016, 93% of reported harvest among all users occurred in Unit 24B remainder, primarily in areas adjacent to Koyukuk River communities. Only 7%, or 11 moose, have been reported harvested in the John River drainage during this time. Harvest within the John River drainage is divided between the lower drainage, near the communities of Bettles and Evansville, and the upper drainage, near the community of Anaktuvuk Pass, with little harvest occurring in the central portion of the drainage. During the 2000 – 2016 time period, only 6 moose have been reported harvested in the upper drainages of Unit 24B, where GAAR surveys indicate moose densities are lower and more sensitive to increased harvest. Acknowledging that this summary of harvest patterns excludes at least some reported and unreported harvest, it is reasonable to assume that similar patterns exist among hunters who do not report harvest location or don't report harvest at all.

Table 4. Reported moose harvest in Unit 24B, 2000 – 2016 by all users hunting under State and Federal regulation. Harvest within the shaded area occurred during the existing winter seasons (ADF&G 2017b; OSM 2017).

RY	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Unknown
2000	2	44	0	0	0	0	0	7	0	0
2001	0	43	0	0	0	0	0	3	0	1
2002	0	43	0	0	0	0	0	4	0	2
2003	1	29	0	0	0	0	0	1	0	0
2004	0	20	0	0	0	0	0	1	0	0
2005	0	34	1	0	0	0	0	0	0	0
2006	1	21	3	0	0	0	0	0	0	0
2007	0	51	0	0	0	0	0	0	0	2
2008	0	28	0	0	0	0	0	1	1	1
2009	0	25	0	1	0	0	0	0	0	0
2010	0	34	0	0	0	0	0	0	0	0
2011	0	34	0	0	0	0	0	0	0	0
2012	1	40	0	0	0	0	0	0	0	0
2013	0	29	0	0	0	0	2	0	0	1
2014	0	52	0	0	0	0	0	0	0	1
2015	1	33	0	0	0	0	0	0	0	0
2016	1	34	0	0	0	0	0	0	0	0

Effects of the Proposal

If this proposal is adopted, permitting and reporting requirements for both fall and winter seasons will change in Unit 24B. In addition, the winter season throughout Unit 24B will be open Dec. 15 – Apr. 15, which will require some adjustments to season and harvest restrictions. As a result of these changes, Unit 24B will have uniform State and Federal regulations for moose harvest throughout the unit during the winter season.

Within the John River drainage, approximately three and half months will be added to the season, resulting in a continuous season from August through April. While this change represents an overall increase in opportunity, it would result in additional harvest restrictions for the Dec. 14 – Dec. 31 period. For that period, the harvest limit is currently one moose, but will be changed to one antlered bull if this proposal is adopted. Currently, reporting requirements in this hunt area are not specified under Federal regulation. Under this proposal, a State harvest ticket will be required for the Aug. 25 – Dec. 14 season and a State registration permit will be required for the Dec. 15 – Apr. 15 season.

Adoption of this proposal will result in changes within the Unit 24B remainder hunt area as well. Currently, harvest is limited to one antlered bull, but will be changed to one bull for the Aug. 25 – Oct. 1 season. Seasons, and harvest limits and restriction will not change for the Dec. 15 – Apr. 15 season. In both seasons, the requirement for a Federal registration permit will be eliminated, replaced by the requirement for State harvest ticket for the Aug. 25 – Oct. 1 season and a State registration permit for the Dec. 15 – Apr. 15 season.

These changes will result in an overall reduction in regulatory complexity, particularly during winter, and will eliminate the need for Federally qualified subsistence users to consider two permitting systems or navigate the patchwork land status. However, Federally qualified subsistence users will likely use State tickets/permits in ways that are not allowed by non-Federally qualified users. Notably, they will be using State harvest tickets outside of the State's resident and nonresident seasons during fall. They will also be using State registration permits or harvest tickets on Federal lands within the Kanuti Controlled Use Area, which are closed to all users except Federally qualified subsistence users, and on which State permits would typically be invalid.

Because winter harvest is very low, and considering spatial patterns of harvest, these changes are not expected to influence moose population dynamics in the area. Use of a single harvest reporting system will consolidate harvest reports within a single reporting system, which may result in improved tabulation of harvest. Feedback from Federally qualified subsistence users will be useful is assessing the impacts of this alternative at the local level.

OSM CONCLUSION

Support Proposal WP-18-35 **with modification** to retain the phrase "hunting under these regulations".

The modified regulation should read:

Unit 24—Moose	
Unit 24B—that portion within the John River Drainage—1 moose ***by State harvest ticket***	*Aug. 1 – Dec.* ~~*31*~~***14***
or	
1 antlered bull by State registration permit	***Dec. 15 – Apr. 15***
Unit 24B, remainder	
1 ~~*antlered*~~ *bull* ~~*by Federal registration permit*~~ ***by State harvest ticket***	*Aug. 25 – Oct. 1*
or	
1 antlered bull ***by State registration permit***	*Dec. 15 – Apr. 15*
Federal public lands in the Kanuti Controlled Use Area, as described in Federal regulations, are closed to taking of moose, except by Federally qualified subsistence users of Unit 24, Koyukuk, and Galena hunting under these regulations.	

Justification

These changes are not expected to have any adverse effects on the Unit 24B moose population. Despite its low density, this population is believed to be relatively stable, is sufficiently productive, and has high bull:cow ratios. Most importantly, winter harvest, the primary focus of this proposal, has been very low in Unit 24B, despite a long winter season. Given that there are few anticipated biological effects, ease of compliance and effectiveness of harvest management should be considered.

Overall, this proposal reduces regulatory complexity by aligning State and Federal seasons, harvest limits and restrictions, and permitting requirements across Unit 24B for the winter season. Eliminating the requirement for a Federal registration permit and instead defaulting to State reporting requirements eliminates difficulties associated with the complex land status patterns found in Unit 24. This approach does introduces some complexities that should be acknowledged but likely aren't prohibitive. Notably, Federally qualified subsistence users will likely use State tickets or permits in ways that are not allowed by non-Federally qualified users. Specifically, State tickets and permits will be used outside of established State seasons and on Federal lands closed to those hunting under State regulation. Concurrence from State managers on this approach will ameliorate these concerns.

Finally, retaining the phrase "hunting under these regulations" will be inconsequential. This phrase is not contradictory to the use of a State permit, since State permitting is specified in the Federal regulation.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Western Interior Alaska Subsistence Regional Advisory Council

Support. The Council supported the alignment to simplify regulations for the user and supported the longer winter season to provide opportunity to adapt to ever-changing weather conditions.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-35: This proposal, submitted by the Alaska Department of Fish and Game, aligns federal and state moose hunting seasons on federal lands in Unit 24B.

Introduction: Federal public lands in the Kanuti Controlled Use Area, as described in federal regulations, are closed to taking of moose, except by federally qualified subsistence users who reside in Unit 24, Koyukuk, and Galena. Subsistence hunters in and near these lands have expressed confusion about the differing state and federal regulations and permit requirements that apply to these lands.

Impact on Subsistence Uses: Moose hunting regulations will become less confusing if this proposal is adopted. Subsistence hunters will not have to be concerned about identifying state and federal lands in an area where checkerboard land ownership occurs. Subsistence hunters will only need to have a state permit to hunt on state and federal lands.

Impact on Other Uses: The proposed change is not expected to increase harvest, so it will have no impact on other uses.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for moose in all of Unit 24.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for moose in Unit 24 is 170-270 animals.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
24B	One bull Or One antlered bull	September 1-25 (Harvest ticket) Dec. 15-Apr. 15 (Registration permit RM833)	
	One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side		September 5-25 (Harvest ticket)

Special instructions: for registration permit RM833:

- Permits are available online or in person in Hughes, Allakaket, and Fairbanks beginning Dec. 7
- Successful hunters must **report within 5 days of kill by returning the report card to the local vendor or by reporting online.**
- **Unsuccessful hunters and those who did not hunt must report no later than April 30.**
- **Hunters who receive this permit are not allowed to use aircraft for hunting moose, including transportation of any moose hunters, their hunting gear, and/or moose parts**.

Conservation Issues: No biological concerns were identified with this proposed season. Moose survey data consistently show 50-70 bulls:100 cows, low densities of 0.20-0.35 moose/mi^2, and low harvest rates of ≤ 2% of the annual population. Since the Dec. 15 to Apr. 15 season was implemented in 2010, 95 permits were issued, 35 hunters reported hunting, and only one moose was harvested.

Enforcement Issues: This proposal should reduce the potential for an unintentional violation to be committed by aligning state and federal hunting regulations.

Recommendation: ADF&G submitted and **SUPPORTS** this proposal. The proposed language will align the state and federal hunt boundaries for the winter moose season in Unit 24B recently adopted by the Board of Game. The alignment will eliminate confusion in areas with a checkerboard land ownership pattern, which occurs near the villages of Bettles and Evansville. Under current regulations, subsistence hunters may unintentionally violate hunting regulations due to land status. The proposed language will also eliminate the need for a federal permit for any of the Unit 24 hunts and simplify permitting for federally qualified users. Hunters will only be required to possess a state permit to participate in state and federal seasons.

WP18–39 Executive Summary	
General Description	Proposal WP18–39 requests that the Unit 22B brown bear harvest limit be increased from one to two bears. *Submitted by: Seward Peninsula Subsistence Regional Advisory Council*.
Proposed Regulation	**Unit 22B—Brown Bear** *Units 22A, ~~22B~~, 22D remainder, and 22E — 1 bear by State registration permit only* *Aug. 1-May 31* ***Unit 22B — 2 bears by State registration permit only*** *Aug. 1-May 31*
OSM Conclusion	**Support**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	

WP18–39 Executive Summary	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	**Support**
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee (ISC) found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal. This proposal requests that the Unit 22B brown bear harvest limit be increased from one to two bears to align with existing State regulations. The analysis notes that human consumption of brown bears is not common in Unit 22 and that few brown bears are harvested by local residents of Unit 22B under existing State and Federal regulations. This raises the question of the necessity of increasing the brown bear limit in Unit 22B to two bears if the current bag limit is enough to satisfy local demand for brown bears as food and to meet subsistence needs. Regulatory alignment shouldn't be the driving factor or primary justification for changing bag limits. The Federal Subsistence Program should weigh the need of providing additional opportunity with potential harm to a wildlife population and the requirement by ANILCA to manage for sustainable and healthy wildlife populations. In the management of species with low reproductive potential, such as brown bears, a more conservative approach may be warranted to guard against overharvest.

WP18–39 Executive Summary	
ADF&G Comments	**Support**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-39

ISSUES

Proposal WP18-39, submitted by the Seward Peninsula Subsistence Regional Advisory Council, requests that the Unit 22B brown bear harvest limit be increased from one to two bears.

DISCUSSION

At its January 2017 meeting, the Alaska Board of Game (BOG) increased the resident State brown bear harvest limit in Unit 22B from one bear per year to two bears per year. In response to these changes, the Seward Peninsula Regional Advisory Council voted to submit a proposal to align State and Federal brown bear regulations for Unit 22B. The proponent stated that this would reduce regulatory complexity and user confusion.

Existing Federal Regulation

Unit 22B—Brown Bear

Units 22A, 22B, 22D remainder, and 22E — 1 bear by State registration permit only	*Aug. 1-May 31*

Proposed Federal Regulation

Unit 22B—Brown Bear

Units 22A, ~~22B~~, 22D remainder, and 22E — 1 bear by State registration permit only	*Aug. 1-May 31*
Unit 22B — 2 bears by State registration permit only	*Aug. 1-May 31*

Existing State Regulation

Unit 22—Brown Bear

Unit 22B

Residents: Two bears every regulatory year		*Aug. 1 – May 31*
Nonresidents: One bear every regulatory year by permit	*DB685*	*Aug. 1 – May 31*
Residents: Two bears every regulatory year by permit available at Nome ADF&G and Unit 22 license vendors beginning July 3	*RB699*	*Aug. 1 – May 31*

Extent of Federal Public Lands

Federal public lands comprise approximately 41.7% of Unit 22B, and consist of 39.1% Bureau of Land Management (BLM) managed lands, 2.4% National Park Service (NPS) managed lands, and 0.2% U.S. Fish and Wildlife Service (USFWS) managed lands (**Figure 1**).

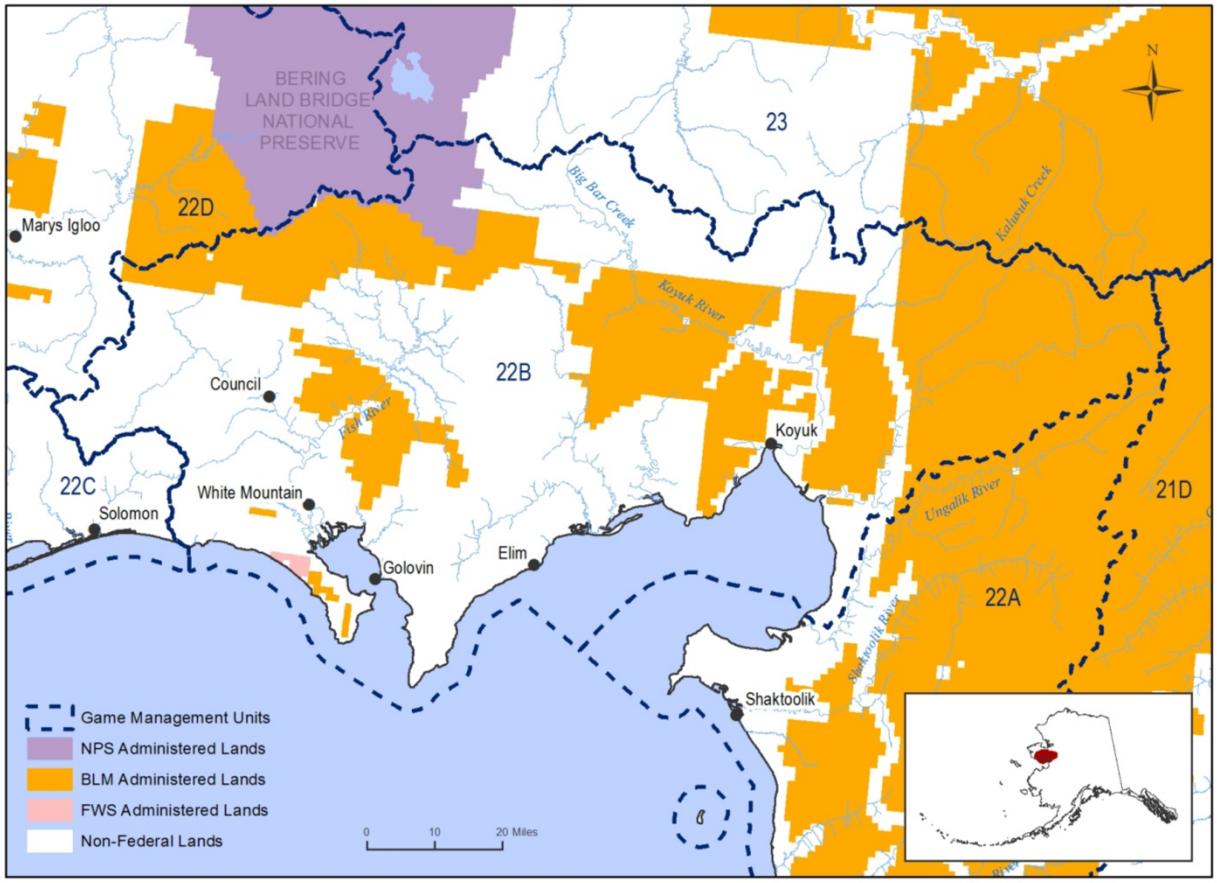


Figure 1. Federal public lands in Unit 22B.

Customary and Traditional Use Determinations

Rural residents of Unit 22 have a customary and traditional use determination for brown bear in Unit 22.

Regulatory History

In 1998, the BOG expanded the Northwest Alaska Brown Bear Management Area to cover the Seward Peninsula (Hughes 2015a). This Brown Bear Management Area was later redefined and managed as a unit-based subsistence permit hunt (RB699 in Unit 22; Hughes 2015a). These permits provided subsistence harvest conditions for meat salvage, aircraft restrictions, and exemptions from the sealing requirements in place for the general hunt and drawing permits (Hughes 2015a).

Unit 22B brown bear seasons have not changed for Federally qualified subsistence users since 2002, when the Federal Subsistence Board (Board) opened a season in Unit 22C and extended the season in Units 22A, 22B, and 22D. This change resulted in increased opportunities for Federal subsistence harvest at a time when the bear population was believed to be stable or growing slightly. It also simplified the regulations by creating parallel State and Federal brown bear seasons and harvest limits.

There have been few changes in State brown bear regulations for Unit 22B in the last decade. The BOG began liberalizing brown bear hunting regulations in Unit 22B beginning in 1997 (e.g. lengthening the hunting season in Unit 22B for residents and nonresidents in 1997, elimination of the resident tag fee, increasing the number of nonresident brown bear permits in Unit 22B in 1999 – Proposal 7, and increasing the bag limit from one brown bear every four years to one brown bear every regulatory year in Unit 22B in 2001– Proposal 4 ; ADF&G 1999, 2001; Hughes 2015b, pers. comm.), but since 2007 State regulations in 22B remained static.

At the January 2017 BOG meeting in Bethel, amended Proposal 31 was adopted to change the resident brown bear bag limit in Unit 22B from one bear per regulatory year to two bears per regulatory year (ADF&G 2017a).

Biological Background

Unlike populations of brown bears in the contiguous 48 states, brown bears in Alaska are not considered threatened or endangered and continue to inhabit their historic range (Alaska Board of Game 2006). Brown bears typically require abundant food and shelter resources for reproduction (Nielsen et al. 2010), which often results in comparatively low reproduction rates relative to black bears in similar areas (Alaska Board of Game 2006). Brown bears that reside on tundra landscapes often exist in low densities due to large spatial requirements to meet resource needs (McLoughlin et al. 2002). Due to this, habitat loss and harvest mortality can threaten brown bear population stability (Alaska Board of Game 2006).

State management goals for brown bear in Unit 22 are to "maintain a population that sustains a 3-year mean annual reported harvest of at least 50% males" (Hughes 2015a: 1). State management objectives for Unit 22 include monitoring population trends by assessing field observations and harvest data through the sealing of bear hides and skulls and corresponding aging of harvested bears, community harvest surveys,

subsistence harvest questionnaires, improved public communication, assistance with nuisance bear problems, and conflict minimization techniques (Hughes 2015a).

The brown bear population in Unit 22 is believed to have declined during the early 1900s, following the introduction of reindeer herding and gold mining to the area. The decline of these activities in the 1940s, along with cessation of predator control by Federal territorial managers in 1959, contributed to the recovery of the brown bear population (Hughes 2015a).

In the early 1990's, the estimated brown bear population for western Unit 22B, Unit 22C, Unit 22D, and Unit 22E was 458 adult bears (> two years old) with a density of 1 bear/27 mi^2 (14 bears/1,000 km^2; Hughes 2015a). The highest densities recorded during this census were in western Unit 22B (1 bear/20 mi^2 or 19 bears/1,000 km^2; Hughes 2015a). Observations by biologists, guides, and residents indicated that the bear population continued to grow during the 1990s and early 2000s. These observations were supported by increased reports of bear encounters, nuisance bears, property damage, and a record high number of defense of life and property kills (Hughes 2015a). The current population appears to be healthy and productive, with sows observed caring for three or four cubs, although opposing public reports have also indicated that the bear population is in decline (Hughes 2015a).

From 2013-2015 a new survey method for brown bears on the Seward Peninsula was tested (Schmidt et al. 2017). The study did not produce a unit-wide estimate of the brown bear population, but rather investigated a new survey method in a specified gridded area within a smaller portion of the unit. This survey covered a grid of approximately 20,000 km^2 (7,722 mi^2) from the Bering Land Bridge National Preserve down to the village of Solomon (Schmidt et al. 2017). The survey produced an estimate of 420 independent brown bears (brown bears that were observed traveling alone) and 713 total brown bears (both brown bears traveling alone and bears traveling in family units) for the specified survey area (Schmidt et al. 2017). These numbers translate to approximately 21 independent bears per 1,000 km^2 (386 mi^2) and 35.6 total bears per 1,000 km^2 (386 mi^2) in the gridded area (Schmidt et al. 2017). These values were similar to those found in a density estimation survey conducted by Miller et al. (1997) in areas near Nome, where the two survey areas overlap, which found approximately 29 brown bears per 1,000 km^2. It was found that this new survey method may provide a general framework for monitoring brown bear populations when more intensive survey techniques are impractical due to cost or time constraints.

Brown bear harvest typically occurs in the fall, before bears enter their dens, and in spring, after they emerge. Most bears in northwest Alaska and central Canada emerge from their dens in early to mid-May (Linnell et al. 2000, McLoughlin et al. 2002), though emergence may occur as early as mid-April (Linnell et al. 2000).

Habitat

Habitat use by brown bears typically varies seasonally based on food availability (Suring et al. 1998). Brown bears often select for edge habitats that provide a heterogeneous mix of landscapes and food resources (Nielson et al. 2010). Natural processes, such as wildfire, can lead to an increase of edge habitats. Wildfire (the primary driver of boreal forest succession) frequency and spread is forecast to increase as the Arctic climate warms, causing projected shrub and forest habitat to increase in northwestern

Alaska (Joly et al. 2012, Rupp et al. 2000). As statistical models show, this present day broad scale temporal habitat expansion will continue to push north and west in Alaska as average temperatures increase across years (Swanson 2015), leading to the conversion of tundra to more early successional and deciduous forest dominated habitats and landscapes on the Seward Peninsula (Rupp et al. 2000) .

Cultural Knowledge and Traditional Practices

Brown bears have long been a highly respected and utilized subsistence resource in northwest Alaska and the species has a prominent physical and symbolic role in the lives of local people (Loon and Georgette 1989). These animals provide a source of meat, raw materials, and medicine within the Inupiaq culture, though the degree of use is dependent on the community, region, and season (Loon and Georgette 1989). Brown bears have also been prized as trophy sport hunting animals in the region, largely by non-Native residents of the regional hubs of Nome and Kotzebue (Loon and Georgette 1989). Loon and Georgette (1989) provide a strong ethnographic account of traditional brown bear harvest and use in the region and is the source of cultural information included here, unless otherwise noted.

The hunting of brown bears in Inupiaq culture traditionally required strict adherence to prescribed practices designed to show respect to the animal and a hunter's success was considered dependent on adherence to these protocols. They believed that bears have excellent hearing and that hunters should not discuss their intentions to kill these animals. Bragging, threatening a bear, acting with too much confidence, or even suggesting a craving for bear meat was considered taboo, potentially leading to harming of the hunter or his family. In modern times some residents of the region continue to adhere to these protocols and will often refer to "that animal" rather than mentioning it by name. While no longer practiced, the Inupiat also believed that it was taboo for women and girls to eat bear meat (Loon and Georgette 1989, Anderson et al. 1977). Dogs were also not fed bear meat as it was said to make them vicious.

Brown bear hunting is a very specialized activity. Before the arrival of firearms bears were largely hunted with spears and arrows. Traditionally, bears were almost exclusively harvested by a small number of men from each community and the harvest was distributed to other locals. Men continue to be the primary bear hunters in the region. Hunters often take bears opportunistically while in pursuit of other subsistence resources or while traveling for other purposes. Hunting areas are generally accessed by boat in the fall and by snow machine in spring. Traditionally however, travel was accomplished by dog team. Hides are sometimes discarded in the field if packing it out presents logistical challenges.

It is a cultural tradition in the region for a hunter to remove the hyoid bone from beneath a bear's tongue immediately after it is killed. In some places this bone is placed between willow branches, on a tussock, or simply discarded in the field. This practice was meant to ensure that the spirit of the bear has left the area and that there would be no retaliation on the hunter. The head was also traditionally given to the eldest member of the community or hung on a tree or pole in the field. When meat is served, family members could not discuss or make comments about the meal. The hunters believed that these practices prevented bad luck, safeguarded their camps, and reduced the potential for future conflict with bears. Removing the hyoid bone and leaving the head in the field remains a common practice.

Beyond nutritional value, brown bears have also provided the raw materials for production. Bear hides, bones, teeth, and claws were traditionally used to make spearheads, fishhooks, rope, snowshoe bindings, dog harnesses, scraping tools, doors, mattresses, ruffs, and mukluks. Rope made of bear hide is said to be tougher and last longer than that of caribou or bearded seal. Narrow bones of the bear foreleg were used for spearheads and snares while knee joints were made into scraping tools. The hides were traditionally used to make dog harnesses and were preferred since dogs did not chew them as they did for other species. Travelers often carried bear hides to use as mattresses and as doors for sod houses; today they are sometimes carried as winter survival gear.

Among the edible parts of a brown bear, the fat is the most prized product among the Inupiaq. Local hunters time their hunting to correspond with when bears have the most fat and the meat is of highest quality. Brown bears are predominantly hunted in northwest Alaska during the spring and fall. Spring hunting takes place earlier inland where warmer conditions arrive sooner. When bears emerge from their dens in the spring, they are still relatively fat and gradually become lean (Loon and Georgette 1989); thus subsistence brown bear harvests occur between spring emergence from hibernation until snow machine travel is no longer possible.

In modern times, brown bears are rarely hunted in the winter or summer because they are considered lean and their hides are of lesser quality. In the summer, bears are also considered more dangerous. Traditionally the Inupiat people hunted brown bears in their dens in the winter. These bears were less likely to fight and before firearms were available, killing a hibernating bear with a spear was likely easier and safer as compared to outside of the den during other seasons. This was also a good source of winter meat when other resources were depleted or unavailable. Some hunters would stake bear dens in the late fall and return to the den later in the year to harvest the bear.

The use of brown bears for food in the region is variable among communities, depending on geographic location. Inland communities eat brown bears more frequently while coastal communities rarely eat this species unless it is harvested in interior areas where bears feed on fish and berries (Loon and Georgette 1989, Burch 1985). Coastal bears are often considered unpalatable due to their tendency to consume marine mammal carcasses along the beaches. Loon and Georgette (1989) found that some coastal communities avoid bears in the fall because this is when bears have the greatest access to sea mammal carcasses. Noatak hunters also avoid bears in the upper Noatak River drainage because the bear diet in this area consists of squirrels, also a prey species causing unpalatable flavor.

Consumption of bears is uncommon among residents of Unit 22. Among the communities for which Loon and Georgette (1989) had information in Unit 22, only White Mountain and Golovin reported regular use of bear meat in the 1980s. Many communities in this Unit reported use of brown bear in the past, particularly before moose arrived in the area. There was limited evidence of brown bear use for food in the regional hub of Nome and while one respondent said that hunters would sometimes bring home small quantities of bear meat, he also indicated that this was not a common resource consumed in the community. A 2005-2006 study reported very limited harvest of bears throughout twelve Bering Strait communities; approximately seven bears were reportedly harvested among all communities in the study year (Ahmasuk

and Trigg 2007). While the table descriptions in this paper are unclear, the data seems to include both black and brown bears.

Other studies have also documented limited harvest of brown bears for food in Unit 22. Shishmaref (Sobelman 1985, Georgette 2001), Brevig Mission (Loon and Georgette 1989) and Shaktoolik (Thomas 1982) have reported minimal harvest of brown bears for food; Wales and Teller are suspected to have similar patterns (Loon and Georgette 1989). Respondents in Unalakleet indicated that they could not imagine using a brown bear for food (Loon and Georgette 1989). Another Unalakleet respondent stated that bears were more palatable before walrus carcasses began washing up on the shores in large numbers (Loon and Georgette 1989).

In a 2001 study in Shishmaref, none of the project's respondents regularly hunted brown bears for food though they did indicate that Polar bear was frequently eaten (Georgette 2001). One respondent explained that because seals and their oil are easily accessible in Shishmaref, residents do not need bear fat like inland peoples that lack seals (Georgette 2001). Almost all Shishmaref respondents indicated that brown bears are not taken by Shishmaref residents for subsistence in a typical year, although some are killed by reindeer herders or by non-Native sport hunters (Georgette 2001).

Given the available harvest information and ethnographic literature, brown bears are only occasionally harvested in Unit 22 contemporarily, especially among residents of coastal villages. Some residents have reported traditional harvest of this species and the persistence of cultural values pertaining to this species. Use of brown bear in Unit 22 appears to primarily be of animals harvested in more inland locations or received from other management units.

Harvest History

Prior to the liberalization of brown bear hunting regulations in 1997 for Unit 22, the average annual reported harvest was 54 bears, whereas from 1998-2015 the average annual reported harvest increased to 95 bears (Hughes 2015a, 2017a pers. comm.). In Unit 22B specifically, average annual reported harvest was 22 bears from 1990-1997 and increased to an average annual reported harvest of 26 bears (an 18% increase) from 1998-2015 (**Figure 2**; ADF&G 2017a). Local users (those that reside in Unit 22) harvested an average of 11 brown bears annually from 1998-2015 in Unit 22B, whereas nonlocal residents (Alaska residents that reside outside of Unit 22) and nonresidents harvested an average of 5 and 8 brown bears in Unit 22B per year on average, respectively (Hughes 2017a, pers. comm.). The portion of Unit 22B that is located west of the Darby mountains received a majority of the reported harvest (60-88%) with the western portion seeing an average annual reported harvest of 20 brown bears per year and the eastern portion seeing an average annual reported harvest of 5 brown bears per year (ADF&G 2017a). Approximately 63% of the brown bears harvested in Unit 22B were males between 1998 and 2015 (ADF&G 2017a).

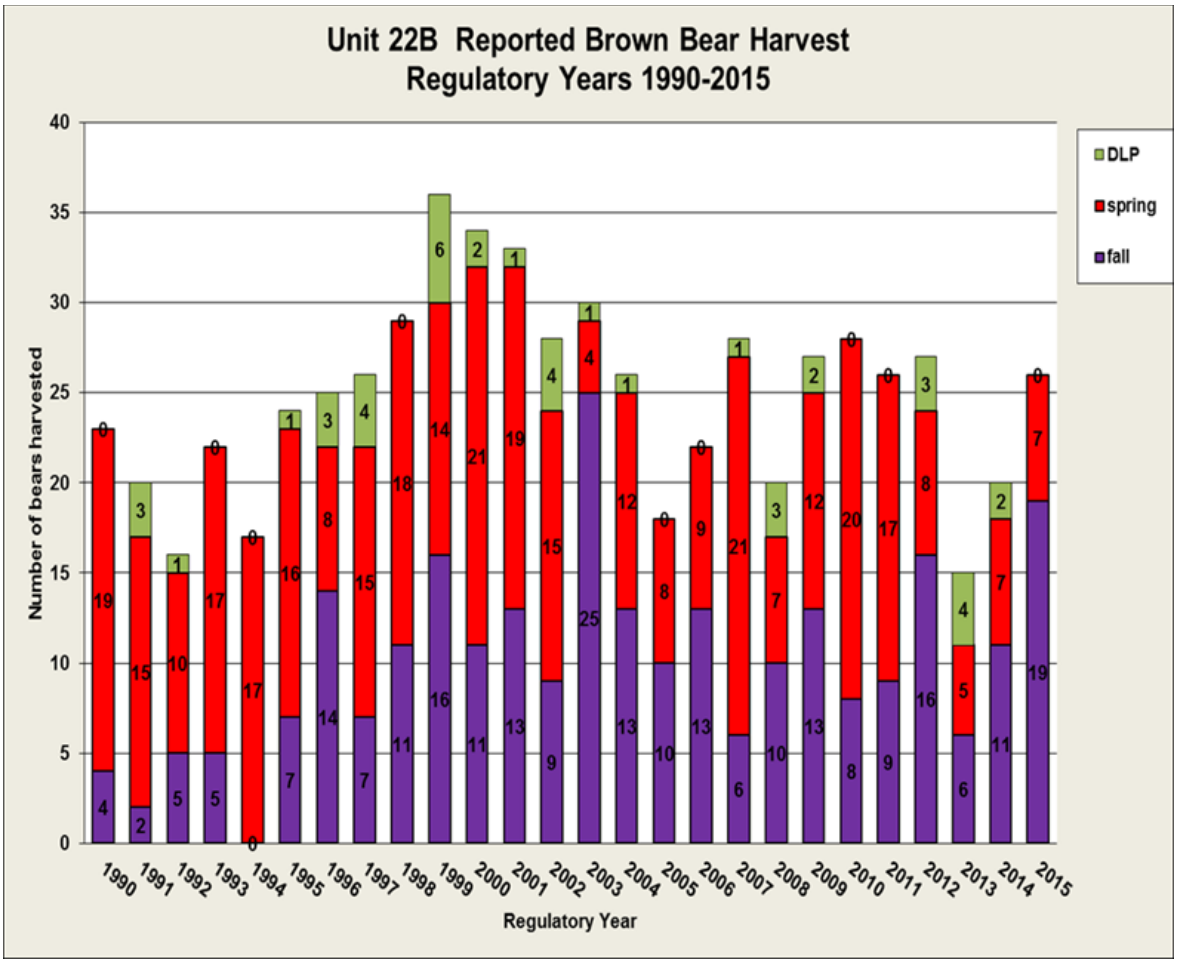


Figure 2. Reported brown bear harvest in Unit 22B broken down by spring, fall, and defense of life and property (DLP) harvest (figure from ADF&G 2017a, Hughes 2017a, pers. comm.).

A broad range of brown bear skull sizes have been measured from harvested bears in Unit 22 (ADF&G 2017a). Varied skull sizes are a sign of nonselective harvest which allows for a broad range of ages and body conditions to be harvested annually. The average age of brown bears harvested from 1990-1997 was six years old for both boar and sow bears, whereas the average harvest age from 1998-2015 was seven years (ADF&G 2017a).

In addition to brown bear harvests that require the hide to be sealed, there are also subsistence regulations and permits (RB699) provided to resident subsistence users in Unit 22 that do not require the hide to be sealed, but instead have requirements that the meat must be salvaged (Hughes 2015a). Despite the additional harvest opportunity for food provided via this permit (RB699) very few permits are given out annually, with an average of only 2 permits given out per year from 2012-2016 (Hughes 2017b, pers. comm.). In addition to this State permit, Federal regulations are also considered subsistence harvest and therefore the meat is required to be salvaged when harvesting under these regulations.

ADF&G conducts community household surveys throughout the state to obtain more accurate harvest information from local communities. Annual community harvest data is only intermittently available for any given community, and annual study periods often do not match up with State regulatory years.

Community household surveys in Unit 22B show limited brown bear harvest takes place by local users (**Table 1;** ADF&G 2017b).

Table 1. Recorded brown bear harvest based on community surveys and harvest reports for those Unit 22B communities (ADF&G 2017b).

Community Household Surveys - Unit 22B		
Year	**Community**	**Reported Brown Bear Harvest**
1989	Golovin	3
1998	Koyuk	1
1999	White Mountain	0
2001	Golovin	1
2004	Koyuk	0
2005	Elim	0
2008	White Mountain	1
2010	Elim	2
	Golovin	0
	Koyuk	0
2012	Golovin	0

Effects of the Proposal

Changing Federal regulations to coincide with recently updated State regulations would not have a substantial impact to current harvest levels and should have minimal impact on the brown bear population given the low levels of harvest by Federally qualified subsistence users in the area.

If adopted, this proposal would create parallel Federal and State harvest limits which would simplify regulations and lead to less confusion for users in Unit 22B. Although it should be noted that there are different salvage and sealing requirements for Federal and State regulations, with the salvage of meat being required under Federal regulations.

OSM CONCLUSION

Support Proposal WP18-39.

Justification

Currently, harvest is within State management goals and State registration permits are already mandatory for Federally qualified subsistence users. At this time, Federal regulations are more conservative than State regulations and do not provide for increased opportunity for local users. This proposal would provide more harvest opportunity to Federally qualified subsistence users and it would decrease regulatory complexity in Unit 22B.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Seward Peninsula Subsistence Regional Advisory Council

Support WP18-39. The Council voted to support this proposal in order to align State and Federal brown bear harvest regulations. Council members expressed concern regarding the lack of information for the bear population in Unit 22B, observations of an absence of lone bears, and the potential impacts to the population from doubling the harvest limit. Others wanted to reduce bear populations due to conflicts with bears and safety concerns.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee (ISC) found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

This proposal requests that the Unit 22B brown bear harvest limit be increased from one to two bears to align with existing State regulations. The analysis notes that human consumption of brown bears is not common in Unit 22 and that few brown bears are harvested by local residents of Unit 22B under existing State and Federal regulations. This raises the question of the necessity of increasing the brown bear limit in Unit 22B to two bears if the current bag limit is enough to satisfy local demand for brown bears as food and to meet subsistence needs.

Regulatory alignment shouldn't be the driving factor or primary justification for changing bag limits. The Federal Subsistence Program should weigh the need of providing additional opportunity with potential harm to a wildlife population and the requirement by ANILCA to manage for sustainable and healthy wildlife populations. In the management of species with low reproductive potential, such as brown bears, a more conservative approach may be warranted to guard against overharvest.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-39: This proposal, submitted by the Seward Peninsula Regional Subsistence Advisory Council, would increase the federal Unit 22B brown bear bag limit from 1 bear every regulatory year to 2 bears every regulatory year.

Introduction: The Alaska Board of Game has incrementally liberalized brown bear regulations in Unit 22 since 1997 by lengthening seasons, increasing bag limits, and adopting tag exemptions for Alaska residents to increase brown bear hunting opportunity. Unit 22B brown bear sealing records indicate an average annual harvest of 22 bears from RY1990–RY1997, and an average annual harvest of 26 bears from RY1998–RY2015. The reported harvest data has met the management goal of sustaining an annual reported harvest of at least 50% boars based on a 3-year average. Unit 22B sealing records indicate 67% (116 of 173) of bears taken from RY1990–RY1997 were males, and 61% (288 of 469) of bears taken from RY1998–RY2015 were males. Unit 22 brown bear sealing records from RY1990–RY2015 indicate 63–96% of Unit

22B brown bear harvest occurs in the remainder of Unit 22B and 75% (281 of 373) of the bears harvested from RY1998–RY2015 were taken by Alaska resident hunters.

Moose recruitment rates in the remainder of Unit 22B have been ≤10% from 1999–2013. The 2016 population recruitment rate of 14% is the first increase in recruitment observed since 1992.

Impact on Subsistence Uses: There would be no negative impact on federally qualified subsistence users.

Impact on Other Uses: There would be no negative impact on other users.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for brown bears in Units 21 and 22 combined.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for brown bears in Units 21 and 22 combined is 20-25 animals.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
22B	2 bears	August 1-May 31	
	2 bears	August 1-May 31 (RB699)	
	1 bear		August 1-May 31 (DB685)

Special instructions: Bears harvested on general season harvest tickets require the skull and hide with claws and evidence of sex attached to be sealed within 30 days of kill. Bears harvested on the RB699 permit require salvage of entire bear; sealing is not required unless leaving the subsistence area.

Conservation Issues: ADF&G has not identified conservation concerns associated with brown bear populations in this area, and the bag limit increase is not expected to increase harvest significantly.

Enforcement Issues: Hunters must possess a valid hunting license on their person. The $25.00 resident big game locking tag has been eliminated.

Recommendation: ADF&G **SUPPORTS** this proposal because it aligns the bag limit with state bag limit of 2 bears per regulatory year, which was adopted by the Alaska Board of Game in January 2017.

WP18–40 Executive Summary	
General Description	Proposal WP18–40 requests that the Unit 22C brown bear harvest season be extended from May 10-May 25 to April 1-May 31. *Submitted by: Seward Peninsula Subsistence Regional Advisory Council*.
Proposed Regulation	**Unit 22C—Brown Bear** *Unit 22C – 1 bear by State registration permit only* — *Aug 1-Oct 31* ~~*May 10-May 25*~~ ***Apr. 1-May 31***
OSM Conclusion	**Support**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	

WP18–40 Executive Summary	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	**Support**
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Support**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-40

ISSUES

Proposal WP18-40, submitted by the Seward Peninsula Subsistence Regional Advisory Council, requests that the Unit 22C brown bear harvest season be extended from May 10-May 25 to April 1-May 31.

DISCUSSION

At its January 2017 meeting, the Alaska Board of Game (BOG) lengthened the State brown bear spring season in Unit 22C from May 1-May 31 to April 1-May 31. In response to these changes, the proponent voted to submit a proposal to align State and Federal seasons in Unit 22C at the winter meeting in March 2017. The proponent stated that this would reduce regulatory complexity and user confusion in the unit and that it would also allow Federally qualified subsistence users better access to brown bears with snow machines in early spring.

Existing Federal Regulation

Unit 22C—Brown Bear

Unit 22C – 1 bear by State registration permit only	*Aug. 1-Oct 31* *May 10-May 25*

Proposed Federal Regulation

Unit 22C—Brown Bear

Unit 22C – 1 bear by State registration permit only	*Aug 1-Oct 31* ~~*May 10-May 25*~~ ***Apr. 1-May 31***

Existing State Regulation

Unit 22—Brown Bear

Unit 22C

Residents: One bear every regulatory year	*Aug. 1 – Oct. 31*

Or		
Residents: One bear every regulatory year		*April 1 – May 31*
Nonresidents: One bear every regulatory year by permit	*DB685*	*Aug. 1 – Oct 31* *April 1 – May 31*
Residents: One bear every regulatory year by permit available at Nome ADF&G and Unit 22 license vendors beginning July 3	*RB699*	*Aug. 1 – Oct 31*
Or		
Residents: One bear every regulatory year by permit available at Nome ADF&G and Unit 22 license vendors beginning July 3	*RB699*	*April 1 – May 31*

Extent of Federal Public Lands

Federal public lands comprise approximately 0.24% of Unit 22C, and consist of 0.12% Bureau of Land Management (BLM) and 0.12% U.S. Fish and Wildlife Service (USFWS) managed lands (**Figure 1**).

Customary and Traditional Use Determinations

Rural residents of Unit 22 have a customary and traditional use determination for brown bear in Unit 22.

Regulatory History

In 1998, the BOG expanded the Northwest Alaska Brown Bear Management Area to cover the Seward Peninsula (Hughes 2015a). This Brown Bear Management Area was later redefined and managed as a unit-based subsistence permit hunt (RB699 in Unit 22; Hughes 2015a). These permits provide subsistence harvest conditions for meat salvage, aircraft restrictions, and exemptions from the sealing requirements in place for the general hunt and drawing permits (Hughes 2015a).

There have been few changes in State brown bear regulations for Unit 22 in the last decade. The BOG began liberalizing brown bear hunting regulations in Unit 22 beginning in 1997 (Hughes 2015b, pers. comm.), but between 2007 and 2011, State regulations remained static. Unit 22C brown bear seasons have not changed for Federally qualified subsistence users since 2002, when the Federal Subsistence Board (Board) opened a season in Unit 22C and extended the season in Units 22A, 22B, and 22D. This change resulted in increased opportunities for Federal subsistence harvest at a time when the bear population was believed to be stable or growing slightly. It also simplified the regulations by creating parallel State and Federal brown bear seasons and harvest limits.

In 2016, the Board rejected part of proposal WP16-44 that, among other things, requested that the brown bear season in Unit 22C be extended from Aug. 1 – Oct. 31 and May 10 – May 25, to Aug. 1 – May 25 to both support increased harvest and improve opportunities for spring harvest. The Board rejected this portion of WP16-44 because these modifications were unlikely to result in increased harvest due to the small percentage of Federal public lands and because of the State harvest regulations allowing harvest beginning May 1.

In November of 2011, Proposal 24 was adopted with modification by the BOG which extended the Unit 22C spring brown bear hunting season from May 10-25 to May 1-31 (ADF&G 2011). In 2014, the BOG increased the bag limit in Unit 22C from one bear every four regulatory years to one bear every regulatory year. At the January 2017 BOG meeting in Bethel, Proposal 30 was adopted to lengthen the Unit 22C spring brown bear harvest season start date from May 1 to April 1 (ADF&G 2017).

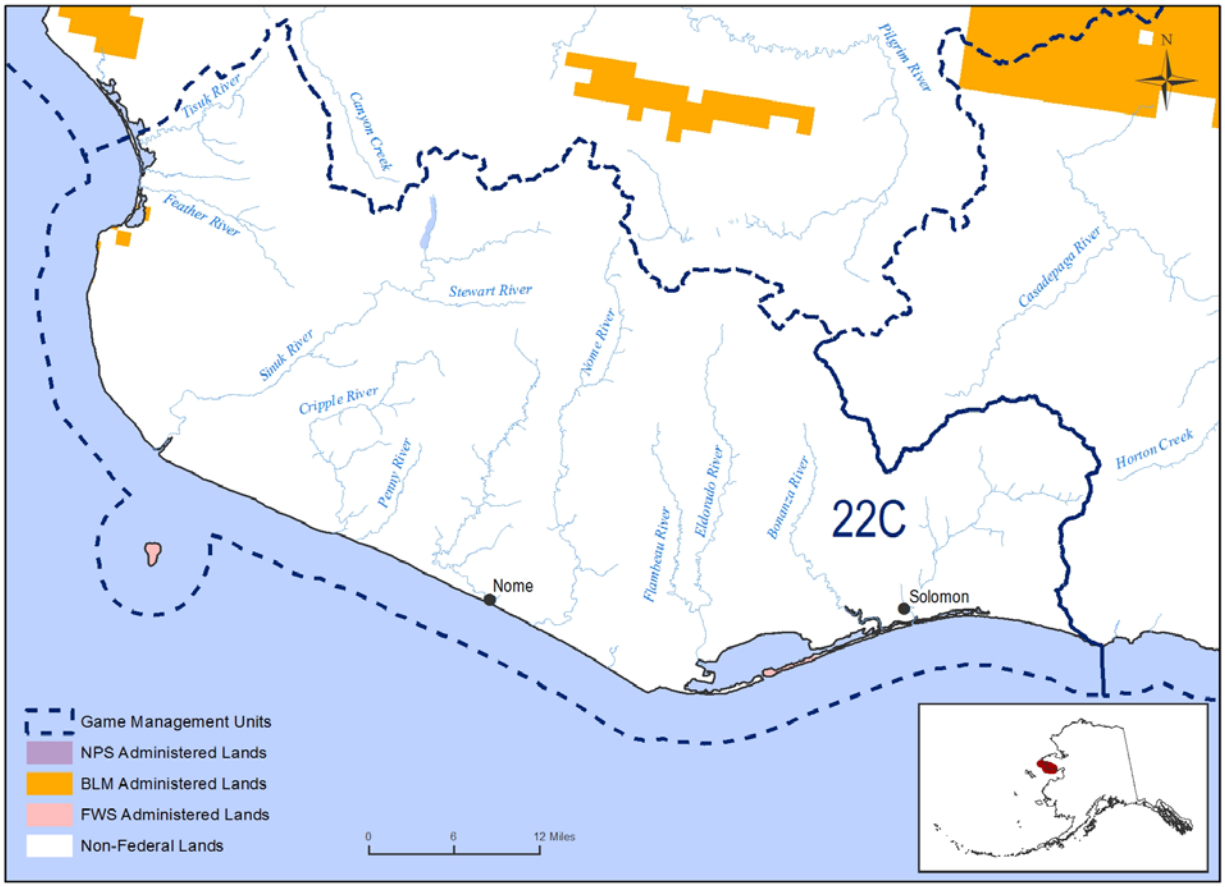


Figure 1. Federal public lands in Unit 22C.

Biological Background

Unlike populations of brown bears in the contiguous 48 states, brown bears in Alaska are not considered threatened or endangered and continue to inhabit their historic range (Alaska Board of Game 2006). Brown bears naturally require abundant food and shelter resources for reproduction (Nielsen et al. 2010), which typically results in comparatively low reproduction rates relative to black bears in similar areas

(Alaska Board of Game 2006). Brown bears that reside on tundra landscapes often exist in low densities due to large spatial requirements to meet resource needs (McLoughlin et al. 2002). Due to this, habitat loss and harvest mortality can threaten brown bear population stability (Alaska Board of Game 2006).

State management goals for brown bear in Unit 22 are to "maintain a population that sustains a 3-year mean annual reported harvest of at least 50% males" (Hughes 2015a: 1). State management objectives for Unit 22 include monitoring population trends by assessing field observations and harvest data through the sealing of bear hides and skulls and corresponding aging of harvested bears, community harvest surveys, subsistence harvest questionnaires, improved public communication, assistance with nuisance bear problems, and conflict minimization techniques (Hughes 2015a).

The brown bear population in Unit 22 is believed to have declined during the early 1900s, following the introduction of reindeer herding and gold mining to the area. The decline of these activities in the 1940s, along with cessation of predator control by Federal territorial managers in 1959, contributed to the recovery of the brown bear population (Hughes 2015a).

In the early 1990s the estimated brown bear population for western Unit 22B, Unit 22C, Unit 22D, and Unit 22E was 458 adult bears (> two years old) with a density of 1bear/27 mi^2 (14 bears/1,000 km^2; Hughes 2015a). Observations by biologists, guides and residents indicated that the bear population continued to grow during the 1990s and early 2000s. These observations were supported by increased reports of bear encounters, nuisance bears, property damage, and a record high number of defense of life and property kills (Hughes 2015a). The current population appears to be healthy and productive, with sows observed caring for three or four cubs, although opposing public reports have also indicated that the bear population is in decline (Hughes 2015a).

From 2013-2015 a new survey method for brown bears on the Seward Peninsula was tested (Schmidt et al. 2017). The study did not produce a unit-wide estimate of the brown bear population, but rather investigated a new survey method in a specified gridded area within a smaller portion of the unit. This survey covered a grid of approximately 20,000 km^2 (7,722 mi^2) from the Bering Land Bridge National Preserve down to the village of Solomon (Schmidt et al. 2017). The survey produced an estimate of 420 independent brown bears (brown bears that were observed traveling alone) and 713 total brown bears (both brown bears traveling alone and bears traveling in family units) for the specified survey area (Schmidt et al. 2017). These numbers translate to approximately 21 independent bears per 1,000 km^2 (386 mi^2) and 35.6 total bears per 1,000 km^2 (386 mi^2) in the gridded area (Schmidt et al. 2017). These values were similar to those found in a density estimation survey conducted by Miller et al. (1997) in areas near Nome, where the two survey areas overlap, which found approximately 29 brown bears per 1,000 km^2. It was found that this new survey method may provide a general framework for monitoring brown bear populations when more intensive survey techniques are impractical due to cost or time constraints.

Brown bear harvest typically occurs in the fall, before bears enter their dens, and in spring, after they emerge. Most bears in northwest Alaska and central Canada emerge from their dens in early to mid-May (Linnell et al. 2000, McLoughlin et al. 2002), though emergence may occur as early as mid-April (Linnell et al. 2000).

Habitat

Unit 22C encompasses the village of Nome as well as the corresponding road system. This subunit of Unit 22 is the most road accessible out of all the subunits in Unit 22. Disturbances from man-made factors such as roads, towns, and recreation have been found to have negative cumulative effects on brown bear habitat in some parts of Alaska (Suring et al. 1998).

Habitat use by brown bears typically varies seasonally based on food availability (Suring et al. 1998). Brown bears often select for edge habitats that provide a heterogeneous mix of landscapes and food resources (Nielson et al. 2010). Natural processes, such as wildfire, can lead to an increase of edge habitats. Wildfire (the primary driver of boreal forest succession) frequency and spread is forecast to increase as the Arctic climate warms, causing projected shrub and forest habitat to increase in northwestern Alaska (Joly et al. 2012, Rupp et al. 2000). As statistical models show, this present day broad scale temporal habitat expansion will continue to push north and west in Alaska as average temperatures increase across years (Swanson 2015), leading to the conversion of tundra to more early successional and deciduous forest dominated habitats and landscapes on the Seward Peninsula (Rupp et al. 2000).

Cultural Knowledge and Traditional Practices

Brown bears have long been a highly respected and utilized subsistence resource in northwest Alaska and the species has a prominent physical and symbolic role in the lives of local people (Loon and Georgette 1989). These animals provide a source of meat, raw materials, and medicine within the Inupiaq culture, though the degree of use is dependent on the community, region, and season (Loon and Georgette 1989). Brown bears have also been prized as trophy sport hunting animals in the region, largely by non-Native residents of the regional hubs of Nome and Kotzebue (Loon and Georgette 1989). Loon and Georgette (1989) provide a strong ethnographic account of traditional brown bear harvest and use in the region and is the source of cultural information included here, unless otherwise noted.

The hunting of brown bears in Inupiaq culture traditionally required strict adherence to prescribed practices designed to show respect to the animal and a hunter's success was considered dependent on adherence to these protocols. They believed that bears have excellent hearing and that hunters should not discuss their intentions to kill these animals. Bragging, threatening a bear, acting with too much confidence, or even suggesting a craving for bear meat was considered taboo, potentially leading to harming of the hunter or his family. In modern times some residents of the region continue to adhere to these protocols and will often refer to "that animal" rather than mentioning it by name. While no longer practiced, the Inupiat also believed that it was taboo for women and girls to eat bear meat (Loon and Georgette 1989, Anderson et al. 1977). Dogs were also not fed bear meat as it was said to make them vicious.

Brown bear hunting is a very specialized activity. Before the arrival of firearms, bears were largely hunted with spears and arrows. Traditionally, bears were almost exclusively harvested by a small number of men from each community and the harvest was distributed to other locals. Men continue to be the primary bear hunters in the region. Hunters often take bears opportunistically while in pursuit of other subsistence resources or while traveling for other purposes. Hunting areas are generally accessed by boat in the fall

and by snow machine in spring. Traditionally however, travel was accomplished by dog team. Hides are sometimes discarded in the field if packing it out presents logistical challenges.

It is a cultural tradition in the region for a hunter to remove the hyoid bone from beneath a bear's tongue immediately after it is killed. In some places this bone is placed between willow branches, on a tussock, or simply discarded in the field. This practice was meant to ensure that the spirit of the bear has left the area and that there would be no retaliation on the hunter. The head was also traditionally given to the eldest member of the community or hung on a tree or pole in the field. When meat is served, family members could not discuss or make comments about the meal. The hunters believed that these practices prevented bad luck, safeguarded their camps, and reduced the potential for future conflict with bears. Removing the hyoid bone and leaving the head in the field remains a common practice.

Beyond nutritional value, brown bears have also provided the raw materials for production. Bear hides, bones, teeth, and claws were traditionally used to make spearheads, fishhooks, rope, snowshoe bindings, dog harnesses, scraping tools, doors, mattresses, ruffs, and mukluks. Rope made of bear hide is said to be tougher and last longer than that of caribou or bearded seal. Narrow bones of the bear foreleg were used for spearheads and snares while knee joints were made into scraping tools. The hides were traditionally used to make dog harnesses and were preferred since dogs did not chew them as they did for other species. Travelers often carried bear hides to use as mattresses and as doors for sod houses; today they are sometimes carried as winter survival gear.

Among the edible parts of a brown bear, the fat is the most prized product among the Inupiaq. Local hunters time their hunting to correspond with when bears have the most fat and the meat is of highest quality. Brown bears are predominantly hunted in northwest Alaska during the spring and fall. Spring hunting takes place earlier inland where warmer conditions arrive sooner. When bears emerge from their dens in the spring, they are still relatively fat and gradually become lean (Loon and Georgette 1989); thus subsistence brown bear harvests occur between spring emergence from hibernation until snow machine travel is no longer possible.

In modern times, brown bears are rarely hunted in the winter or summer because they are considered lean and their hides are of lesser quality. In the summer, bears are also considered more dangerous. Traditionally the Inupiat people hunted brown bears in their dens in the winter. These bears were less likely to fight and before firearms were available, killing a hibernating bear with a spear was likely easier and safer as compared to outside of the den during other seasons. This was also a good source of winter meat when other resources were depleted or unavailable. Some hunters would stake bear dens in the late fall and return to the den later in the year to harvest the bear.

The use of brown bears for food in the region is variable among communities, depending on geographic location. Inland communities eat brown bears more frequently while coastal communities rarely eat this species unless it is harvested in interior areas where bears feed on fish and berries (Loon and Georgette 1989, Burch 1985). Coastal bears are often considered unpalatable due to their tendency to consume marine mammal carcasses along the beaches. Loon and Georgette (1989) found that some coastal communities avoid bears in the fall because this is when bears have the greatest access to sea mammal

carcasses. Noatak hunters also avoid bears in the upper Noatak River drainage because the bear diet in this area consists of squirrels, also a prey species causing unpalatable flavor.

Consumption of bears is uncommon among residents of Unit 22. Among the communities for which Loon and Georgette (1989) had information in Unit 22, only White Mountain and Golovin reported regular use of bear meat in the 1980s. Many communities in this Unit reported use of brown bear in the past, particularly before moose arrived in the area. There was limited evidence of brown bear use for food in the regional hub of Nome and while one respondent said that hunters would sometimes bring home small quantities of bear meat, he also indicated that this was not a common resource consumed in the community. A 2005-2006 study reported very limited harvest of bears throughout twelve Bering Strait communities; approximately seven bears were reportedly harvested among all communities in the study year (Ahmasuk and Trigg 2007). While the table descriptions in this paper are unclear, the data seems to include both black and brown bears.

Other studies have also documented limited harvest of brown bears for food in Unit 22. Shishmaref (Sobelman 1985, Georgette 2001), Brevig Mission (Loon and Georgette 1989) and Shaktoolik (Thomas 1982) have reported minimal harvest of brown bears for food; Wales and Teller are suspected to have similar patterns (Loon and Georgette 1989). Respondents in Unalakleet indicated that they could not imagine using a brown bear for food (Loon and Georgette 1989). Another Unalakleet respondent stated that bears were more palatable before walrus carcasses began washing up on the shores in large numbers (Loon and Georgette 1989).

In a 2001 study in Shishmaref, none of the project's respondents regularly hunted brown bears for food though they did indicate that Polar bear was frequently eaten (Georgette 2001). One respondent explained that because seals and their oil are easily accessible in Shishmaref, residents do not need bear fat like inland peoples that lack seals (Georgette 2001). Almost all Shishmaref respondents indicated that brown bears are not taken by Shishmaref residents for subsistence in a typical year, although some are killed by reindeer herders or by non-Native sport hunters (Georgette 2001).

Given the available harvest information and ethnographic literature, brown bears are only occasionally harvested in Unit 22 contemporarily, especially among residents of coastal villages. Some residents have reported traditional harvest of this species and the persistence of cultural values pertaining to this species. Use of brown bear in Unit 22 appears to primarily be of animals harvested in more inland locations or received from other management units.

Harvest History

Prior to the liberalization of brown bear hunting regulations in 1997 for Unit 22, the average annual reported harvest was 54 bears, whereas from 1998-2015 the average annual reported harvest increased to 95 bears (Hughes 2015a, Hughes 2017a, pers. comm.). In Unit 22C specifically, average annual reported harvest was 8 bears from 1990-1997 and increased to an average annual reported harvest of 16 bears (a 100% increase) from 1998-2015 (**Figure 2**; ADF&G 2017, Hughes 2017a, pers. comm.). In 2014, the liberalized annual bag limit in Unit 22C allowed for greater take of brown bears and the reported harvest

increased to 30 bears in 2015 (ADF&G 2017). Approximately 58% of the brown bears harvested in Unit 22C were males between 1998 and 2015 (ADF&G 2017).

A broad range of brown bear skull sizes have been measured from harvested bears in Unit 22 (ADF&G 2017). Varied skull sizes are a sign of nonselective harvest which allows for a broad range of ages and body conditions to be harvested annually. The average age of brown bears harvested from 1990-1997 was six years old for both boar and sow bears, whereas the average harvest age from 1998-2015 was seven years (ADF&G 2017).

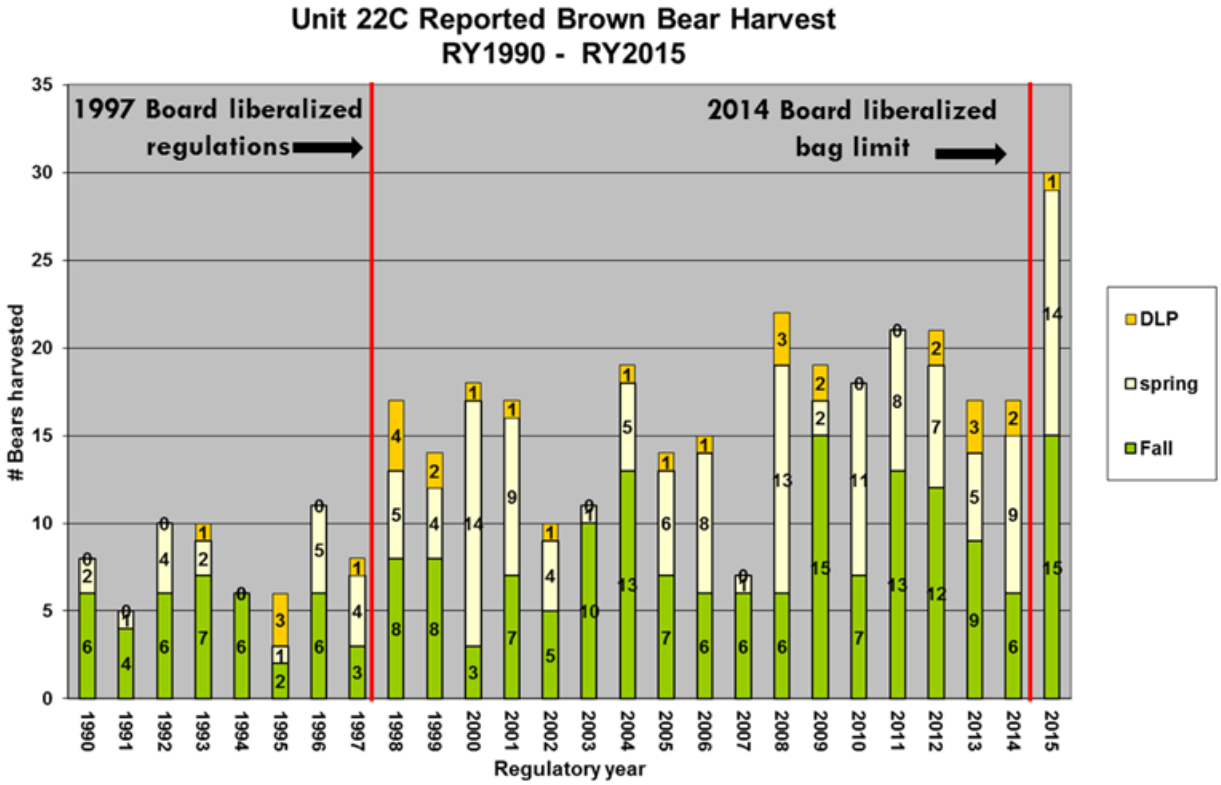


Figure 2. Reported brown bear harvest in Unit 22C broken down by spring, fall, and defense of life and property (DLP) harvest. The term "Board" in this graph refers to the Alaska Board of Game (BOG) and not the Federal Subsistence Board. (figure from ADF&G 2017, Hughes 2017a, pers. comm.).

In addition to brown bear harvests that require the hide to be sealed, there are also subsistence regulations and permits (RB699) provided to resident subsistence users in Unit 22 that do not require the hide to be sealed, but instead have requirements that the meat must be salvaged (Hughes 2015a). Despite the additional harvest opportunity for food provided via this permit very few permits are given out annually, with an average of only 2 permits given out per year from 2012-2016 (Hughes 2017b pers. comm.). In addition to this State permit, Federal regulations are also considered subsistence harvest and therefore the meat is required to be salvaged when harvesting under these regulations.

Effects of the Proposal

If adopted, the proposal is unlikely to appreciably increase brown bear harvest opportunities for Federally qualified subsistence users, since such a small fraction of the land in Unit 22C is under Federal management. As a result, this proposal is expected to have a negligible effect on the bear population.

Adoption of this proposal would provide an extra month of opportunity and may provide for the increased opportunity to use snow machines to access Federally managed lands during the early spring months. If adopted, this proposal would create parallel Federal and State seasons which would simplify regulations and reduce user confusion in Unit 22C. Although it should be noted that there are different salvage and sealing requirements for Federal and State regulations, with the salvage of meat being required under Federal regulations.

OSM CONCLUSION

Support Proposal WP18-40.

Justification

Although harvest in Unit 22C increased by 87% from 2014 to 2015 with the previous liberalization of regulations, the population appears to be healthy throughout the unit. Federal public lands make up a negligible fraction of the total land area of Unit 22C, so the proposed regulation is unlikely to appreciably increase brown bear harvest. As a result, this proposed regulation change is expected to have a negligible effect on the brown bear population in the area.

Currently, Federal regulations are more conservative than State regulations and do not provide for increased opportunity for local users. This proposal would provide a slight increase in harvest opportunity to Federally qualified users and would decrease regulatory complexity in Unit 22C.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Seward Peninsula Subsistence Regional Advisory Council

Support WP18-40. The Council believes that hunters want to use snowmachines to access bear areas. Spring is arriving earlier and the current season does not accommodate access via snowmachine. The Council noted that this proposal would affect a small area of Federal lands and align State and Federal regulations to reduce complexity.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-40: This proposal, submitted by the Seward Peninsula Regional Subsistence Advisory Council, would lengthen the spring brown bear season in Unit 22C from May 10-May 25 to April 1-May 31 under federal regulations.

Introduction: If this proposal is adopted, state and federal brown bear hunting regulations will be aligned in Unit 22C. The Alaska Board of Game (BOG) has incrementally liberalized brown bear regulations in Unit 22 since 1997 by lengthening seasons, increasing bag limits, and adopting tag exemptions for Alaska residents to increase brown bear hunting opportunity. The BOG liberalized the bag limit from one bear every four regulatory years to one bear every regulatory year in RY2015, which increased the brown bear harvest 81% (average annual harvest was 16 bears per year from RY1998–RY2014 and 29 from RY2015–RY2016). During the January 2017 BOG meeting the BOG liberalized brown bear hunting again by establishing a new spring season opening date of 1 April, which added 30 additional days to the season. The new season date will take effect in April 2018.

Impact on Subsistence Uses: No negative impact on federally qualified subsistence users is anticipated.

Impact on Other Uses: Adoption of this proposal will not have a negative impact on other non-federally qualified users.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for brown bears in Units 21 and 22 combined.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for brown bears in Units 21 and 22 combined is 20-25 animals.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
22C	1 bear	August 1-Oct 31 April 1-May 31	
	1 bear (DB685)		August 1-Oct 31 April 1-May 31
	1 bear (RB699)	August 1-Oct 31 April 1-May 31	

Special instructions: Bears harvested on general season harvest tickets require the skull and hide with claws and evidence of sex attached to be sealed within 30 days of kill. Bears harvested on the RB699 permit require salvage of entire bear; sealing is not required unless leaving the subsistence area.

Conservation Issues: ADF&G has not identified conservation concerns associated with brown bear population in this area, and the lengthened season is not expected to increase harvest significantly.

The management objective of sustaining a harvest that includes at least 50% males on a 3-year average is being met. Unit 22C sealing records indicate 52% (156 of 234) of bears taken between RY1990 and RY1997 were males, and 59% (194 of 330) of bears taken between RY1998 and RY2016 were males.

Enforcement Issues: Hunters must possess a valid hunting license on their person. The $25.00 resident big game locking tag has been eliminated.

Recommendation: ADF&G **SUPPORTS** this proposal because it aligns the spring brown bear hunting seasons offered under federal regulations with the state season that was adopted by the BOG during their January 2017 meeting.

WP18–45 Executive Summary			
General Description	Proposal WP18-45 requests that the caribou harvest limit in Unit 23 be reduced from 5 caribou per day to 3 caribou per day. *Submitted by: Northwest Arctic Subsistence Regional Advisory Council.*		
Proposed Regulation	**Unit 23—Caribou**		
	Unit 23—that portion which includes all drainages north and west of, and including, the Singoalik River drainage	***3*** ~~*5*~~*-caribou per day as follows:* *Calves may not be taken.* *Bulls may be harvested*	 *July 1–Oct. 14* *Feb. 1–June 30*
		Cows may be harvested. However, cows accompanied by calves may not be taken July 15–Oct. 14.	*July 15–Apr. 30*
	Unit 23, remainder	***3*** ~~*5*~~*-caribou per day as follows:* *Calves may not be taken.* *Bulls may be harvested*	 *July 1–Oct. 31* *Feb.1–June 30*
		Cows may be harvested. However, cows accompanied by calves may not be taken July 31–Oct. 14.	*July 31–March 31*
OSM Conclusion	**Oppose**		
Southeast Alaska Subsistence Regional Advisory Council Recommendation			
Southcentral Alaska Subsistence Regional Advisory Council Recommendation			

WP18–45 Executive Summary	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	**Take No Action**
Seward Peninsula Subsistence Regional Advisory Council Recommendation	**Oppose**
Northwest Arctic Subsistence Regional Advisory Council Recommendation	**Oppose**
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	**Oppose**

WP18–45 Executive Summary	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient bases for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Oppose**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-45

ISSUES

Proposal WP18-45, submitted by the Northwest Arctic Subsistence Regional Advisory Council (Northwest Arctic Council), requests that the caribou harvest limit in Unit 23 be reduced from 5 caribou per day to 3 caribou per day.

DISCUSSION

The proponent states that the proposed change is needed to conserve the Western Arctic caribou herd (WACH) population, which is currently declining and is a vital subsistence resource. The proponent notes that the requested change will still meet the needs of Federally qualified subsistence users.

Existing Federal Regulations

Unit 23—Caribou

Unit 23—that portion which includes all drainages north and west of, and including, the Singoalik River drainage	*5 caribou per day as follows: Calves may not be taken. Bulls may be harvested*	*July 1–Oct. 14 Feb. 1–June 30*
	Cows may be harvested. However, cows accompanied by calves may not be taken July 15–Oct. 14.	*July 15–Apr. 30*
Unit 23, remainder	*5 caribou per day as follows: Calves may not be taken. Bulls may be harvested*	*July 1–Oct. 31 Feb.1–June 30*
	Cows may be harvested. However, cows accompanied by calves may not be taken July 31–Oct. 14.	*July 31–March 31*

Proposed Federal Regulations

Unit 23—Caribou

Unit 23—that portion which includes all drainages north and west of, and including, the Singoalik River drainage	***3*** ~~*5*~~ *caribou per day as follows:* *Calves may not be taken.* *Bulls may be harvested*	 *July 1–Oct. 14* *Feb. 1–June 30*
	Cows may be harvested. However, cows accompanied by calves may not be taken July 15–Oct. 14.	*July 15–Apr. 30*
Unit 23, remainder	***3*** ~~*5*~~ *caribou per day as follows:* *Calves may not be taken.* *Bulls may be harvested*	 *July 1–Oct. 31* *Feb.1–June 30*
	Cows may be harvested. However, cows accompanied by calves may not be taken July 31–Oct. 14.	*July 31–March 31*

Existing State Regulations

Unit 23—Caribou

23, north of and including Singoalik River drainage	*Residents—Five caribou per day; however, calves may not be taken.*	*Bulls*	*RC907*	*July 1-Oct. 14* *Feb. 1-June 30*
		Cows	*RC907*	*Jul. 15-Apr. 30*
	Nonresidents—One bull; however, calves may not be taken		*HT*	*Aug. 1-Sept. 30*
23 remainder	*Residents—Five caribou per day; however, calves may not be taken.*	*Bulls*	*RC907*	*July 1-Oct. 14* *Feb. 1-June 30*
		Cows	*RC907*	*Sept. 1-Mar. 31*
	Nonresidents—One bull; however, calves may not be taken		*HT*	*Aug. 1-Sept. 30*

Extent of Federal Public Lands

Federal public lands comprise approximately 71% of Unit 23 and consist of 40% National Park Service (NPS) managed lands, 22% Bureau of Land Management (BLM) managed lands, and 9% U.S. Fish and Wildlife Service (USFWS) managed lands.

Customary and Traditional Use Determinations

Residents of Unit 21D west of the Koyukuk and Yukon Rivers, Galena, 22, 23, 24 including residents of Wiseman but not including other residents of the Dalton Highway Corridor Management Area, and 26A have a customary and traditional use determination for caribou in Unit 23 (**Map 1**).

Regulatory History

In 1990, the caribou hunting season in Unit 23 was open year round with a 5 caribou per day harvest limit and a restriction on the take of cows May 16-June 30.

In 1995, the Federal Subsistence Board (Board) adopted Proposal P95-51 to increase the caribou harvest limit from 5 to 15 caribou per day so that subsistence hunters could maximize their hunting efforts when caribou were available (FWS 1995a).

In 1997, the Board adopted Proposal P97-66 with modification to provide a customary and traditional use determination for caribou in Unit 23 for rural residents of Unit 21D west of the Koyukuk and Yukon rivers, Galena, Units 22, 23, 24 including residents of Wiseman, but not other residents of the Dalton Highway Corridor Management Area and Unit 26A (**Map 1**, FWS 1995b, 1997).

In 2000, the Board adopted Proposal WP00-53 with modification, allowing the use of snowmachines to position a hunter to select individual caribou for harvest in Units 22 and 23. This was done to recognize a customary and traditional practice in the region (FWS 2000a).

In 2013, an aerial photo census indicated significant declines in the Teshekpuk Caribou herd (TCH), WACH, and possibly the Central Arctic Caribou Herd (CACH) populations (Caribou Trails 2014). In response, the Alaska Board of Game (BOG) adopted modified Proposal 202 (RC76) in March 2015 to reduce harvest opportunities for both Alaska residents and nonresidents within the range of the WACH and the TCH. These regulation changes – which included lowering bag limits for nonresidents from two caribou to one bull, reductions in bull and cow season lengths, the establishment of new hunt areas, and prohibiting calf harvest – were adopted to slow or reverse the population decline. The regulatory changes took effect on July 1, 2015.

In 2015, four special actions, WSA15-03/04/05/06, requesting changes to caribou regulations in Units 23, 24, and 26, were submitted by the North Slope Council and approved with modification by the Board, effective July 1, 2015. Temporary Special Action WSA15-03 requested designation of a new hunt area for caribou in the northwest corner of Unit 23 where the harvest limit would be reduced from 15 to 5 caribou per day, the harvest season would be shortened for bulls and cows, and the take of calves would be

prohibited. The Board did not establish a new hunt area, applying the restrictions to all of Unit 23 and also prohibited the take of cows with calves. These State and Federal regulatory changes were the first time that harvest restrictions had been implemented for the WACH in over 30 years.

Five proposals (WP16-37, WP16-48, WP16-49/52, and WP16-61) concerning caribou regulations in Unit 23 were submitted to the Board for the 2016-2018 wildlife regulatory cycle. The Board adopted WP16-48 with modification to allow the positioning of a caribou, wolf, or wolverine for harvest on BLM lands only. Proposal WP16-37 requested that Federal caribou regulations mirror the new State regulations across the ranges of the WACH and TCH (Units 21D, 22, 23, 24, 26A, and 26B). The Board adopted Proposal WP16-37 with modification to reduce the harvest limit to 5 caribou per day, restrict bull season during rut and cow season around calving, prohibit the harvest of calves and the harvest of cows with calves before weaning (mid-Oct.), and to create a new hunt area in the northwest corner of Unit 23. The Board took no action on the remaining proposals (WP16-49/52, and WP16-61) because of action taken on WP16-37.

In 2015, the Northwest Arctic Council submitted a temporary special action request (WSA16-01) to close caribou hunting on Federal public lands in Unit 23 to non-Federally qualified users (NFQU) for the 2016/17 regulatory year. The Council stated that their request was necessary for conservation purposes but also needed because nonlocal hunting activities were negatively affecting subsistence harvests. In April 2016, the Board approved WSA16-01, basing its decision on the strong support of the Northwest Arctic and North Slope Councils, public testimony in favor of the request, as well as concerns over conservation and continuation of subsistence uses (FSB 2016).

In June 2016, the State submitted a special action request (WSA16-03) to reopen caribou hunting on Federal public lands in Unit 23 to NFQU, providing new biological information (e.g. calf recruitment, weight, body condition) on the WACH. The State specified that there was no biological reason for the closure and that it could increase user conflicts. In January 2017, the Board rejected WSA16-03 due to the position of all four affected Councils (Northwest Arctic, North Slope, Seward Peninsula, and Western Interior) as well as public testimony and Tribal consultation comments opposing the request. Additionally, the Board found the new information provided by the State to be insufficient to rescind the closure.

In January 2017, the BOG adopted Proposal 2, requiring registration permits for residents hunting caribou within the range of the Western Arctic and Teshekpuk herds in Units 21, 23, 24, and 26 (a similar proposal was passed for Unit 22 in 2016). The Alaska Department of Fish and Game (ADF&G) submitted the proposal in order to better monitor harvest and improve management flexibility. Also in January 2017, the BOG rejected Proposal 45, which proposed requiring big game hunting camps to be spaced at least three miles apart along the Noatak, Agashashok, Eli, and Squirrel Rivers. The proposal failed as it would be difficult to enforce.

In March 2017, the Northwest Arctic and North Slope Councils submitted temporary special action requests (WSA17-03 and -04, respectively) to close caribou hunting on Federal public lands in Unit 23 and in Units 26A and 26B, respectively, to non-Federally qualified users for the 2017/18 regulatory year. Both Councils stated that the intent of the proposed closures was to ensure subsistence use in the 2017/18

regulatory year, to protect declining caribou populations, and to reduce user conflicts. The Board voted to approve WSA17-03 with modification to close all Federal public lands within a 10 mile wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage, to caribou hunting except by Federally qualified subsistence users for the 2017/18 regulatory year. The Board considered the modification a reasonable compromise for all users and that closure of the specified area was warranted in order to continue subsistence use. The Board rejected WSA17-04 due to recent changes to State regulations that should reduce caribou harvest.

Controlled Use Areas

In 1988, the Traditional Council of Noatak submitted a proposal to the BOG to create the Noatak Controlled Use Area (CUA) in order to restrict the use of aircraft in any manner for big game hunting Aug. 15 - Sept. 20 due to user conflicts (Fall 1990:86). The proposed CUA extended five miles on either side of the Noatak River, from the mouth of the Eli River upstream to the mouth of the Nimiuktuk River, including the north side of Kivivik Creek (ADF&G 1988:47). The BOG adopted the proposal with modification to close a much smaller area extending from the Kugururok River to Sapun Creek from Aug. 20-Sept. 20.

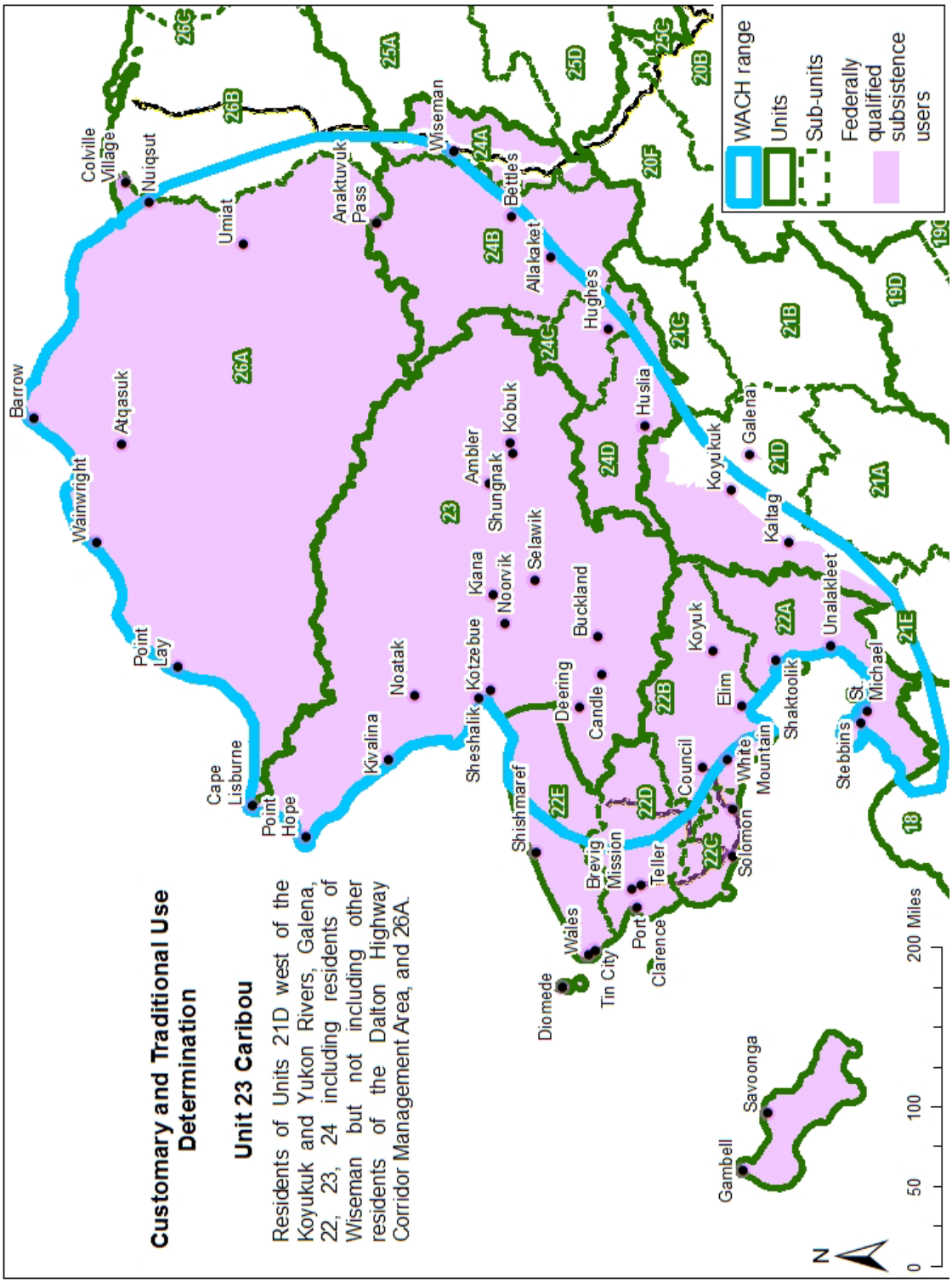
The CUA was expanded in 1994 and modified in 2017 (Betchkal 2015, Halas 2015, ADF&G 2017a). From 1994-2016, the Noatak CUA consisted of a 10-mile wide corridor (5 miles either side) along the Noatak River from its mouth to Sapun Creek with approximately 80 miles of the CUA within Noatak National Preserve (NP) (**Map 2**, Betchkal 2015). The closure dates from 1994-2009 were Aug. 25-Sept. 15. In 2009 (effective 2010), the BOG adopted Proposal 22 to expand the closure dates to Aug. 15-Sept. 30 in response to the timing of caribou migration becoming less predictable (ADF&G 2009). During the 2016/17 BOG regulatory cycle, the Noatak/Kivalina & Kotzebue AC proposed (Proposal 44) extending the upriver boundary of the Noatak CUA to the Cutler River, citing increased user conflicts as their rationale (ADF&G 2017b). In January 2017, the BOG approved amended Proposal 44 to shift the boundaries of the Noatak CUA to start at the mouth of the Agashashok River and end at the mouth of the Nimiuktuk River with approximately 105 miles within Noatak NP (**Map 2**, ADF&G 2017a).

In 1990, the Noatak CUA was adopted under Federal regulations. In 1995, the Board adopted Proposal P95-50 to expand the time period and area of the CUA to Aug. 25-Sept. 15 and the mouth of the Noatak River upstream to the mouth of Sapun Creek, respectively, which aligned with current State regulations. In 2008, Proposals WP08-50 and 51 requested modifications to the Noatak CUA dates. These proposals were submitted in response to caribou migration occurring later in the season, to improve caribou harvest for subsistence users, and to decrease conflicts between local and nonlocal hunters. The Board deferred these proposals to the next regulatory cycle. In 2010, Proposals WP10-82, 83, and 85 requested similar date changes. The Board adopted WP10-85 to expand the time period during which aircraft are restricted in the Noatak CUA to Aug. 15-Sept. 30, which aligned with the current State regulations.

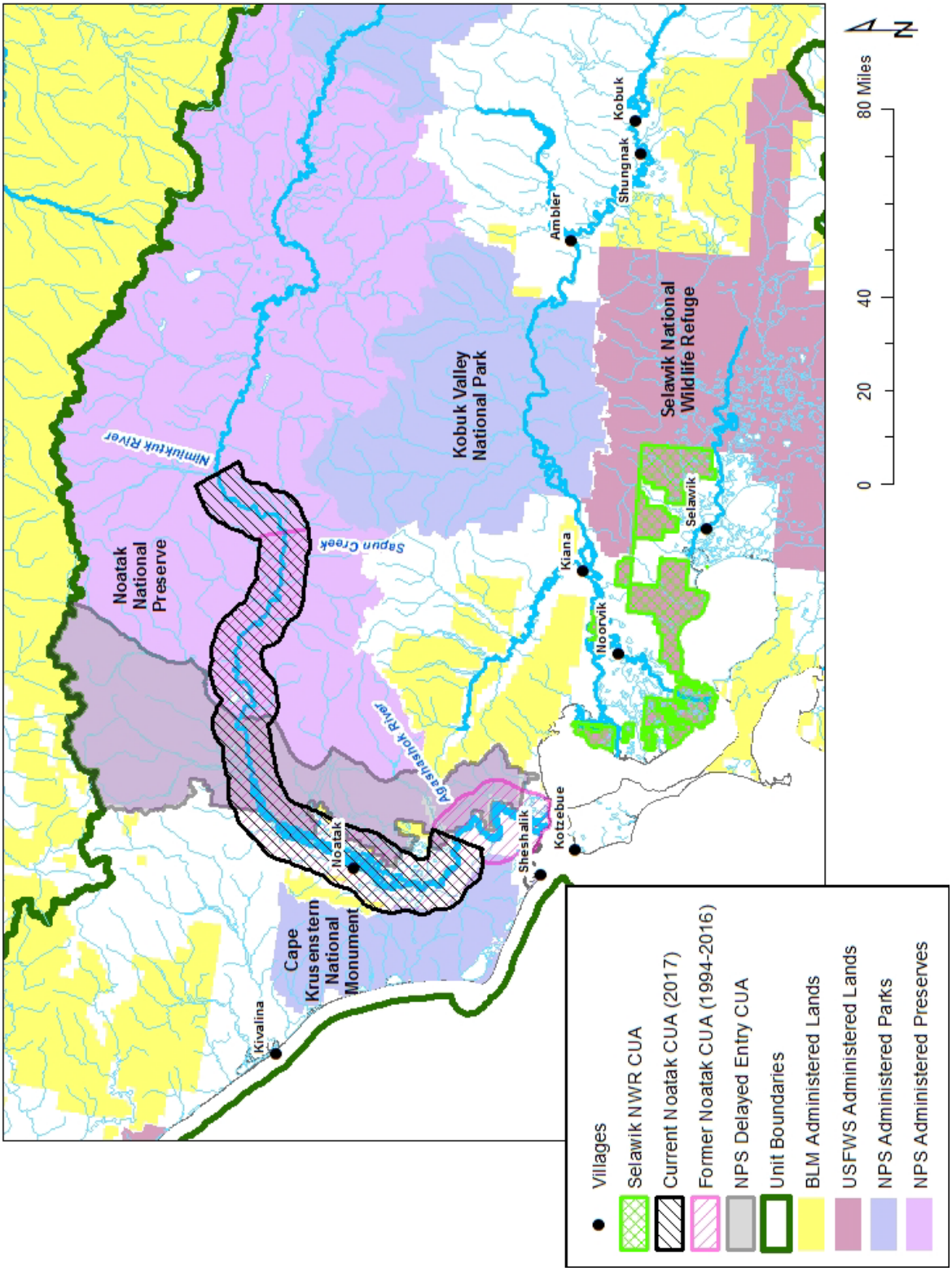
In 2011, Selawik National Wildlife Refuge (NWR) designated refuge lands in the northwest portion of the refuge as closed to big game hunting by commercial guides and transporters through their comprehensive

conservation plan (FWS 2011, 2014). These refuge lands are intermingled with private lands near the villages of Noorvik and Selawik (**Map 2**). The purpose of this closure was to minimize trespass on private lands and to reduce user conflicts (FWS 2011).

In 2012, the NPS established a Special Commercial Use Area or "delayed entry zone" in the western portion of the Noatak NP (Halas 2015, Fix and Ackerman Fix 2015). Within this zone, transporters can only transport nonlocal caribou hunters after September 15 unless otherwise specified by the Western Arctic Parklands (WEAR) superintendent in consultation with commercial operators, other agencies and local villages (Halas 2015). The purpose of this zone is to allow a sufficient number of caribou to cross the Noatak River and establish migration routes, to limit interactions between local and nonlocal hunters, and to allow local hunters the first opportunity to harvest caribou in that area (**Map 2**, FWS 2014, Halas 2015). To date, the Superintendent has not used his/her authority to alter the closure dates in response to changes in caribou herd migration or to meet the needs of local hunters (Halas 2015).



Map 1. Customary and Traditional (C&T) Use Determination for caribou in Unit 23. C&T Determinations indicate which Alaska rural residents are Federally qualified subsistence users. The WACH range indicates which residents are considered local in State management reports.



Map 2. Federal and State Hunting Management Areas in Unit 23.

Current Events

Several other proposals concerning Federal caribou harvest regulations in Unit 23 and the WACH were submitted for the 2018-2020 wildlife regulatory cycle (WP18-32, 46/47, 48/49, and 57). The outcome of these related proposals could impact the effects of this proposal (i.e. closures).

At the WACH Working Group meeting in December 2016, the group voted to submit two wildlife proposals. Proposal WP18-46 is to close Federal public lands in Unit 23 to caribou hunting by NFQUs. Proposal WP18-48 is to require registration permits for caribou hunting in Units 22, 23, and 26A, which are also required under State regulations. Louis Cusack also submitted Proposal WP18-49 to require registration permits in these units.

At the Western Interior Council meeting in February 2017, the Council voted to submit Proposal WP18-32 to align caribou seasons across the ranges of the WACH, TCH, and CACH. The intent of this proposal is to protect cows during migration. The Council intends to submit a similar proposal to the BOG.

At the North Slope Council meeting in March 2017, the Council voted to submit Proposal WP18-57 to close Federal public lands to caribou hunting by NFQUs in Units 26A and 26B (similar to WSA17-04). This is in response to declines in the WACH, TCH, and CACH, which are seasonally present in the area.

Enoch Mitchell also submitted Proposal WP18-47 to close Federal public lands in Unit 23 to caribou hunting by NFQUs for the 2018/19- 2020/21 regulatory years. The Native Village of Noatak, Cape Krusenstern National Monument Subsistence Resource Commission (SRC), Kobuk Valley National Park SRC, and the Noatak/Kivalina Fish and Game Advisory Committee co-sponsored the proposal.

Biological Background

Caribou abundance naturally fluctuates over decades (Gunn 2001, WACH Working Group 2011). Gunn (2001) reports the mean doubling rate for Alaskan caribou as 10 ± 2.3 years. Although the underlying mechanisms causing these fluctuations are uncertain, climatic oscillations (i.e. Arctic and Pacific Decadal Oscillations) may play an important role (Gunn 2001, Joly et al. 2011). Climatic oscillations can influence factors such as snow depth, icing, forage quality and growth, wildfire occurrence, insect levels, and predation, which all contribute to caribou population dynamics (Joly et al. 2011). Density-dependent reduction in forage availability, resulting in poorer body condition may exacerbate caribou population fluctuations (Gunn 2001).

Caribou calving generally occurs from late May to mid-June (Dau 2013). Weaning generally occurs in late October and early November before the breeding season (Taillon et al. 2011). Calves stay with their mothers through their first winter, which improves calves' access to food and body condition (Holand et al. 2012). Calves orphaned after weaning (October) have greater chances of survival than calves orphaned before weaning (Holand et al. 2012, Joly 2000, Russell et al. 1991, Rughetti and Fest-Bianchet 2014).

The TCH, WACH, and CACH have ranges that overlap in Unit 26A (**Map 3**), and there can be considerable mixing of herds during the fall and winter. During the 1970s, there was little overlap between these herds,

but the degree of mixing seems to be increasing. Currently, the WACH, TCH, and CACH populations are all declining (Dau 2011, 2015a, Lenart 2011, Parrett 2011, 2015c, 2015d).

The WACH has historically been the largest caribou herd in Alaska and has a home range of approximately 157,000 square miles in northwestern Alaska. In the spring, most mature cows move north to calving grounds in the Utukok Hills, while bulls and immature cows lag behind and move toward summer range in the Wulik Peaks and Lisburne Hills (**Map 4**, Dau 2011, WACH Working Group 2011).

Dau (2013) determined the calving dates for the WACH to be June 9–13. This is based upon long-term movement and distribution data obtained from radio-collared caribou (these are the dates cows ceased movements). After the calving period, cows and calves move west toward the Lisburne Hills where they mix with the bulls and non-maternal cows. During the summer, the herd moves rapidly to the Brooks Range.

In the fall, the herd moves south toward wintering grounds in the northern portion of the Nulato Hills. Rut occurs during fall migration (Dau 2011, WACH Working Group 2011). Dau (2013) determined the WACH rut dates to be October 22–26 based on back-calculations from calving dates using a 230 day gestation period. Since about 2000, the timing of fall migration has been less predictable, often occurring later than in previous decades (Dau 2015a). From 2010-2015, the average date that GPS collared caribou crossed the Noatak River ranged from Sep. 30 – Oct. 23 (Joly and Cameron 2017). The proportion of caribou using certain migration paths varies each year (**Figure 1**, Joly and Cameron 2017). In recent years (2012-2014), the path of fall migration has shifted east (Dau 2015a).

The WACH Working Group developed a WACH Cooperative Management Plan in 2003, and revised it in 2011 (WACH Working Group 2011). The WACH Management Plan identifies seven plan elements: cooperation, population management, habitat, regulations, reindeer, knowledge, and education as well as associated goals, strategies, and management actions. As part of the population management element, the WACH Working Group developed a guide to herd management determined by population size, population trend, and harvest rate. Population sizes guiding management level determinations were based on recent (since 1970) historical data for the WACH (WACH Working Group 2011). Revisions to recommended harvest levels under liberal and conservative management (+/- 100 - 2,850 caribou) were made in December 2015 (WACH Working Group 2015, **Table 1**). The State of Alaska manages the WACH to protect the population and its habitat, provide for subsistence and other hunting opportunities on a sustained yield basis, and provide for viewing and other uses of caribou (Dau 2011). State management objectives for the WACH are the same as the goals specified in the WACH Management Plan (Dau 2011, WACH Working Group 2011) and include:

- Encourage cooperative management of the WACH among State, Federal, local entities, and all users of the herd.
- Manage for healthy populations using management strategies adapted to fluctuating population levels and trends.
- Assess and protect important habitats.
- Promote consistent and effective State and Federal regulations for the conservation of the WACH.

- Seek to minimize conflict between reindeer herders and the WACH.
- Integrate scientific information, traditional ecological knowledge of Alaska Native users, and knowledge of all users into management of the herd.
- Increase understanding and appreciation of the WACH through the use of scientific information, traditional ecological knowledge of the Alaska Native users, and knowledge of all other users.

The WACH population declined rapidly in the early 1970s, bottoming out at about 75,000 animals in 1976. Aerial photo censuses have been used since 1986 to estimate population size. The WACH population increased throughout the 1980s and 1990s, peaking at 490,000 animals in 2003 (**Figure 2**). Since 2003, the herd has declined at an average annual rate of 7.1% from approximately 490,000 caribou to 200,928 caribou in 2016 (Caribou Trails 2014; Dau 2011, 2014, Parrett 2016a). In 2017, the herd increased to an estimated 259,000 caribou (Parrett 2017a).

Between 1982 and 2011, the WACH population was within the liberal management level prescribed by the WACH Working Group (**Figure 2, Table 1**). In 2013, the herd population estimate fell below the population threshold for liberal management of a decreasing population (265,000), slipping into the conservative management level. ADF&G conducted a successful photocensus of the WACH on July 1, 2016. This census resulted in a minimum count of 194,863 caribou with a point estimate of 200,928 (Standard Error = 4,295), suggesting the WACH is still within the conservative management level, although close to the threshold for preservative management (**Figure 2, Table 1**). Results of this census indicate an average annual decline of 5% per year since 2013, representing a much lower rate than the 15% annual decline between 2011 and 2013. The large cohorts of 2015 and 2016, which currently comprise a substantial proportion of the herd, contributed to the recent decreased rate of decline, but remain vulnerable to difficult winter conditions due to their young age (Parrett 2016a).

ADF&G conducted another photocensus in the summer of 2017 and also transitioned from film to digital cameras, which enhanced their ability to complete a successful and timely census (Parrett 2017a). The 2017 photocensus yielded a minimum count of 239,055 caribou with a point estimate of 259,000 caribou (Standard Error = 29,000) (Parrett 2017a). However, the use of new technology (digital cameras) may have influenced the counts, complicating comparisons between 2017 and past years. At their 2017 meeting, the WACH Working Group voted on the status of the herd, agreeing upon the conservative stable level (WACH WG 2017, **Table 1**). While population numbers alone indicate liberal management, the Working Group supported maintaining conservative management due to the use of new technology and because a large proportion of the herd is currently young caribou that are still vulnerable to harsh winters (WACH WG 2017).

Between 1970 and 2017, the bull:cow ratio exceeded critical management levels in all years except 1975, 2001, and 2014 (**Figure 3**). Reduced sampling intensity in 2001 likely biased the 2001 bull:cow ratio low (Dau 2013). Since 1992, the bull:cow ratios has trended downward (Dau 2015a). The average annual number of bulls:100 cows was greater during the period of population growth (54:100 between 1976–2001) than during the recent period of decline (44:100 between 2004–2016). Additionally, Dau (2015a) states that while trends in bull:cow ratios are accurate, actual values should be interpreted with caution due to

sexual segregation during sampling and the inability to sample the entire population, which likely account for more annual variability than actual changes in composition.

Although factors contributing to the decline are not known with certainty, increased adult cow mortality, and decreased calf recruitment and survival played a role (Dau 2011). Since the mid-1980s, adult mortality has slowly increased while recruitment has slowly decreased (Dau 2013, **Figure 4**). In a population model developed specifically for the WACH, Prichard (2009) found adult survival to have the largest impact on population size.

Calf production has likely had little influence on the population trajectory (Dau 2013, 2015a). Between 1990 and 2003, the June calf:cow ratio averaged 66 calves:100 cows/year. Between 2004 and 2016, the June calf:cow ratio averaged 71 calves:100 cows/year (**Figure 5**). In June 2016, 85 calves:100 cows were observed, which approximates the highest parturition level ever recorded for the herd (86 calves:100 cows in 1992) (Dau 2016a).

Decreased calf survival through summer and fall and recruitment into the herd are likely contributing to the current population decline (Dau 2013, 2015a). Fall calf:cow ratios indicate calf survival over summer. Between 1976 and 2017, the fall calf:cow ratio ranged from 35 to 59 calves:100 cows/year, averaging 47 calves:100 cows/year (**Figure 5**). Fall calf:cow ratios declined from an average of 46 calves:100 cows/year between 1990-2003 to an average of 42 calves:100 cows/year between 2004-2016 (Dau 2015a, **Figure 5**). Since 2008, ADF&G has recorded calf weights at Onion Portage as an index of herd nutritional status. In September 2015, calf weights averaged 100 lbs., the highest average ever recorded (Parrett 2015b).

Similarly, the ratio of short yearlings (SY, 10-11 months old caribou) to adults provides a measure of overwintering calf survival and recruitment. Between 1990 and 2003, SY:adult ratios averaged 20 SY:100 adults/year. Since the decline began in 2003, SY:adult ratios have averaged 16 SY:100 adults/year (2004-2016, **Figure 5**). However, 23 SY:100 adults were observed during spring 2016 surveys, the highest ratio recorded since 2007 (Dau 2016b). The overwinter calf survival for the 2015 cohort (Oct. 2015-Jun. 2016) was 84% (Parrett 2016b). While 2016 indices suggest improvements in recruitment, the overall trend since the early 1980s has been downward (Dau 2015a, 2016b).

Increased cow mortality is likely affecting the trajectory of the herd as well (Dau 2011, 2013). The annual mortality rate of radio-collared adult cows increased from an average of 15% between 1987 and 2003 to 23% from 2004–2014 (Dau 2011, 2013, 2014, 2015a, **Figure 4**). Estimated mortality includes all causes of death including hunting (Dau 2011). Dau (2015a) states that cow mortality estimates are conservative due to exclusion of unhealthy (i.e. diseased) and yearling cows. Dau (2013) attributed the high mortality rate for 2011–2012 (33%, **Figure 4**) to a winter with deep snows, which weakened caribou and enabled wolves to prey on them more easily. Prior to 2004, estimated adult cow mortality only exceeded 20% twice, but has exceeded 20% in 7 out of 9 regulatory years between 2004 and 2012 (**Figure 4**). The annual mortality rate was 8% as of April 2016 (Dau 2016b). This may fluctuate substantially throughout the year based on changing local conditions and harvest levels. Dau (2015a) indicates that mortality rates may also

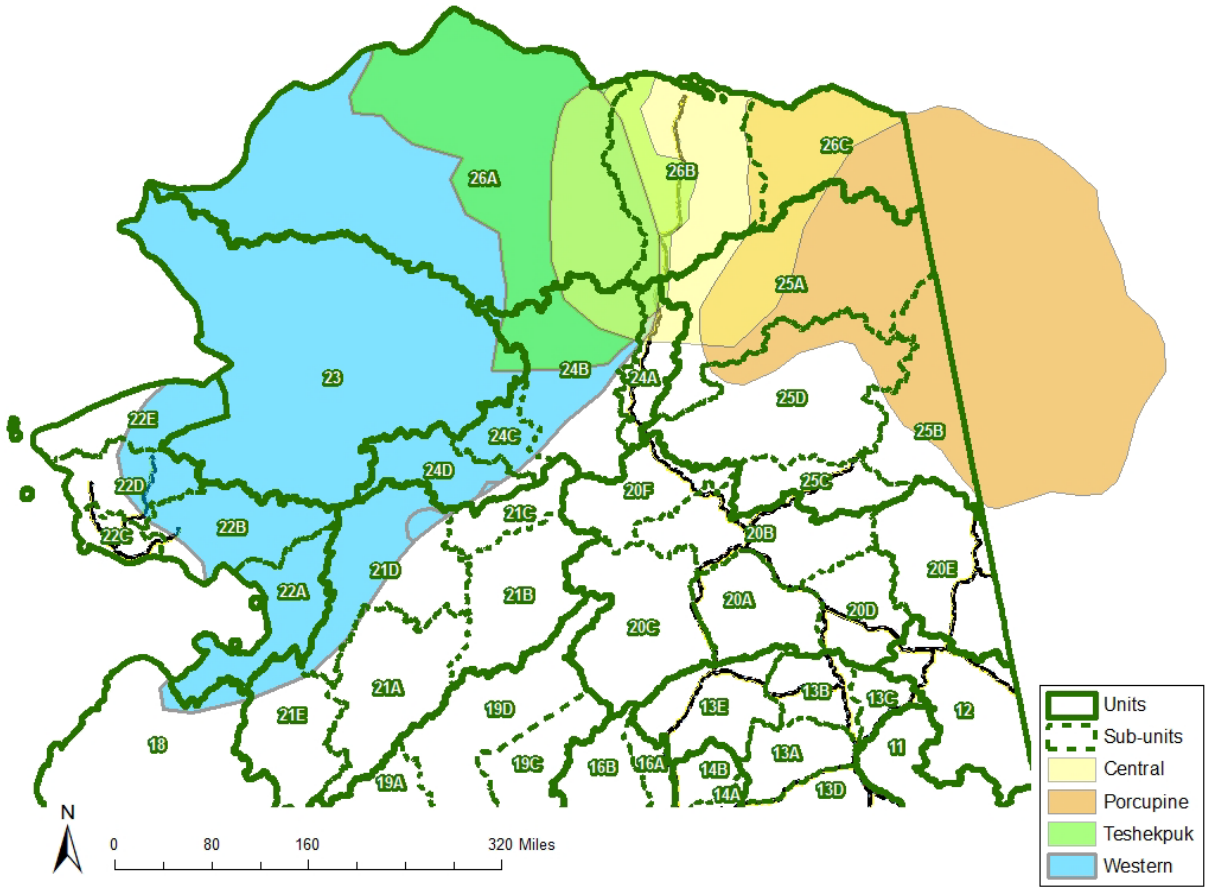
change in subsequent management reports as the fate of collared animals is determined, and that these inconsistencies are most pronounced for the previous 1–3 years.

Far more caribou died from natural causes than from hunting between 1992 and 2012 (Dau 2013). Cow mortality remained constant throughout the year, but natural and harvest mortality for bulls spiked during the fall. Predation, particularly by wolves, accounted for the majority of natural mortality (Dau 2013). However as the WACH has declined and estimated harvest has remained relatively stable, the percentage of mortality due to hunting has increased relative to natural mortality. For example, during the period October 1, 2013 to September 30, 2014, estimated hunting mortality was approximately 42% and estimated natural mortality about 56% (Dau 2014). In previous years (1983–2013), the estimated hunting mortality exceeded 30% only once in 1997-1998 (Dau 2013). Additionally, Prichard (2009) and Dau (2015a) suggest that harvest levels and rates of cows can greatly impact population trajectory. If bull:cow ratios continue to decline, harvest of cows may increase, exacerbating the current population decline.

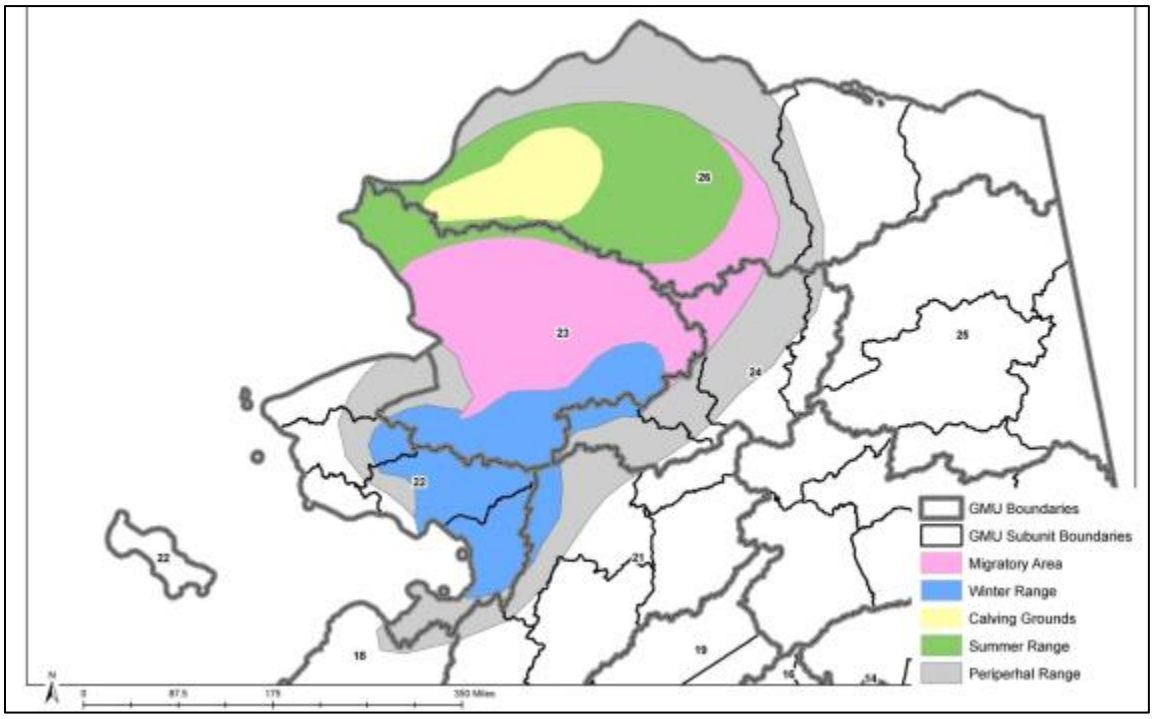
Dau (2015a) cites fall and winter icing events as the primary factor initiating the population decline in 2003. Increased predation, hunting pressure, deteriorating range condition (including habitat loss and fragmentation), climate change, and disease may also be contributing factors (Dau 2015a, 2014). Joly et al. (2007) documented a decline in lichen cover in portions of the wintering areas of the WACH. Dau (2011, 2014) reported that degradation in range condition is not thought to be a primary factor in the decline of the herd because animals have generally maintained good body condition since the decline began. Body condition is assessed on a subjective scale from 1-5. The fall body condition of adult females in 2015 was characterized as "fat" (mean= 3.9/5) with no caribou being rated as skinny or very skinny (Parrett 2015b). However, the body condition of the WACH in the spring may be a better indicator of the effects of range condition versus the fall when the body condition of the herd is routinely assessed and when caribou are in prime condition (Joly 2015, pers. comm.).

Habitat

Caribou feed on a wide variety of plants including lichens, fungi, sedges, grasses, forbs, and twigs of woody plants. Arctic caribou depend primarily on lichens during the fall and winter, but during summer they feed on leaves, grasses and sedges (Miller 2003).



Map 3. Herd overlap and ranges of the WACH, TCH, CACH, and PCH.



Map 4. Range of the WACH.

Table 1. Western Arctic Caribou Herd management levels using herd size, population trend, and harvest rate (WACH Working Group 2011, 2015).

Management and Harvest Level	Population Trend			Harvest Recommendations May Include:
	Declining Low: 6%	**Stable Med: 7%**	**Increasing High: 8%**	
Liberal	Pop: 265,000+	Pop: 230,000+	Pop: 200,000+	• Reduce harvest of bulls by nonresidents to maintain at least 40 bulls: 100 cows • No restriction of bull harvest by resident hunters unless bull:cow ratios fall below 40 bulls:100 cows
	Harvest: 16,000-22,000	Harvest: 16,000-22,000	Harvest: 16,000-22,000	
Conservative	Pop: 200,000-265,000	Pop: 170,000-230,000	Pop: 150,000-200,000	• No harvest of calves • No cow harvest by nonresidents • Restriction of bull harvest by nonresidents • Limit the subsistence harvest of bulls only when necessary to maintain a minimum 40:100 bull:cow ratio
	Harvest: 12,000-16,000	Harvest: 12,000-16,000	Harvest: 12,000-16,000	
Preservative	Pop: 130,000-200,000	Pop: 115,000-170,000	Pop: 100,000-150,000	• No harvest of calves • Limit harvest of cows by resident hunters through permit hunts and/or village quotas • Limit the subsistence harvest of bulls to maintain at least 40 bulls:100 cows • Harvest restricted to residents only, according to state and federal law. Closure of some federal public lands to nonqualified users may be necessary
	Harvest: 8,000-12,000	Harvest: 8,000-12,000	Harvest: 8,000-12,000	
Critical Keep Bull:Cow ratio ≥ 40 Bulls:100 Cows	Pop: < 130,000	Pop: < 115,000	Pop: < 100,000	• No harvest of calves • Highly restrict the harvest of cows through permit hunts and/or village quotas • Limit the subsistence harvest of bulls to maintain at least 40 bulls:100 cows • Harvest restricted to residents only, according to state and federal law. Closure of some federal public lands to nonqualified users may be necessary
	Harvest: 6,000-8,000	Harvest: 6,000-8,000	Harvest: 6,000-8,000	

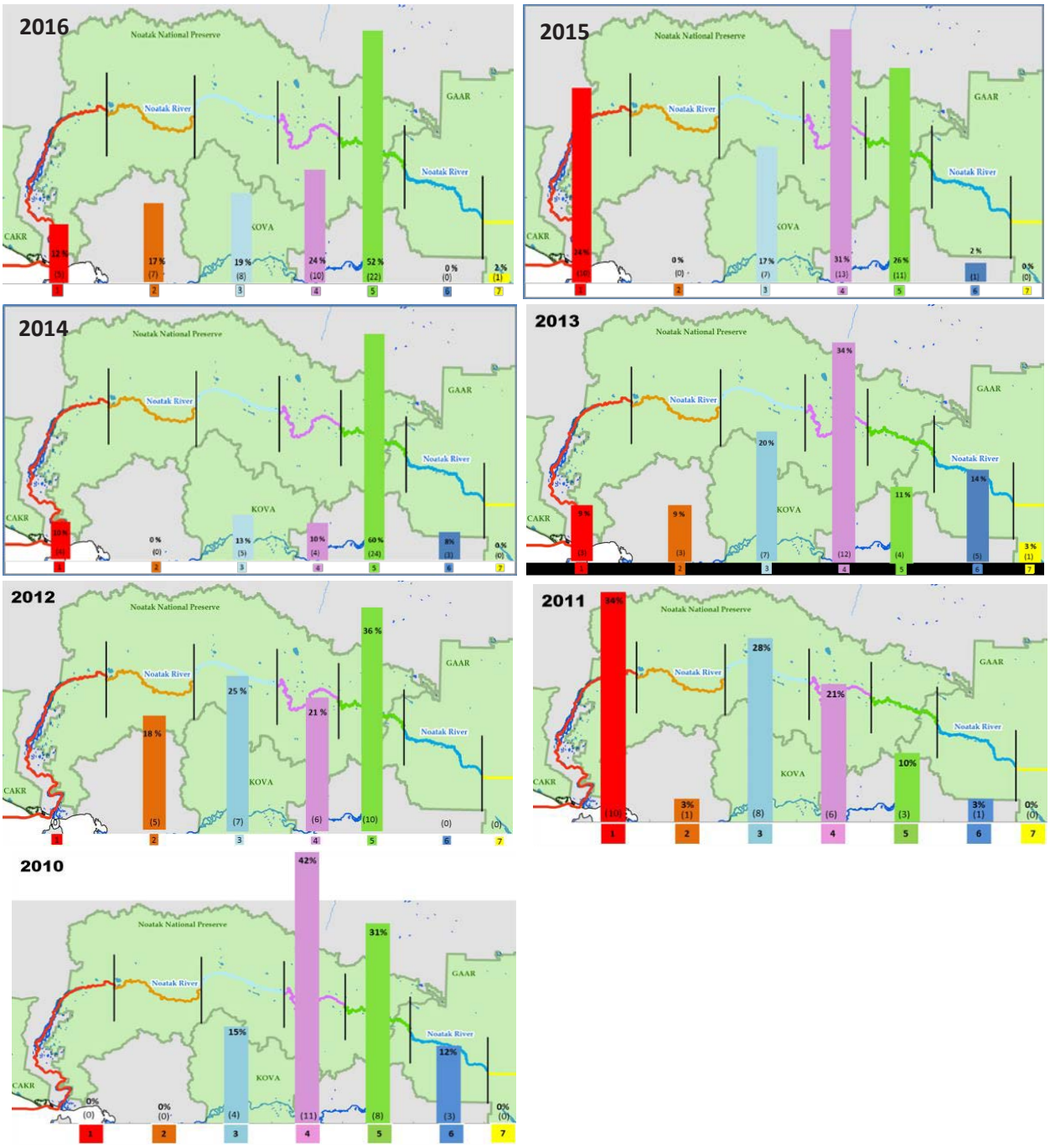


Figure 1. Distribution of caribou crossing the Noatak River during fall. Histograms depict where collared female caribou crossed the Noatak River, generally from north to south, on their fall migration. Relative percentages (top number) and the absolute number (middle number) of caribou are provided. The river is divided into seven (lowest number) color-coded segments which are displayed in the background. The middle five segments are 100 river kilometers long, while the westernmost segment (red) is 200 km (before extending into the Chukchi Sea) and the easternmost (yellow) runs as far east as WAH caribou are known to migrate. The number of caribou with GPS collars ranged from 39-79 caribou/year with later years having more collared caribou than earlier years (Joly and Cameron 2017).

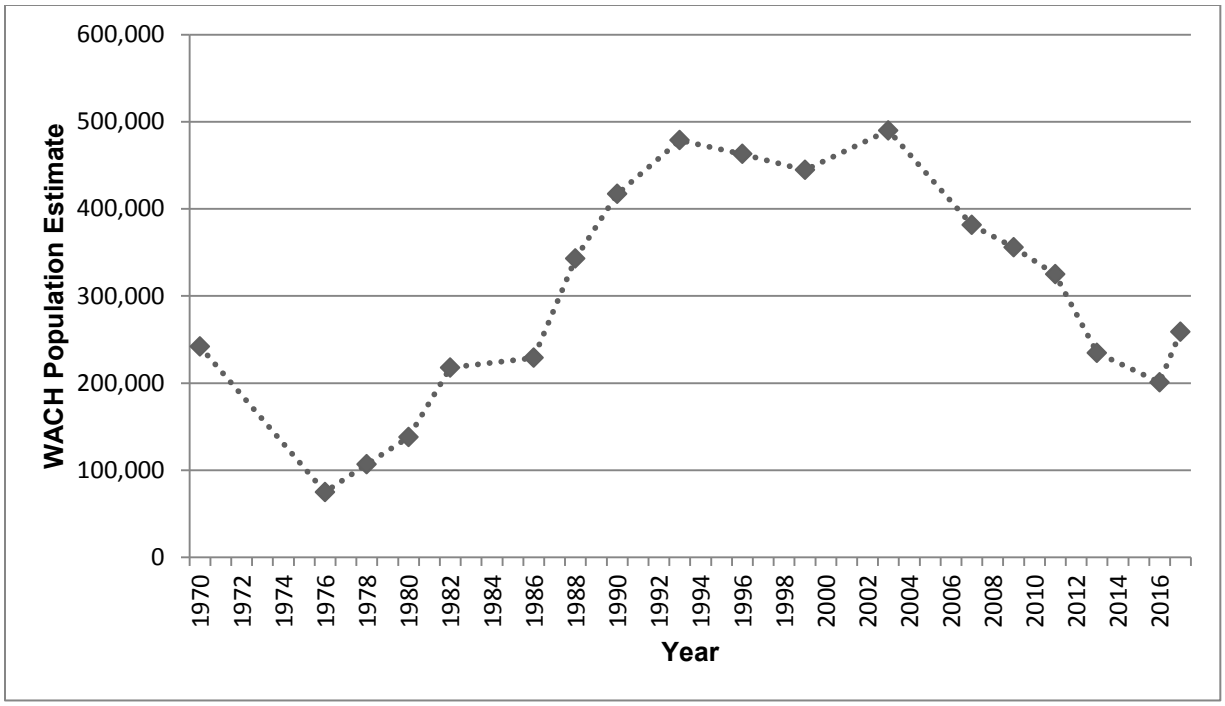


Figure 2. The WACH population estimates from 1970–2015. Population estimates from 1986–2017 are based on aerial photographs of groups of caribou that contained radio-collared animals (Dau 2011, 2013, 2014, Parrett 2016a, Parrett 2017a).

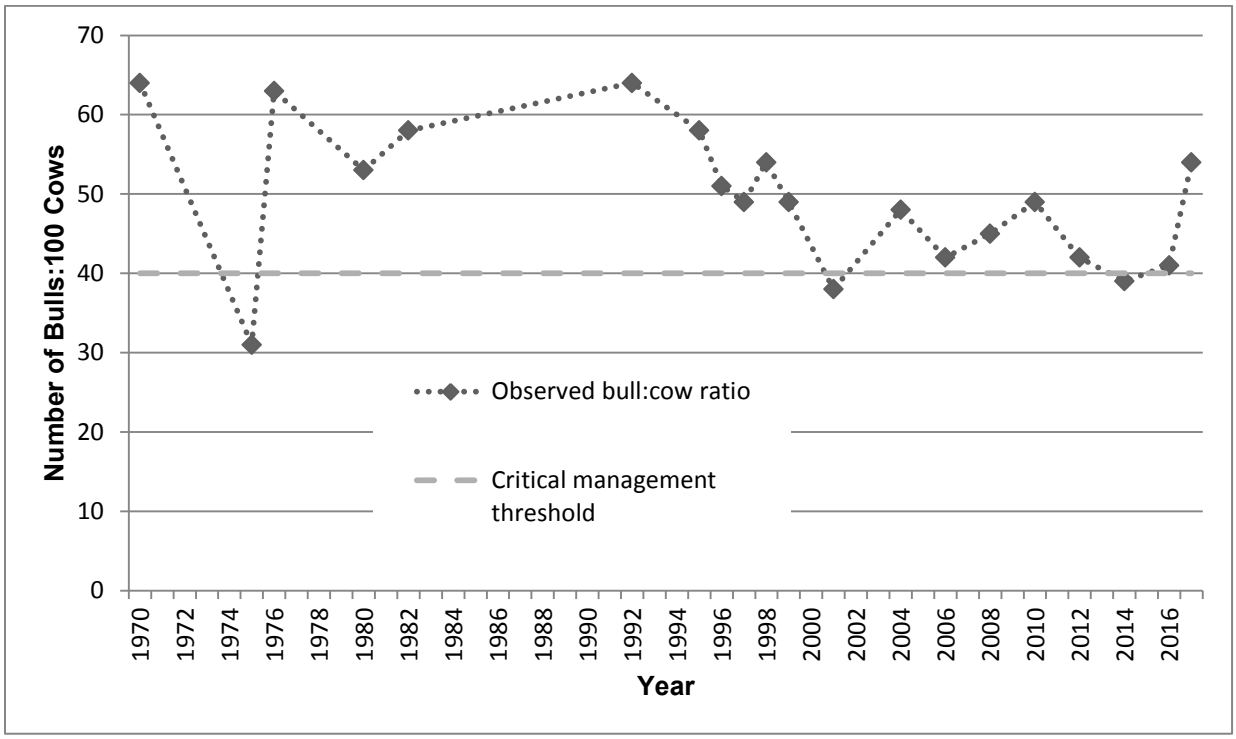


Figure 3. Bull:Cow ratios for the WACH (Dau 2015a, ADF&G 2017c, Parrett 2017a).

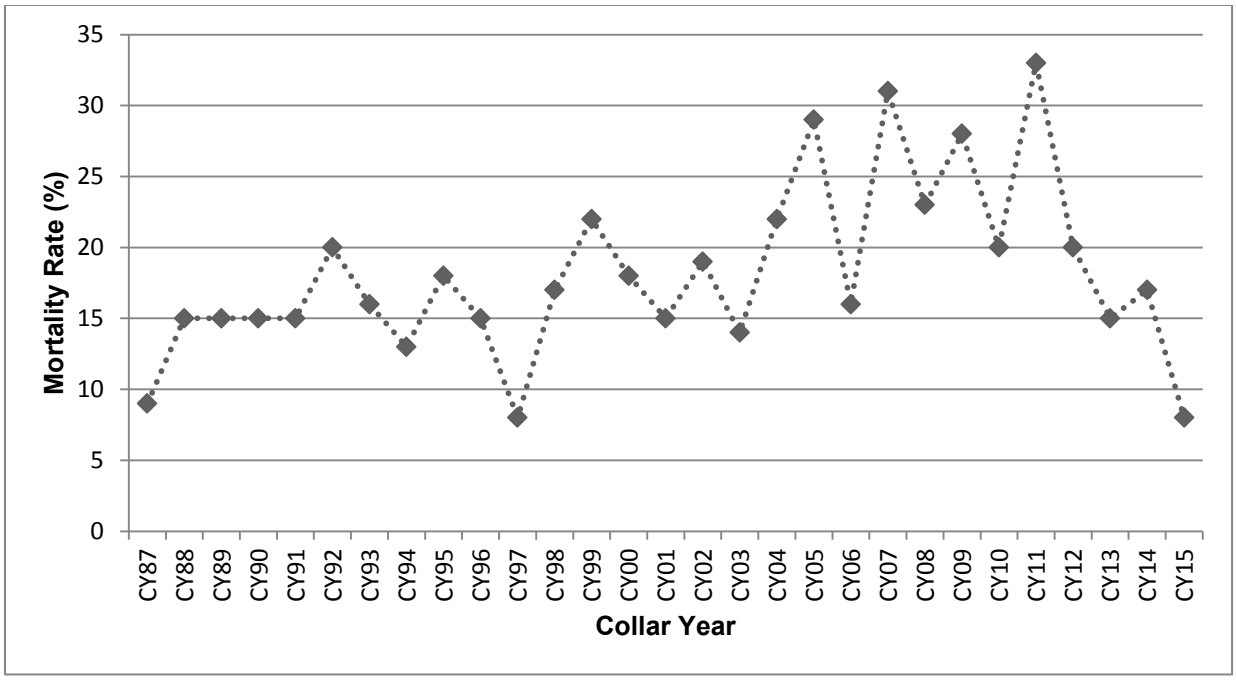


Figure 4. Mortality rate of radio-collared caribou in the Western Arctic caribou herd (Dau 2013, 2015a, 2016b). Collar Year = 1 Oct-30 Sept. 2015 collar year is Oct. 2015-Apr. 2016.

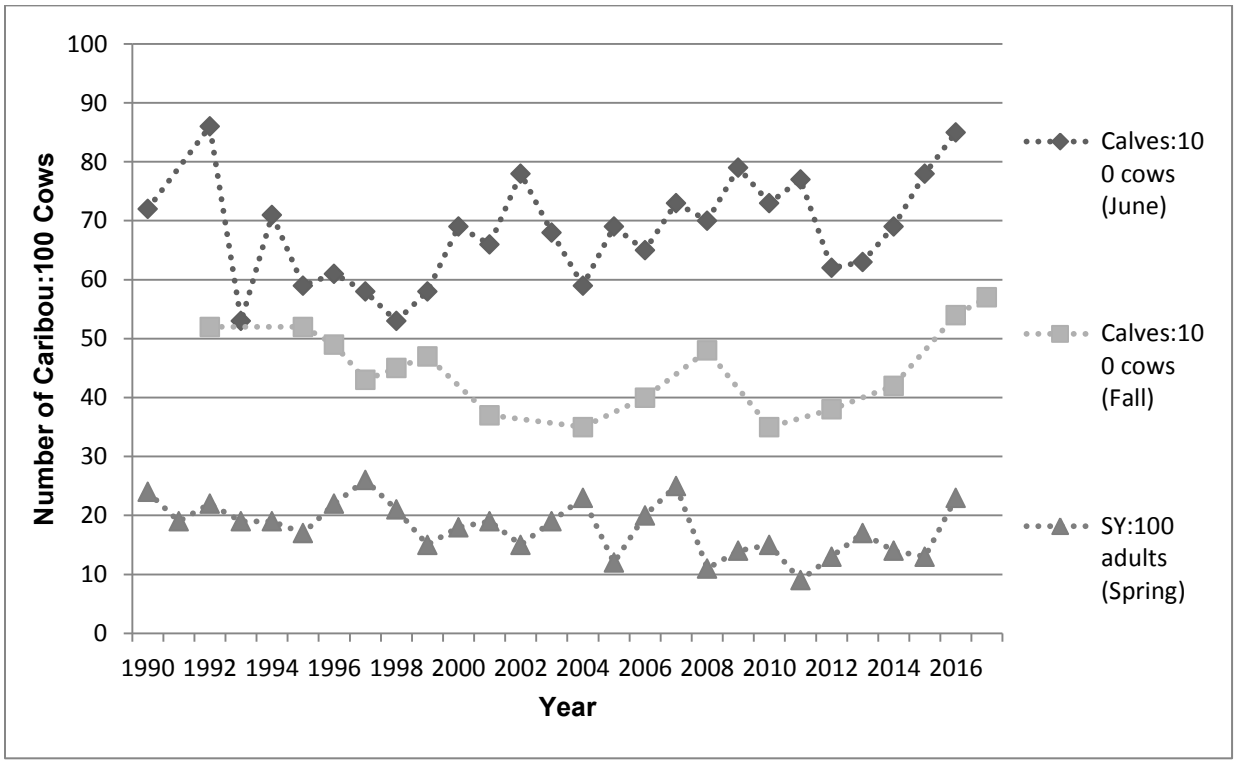


Figure 5. Calf:cow and short yearling (SY):adult ratios for the WACH (Dau 2013, 2015a, 2016a, ADF&G 2017c, Parrett 2017a). Short yearlings are 10-11 months old caribou.

Cultural Knowledge and Traditional Practices

Meeting the nutritional and caloric needs of Arctic communities is vitally important and is the foundation of subsistence activities. Still, the meaning of subsistence extends far beyond human nutrition for Alaska's native peoples. Holthaus (2012) describes subsistence as the base on which Alaska Native culture establishes its identity though "philosophy, ethics, religious belief and practice, art, ritual, ceremony, and celebration." Fienup-Riordan (1990) also describes subsistence in terms of the cultural cycles of birth and death representing the close human relationship and reciprocity between humans and the natural world. Concerning caribou specifically, Ms. Esther Hugo – a lifelong resident of Anaktuvuk Pass - describes the human-caribou relationship as a "way of life."

Caribou have been a primary resource for the Inupiat of the Northwest Arctic Region for thousands of years. Caribou bones dating from 8,000 to 10,000 years ago have been excavated from archeological sites on the Kobuk River (ADF&G 1992). Foote (1959, 1961) wrote about caribou hunting in the Noatak region forty years ago, noting that life would not be possible in Noatak without this source of meat. Caribou were traditionally a major source of both food and clothing and continues today to be the most important land animal consumed in this region (Burch 1984, 1994, 1998, ADF&G 1992). Uhl and Uhl (1979) documented the importance of caribou as a main source of red meat for Noatak residents as well as other communities in the region. Betcher (2016) also documents the critical contemporary importance of caribou to people residing throughout the Northwest Arctic.

Historically, during fall and spring caribou migrations, people built "drive fences" out of cairns, bundles of shrubs, or upright logs. These fences were sometimes several miles long and two to three miles wide. Ideally, the closed end of the fence crossed a river, and caribou were harvested while crossing the river and retrieved later; or the fence would end in a corral where caribou were snared and killed with spears (Burch 2012). Burch (2012:40) notes, "The landscape of Northwest Arctic, especially in hills and mountains, is littered with the remains of drive fences that were in every stage of construction when they were abandoned."

The WACH population declined rapidly in the Northwest Arctic beginning in the late 1800s. At its low point, its range had shrunk to less than half its former size. Famine ensued, primarily due to the absence of caribou. In the early 1900s, reindeer were introduced to fill the need for food and hides. The WACH began to rebound in the 1940s. Currently, among large terrestrial mammals, caribou are among the most abundant; however, the population in any specific area is subject to wide fluctuations from year to year as caribou migration routes change (Burch 2012).

Caribou were traditionally harvested any month of the year they were available in the Northwest Arctic Region. The objective of the summer hunt was to obtain the hides of adult caribou with their new summer coats. They provided the best clothing material available to the Inupiat. The fall hunt was to acquire large quantities of meat to freeze for winter (Burch 1994). The timing and routing of migration determined caribou hunting. Hunting seasons change from year to year according to the availability of caribou (ADF&G 1991). The numbers of animals and the duration of their stays varies from one year to the next (Burch 1994) and harvest varies from community to community depending on the availability of caribou. Generally, communities in the southern portion of Unit 23 (Buckland, Deering) take caribou in the winter and spring, while the other communities in Unit 23 take caribou in the fall, winter, and spring. Kivalina

and Point Hope also take caribou in the summer in July (ADF&G 1992) and Selawik residents regularly hunt in the fall (Georgette 2016, pers. comm.).

Currently, caribou hunting by Federally qualified subsistence users in the Northwest Arctic Region is most intensive from September through November. Caribou can be harvested in large numbers, when available, and can be transported back to villages by boat before freeze-up. Hunters search for caribou and attempt to intercept them at known river crossings. Ideally, caribou harvesting occurs when the weather is cool enough to prevent spoilage of meat. If not, meat is frozen for later use. Prior to freeze-up, bulls are preferred because they are fatter than cows (Braem et al. 2015, Georgette and Loon 1993).

Small groups of caribou that have over-wintered may be taken by hunters in areas that are accessible by snowmachine. Braem et al. (2015:141) explain, "Hunters harvest cows during the winter because they are fatter than bulls . . . . Caribou harvested during the winter can be aged completely without removing the skin or viscera . . . . Then in the spring, the caribou is thawed. Community members cut it into strips to make dried meat, or they package and freeze it." In spring, caribou start their northward migration. The caribou that are harvested are "lean and good for making dried meat (*paniqtuq*) during the warm, sunny days of late spring" (Georgette and Loon 1993:80).

Today, the human population in Unit 23 is comprised primarily of 11 regional Inupiaq groups (Burch 1998). Kotzebue is the regional hub of transportation and commerce and is the home to the majority of non-Natives in the region. The population of Unit 23 was approximately 7,500 in 2010, according to the U.S. Census (ADOLWD 2016). Caribou dominate the subsistence harvest of the region. In household harvest surveys conducted between 1964 and 2012, caribou were often the most harvested species, more than any other wild resource, in lbs. of edible weight (**Appendix A**, ADF&G 2016a). Based on these surveys, in a typical study year, the harvest of caribou was between 100 and 200 lbs. per person in northwest Alaska (**Appendix A**, ADF&G 2016a).

User Conflicts

User conflicts are likely to intensify when resources are scarce and when food security is threatened (Homer-Dixon 1994, Cohen and Pinstrup-Andersen 1999, Pomeroy et al. 2016). Such conflicts between local and nonlocal hunters have been well documented in Unit 23, specifically in the Noatak NP, the Squirrel River area, and along the upper Kobuk River (Georgette and Loon 1988, Jacobson 2008, Harrington and Fix 2009 *in* Fix and Ackerman 2015, Halas 2015, NWARAC 2015, Braem et al. 2015), even during times of high caribou abundance. Local hunters have expressed concerns over aircraft and "non-local" hunters disrupting caribou migration by "scaring" caribou away from river crossings, landing and camping along migration routes, and shooting lead caribou (Halas 2015, Fix and Ackerman 2015, NWARAC 2015).

Northwest Arctic Council members have testified that user conflicts have confounded their ability to successfully harvest caribou for subsistence purposes in some areas, and that these conflicts have caused degradation to their subsistence lifestyle through landscape modifications (e.g. abandoned structures and trash; landing strips; ATV trails), herd diversion and positioning (e.g. pushing or scaring caribou with low-flying aircraft for hunting, sightseeing, photography and other purposes; creating camp structures

along migratory paths), and hunting of lead caribou. Aircraft activity was of particular concern and includes operations by transporters, guides, "nonlocal" hunters utilizing personal aircraft, and recreational users. Specifically, aircraft in the vicinity of the Squirrel River has been cited as particularly problematic (NWARAC 2015).

Halas (2015), in a case study of Noatak caribou hunters and their interactions with transported hunters, examined the links between caribou behavior and migration, user group interactions, and changes to subsistence caribou hunting. In describing observations by Noatak hunters in 2012 and 2014 Halas (2015:81) explained,

> Observations of caribou behavior ("spooked" caribou, deflected caribou groups from river crossings) due to aircraft are likely witnessed as a dramatic event not easily forgotten by a waiting Noatak hunter. Whether the aircraft intentionally or unintentionally may be "influencing" caribou movement, observing "scared" caribou can be a powerful experience for hunters.

Repeated observations of airplanes affecting individual or group caribou behavior have been documented, and cumulative observations of this over time could lead an observer to conclusions about herd deflection (Halas 2015). Some studies and local observations of WACH caribou response to aircraft have suggested that animal response is limited in temporal and spatial scale (Fullman et al. 2017, BHA Alaska 2017) and that many factors contribute to larger scale shifts in migration. Fullman et al. (2017) studied the effects of environmental features and sport hunting on caribou migration in northwestern Alaska. These authors found that caribou tended to avoid rugged terrain and that the migration of caribou through Noatak NP does not appear to be hindered by sport hunting activity. They indicated that their results do not preclude the possibility of short-term effects (< 8 hours) altering the availability of caribou for individual hunters, and that the lack of observed influence of hunting activity could be related to limitations in the telemetry and sport hunter datasets used in the study (i.e. caribou locations were only recorded every 8 hours, not every sport hunter camp was included, and only landings events from transporter aircraft were considered).

Concerns were expressed by residents of Ambler, Shungnak, Noatak and Kobuk, as well as by members of the Northwest Arctic Council, that many nonlocal hunter practices clash with local hunting traditions such as shooting caribou for trophies or sport instead of food and wasting meat by letting it spoil in the field (Braem et al. 2015, NWARAC 2015, Halas 2015). Additional conflicts between user groups include competition for and overcrowding of campsites, litter, human waste, lack of law enforcement, degradation of the landscape from four-wheelers, and displacement from traditional hunting sites (Braem et al. 2015, Fix and Ackerman 2015, NWARAC 2015).

In 2008, the Unit 23 Working Group was established to address fall hunting related issues and to develop solutions to cooperatively solve hunting conflicts and to preserve traditional Inupiaq values, while also allowing for reasonable opportunities for non-local hunters (ADF&G 2016b). It is made up of 20 members, including representatives of regional and tribal governments and organizations, land and wildlife management agencies, the Big Game Commercial Services Boards, the Alaska Professional Hunters Association (including representatives from hunting guide and transport industries), Fish and Game

Advisory Committees, the Northwest Arctic Council, the BOG, and the Federal Subsistence Board (ADF&G 2016b). In 2010, the group proposed a mandatory orientation session for all pilots transporting big game in Unit 23. ADF&G implemented this, developed and distributed outreach materials, and established conflict planning processes (**Map 2**, Dau 2015a). The orientation suggests maintaining a minimum altitude of 2000 feet in the vicinity of camps (Betchkal 2015). Flight restrictions were also implemented by both State and Federal agencies (see Regulatory History).

Shifts in caribou migration paths, regardless of the reason for these shifts, have created difficulty for Noatak, Kivalina, and Kotzebue hunters, among others (Dau 2015a). Local WACH harvest has been relatively stable in Unit 23 since the 1990s, but residents of some communities have had to "greatly increase their expenditure of money and effort to maintain these harvest levels" (Dau 2015a:14-30). This is due in part to having to travel farther, more frequently, and for longer durations to find caribou (Halas 2015). In addition, many have had to switch from taking bulls to cows because of temporal shifts in access.

Harvest History

The State manages the WACH on a sustained yield basis (i.e. managing current harvests to ensure future harvests). The harvestable surplus when the WACH population is declining is calculated as 6% of the estimated population (WACH working group 2011, Parrett 2017b, pers. comm.). In recent years, as the WACH population has declined, the total harvestable surplus for the WACH has also declined (Dau 2011, Parrett 2015a). In 2016, the WACH harvestable surplus was 12,056 caribou (6% of 200,928 caribou). This is down from a harvestable surplus of 14,085 caribou in 2013 when the WACH numbered approximately 234,757 caribou. While there is substantial uncertainty in harvestable surplus estimates, it is likely that sustainable harvest will soon be exceeded (Parrett 2015a, Dau 2015a). Of particular concern is the overharvest of cows, which has probably occurred since 2010/11 (Dau 2015a). Dau (2015a:14-29) states, "even modest increases in the cow harvest above sustainable levels could have a significant effect on the population trajectory of the WACH."

Harvest from the WACH, which has remained fairly consistent since 1990, now represents a larger proportion of the annual mortality. This is one of the factors that prompted the BOG and the Board to enact restrictions on WACH harvest in March 2015 and April 2016, respectively. These regulatory restrictions addressed recommendations in the WACH working group's management plan under conservative management (i.e. prohibiting the take of calves, shortening seasons, decreasing harvest limits) (**Table 1**).

Caribou harvest by local hunters is estimated from community harvest surveys, if available, and from models developed by A. Craig with ADF&G's Division of Wildlife Conservation Region V. These models incorporate factors such as community size, availability of caribou, and per capita harvests for each community (Dau 2015a). In 2015, Craig's models replaced models developed by Sutherland (2005), resulting in changes to local caribou harvest estimates from past years. While Craig's models accurately reflect harvest trends, they do not accurately reflect actual harvest numbers (Dau 2015a). (Note: no model accurately reflects harvest numbers). This analysis only considers the updated harvest estimates using

Craig's new model as cited in Dau (2015a). Caribou harvest by nonlocal residents and nonresidents are based on harvest ticket reports (Dau 2015a).

Local and nonlocal hunters are defined in ADF&G management reports as living within and outside the range of the WACH, respectively. Federally qualified subsistence users and NFQU are close, but not identical, to local and nonlocal hunters, respectively. Residents of Galena, Wiseman, and several communities on the western Seward Peninsula are Federally qualified subsistence users, but are not within the range of the WACH by definition (**Map 1**).

From 2000–2014, the average estimated total harvest from the WACH was 11,984 caribou/year, ranging from 10,666-13,537 caribou/year (Dau 2015a, **Figure 6**). These harvest levels are within or below the conservative harvest level specified in the WACH Management Plan (**Table 1**). However, harvest estimates do not include wounding loss, which may be hundreds of caribou (Dau 2015a).

Local hunters account for approximately 95% of the total WACH harvest and residents of Unit 23 account for approximately 58% of the total harvest on average (**Figure 7**, ADF&G 2017c). Comparison of caribou harvest by community from household survey data (**Appendix A)** with **Figure 1** demonstrates that local community harvests parallel WACH availability rather than population trends. For example, Ambler only harvested 325 caribou when the WACH population peaked in 2003, but harvested 685 caribou in 2012 when most of the WACH migrated through eastern Unit 23. Similarly, Noatak only harvested 66 caribou in 2010 when no GPS-collared caribou migrated through western Unit 23. Harvest increased substantially (360 caribou) the following year when 37% of the GPS-collared caribou (and thus, a greater proportion of the WACH) migrated through western Unit 23.

On average, 76% of WACH caribou harvested by nonlocals are taken in Unit 23. From 2001-2013, total and Unit 23 nonlocal WACH harvest averaged 598 caribou/year and 456 caribou/year, respectively (**Figure 8**). In recent regulatory years (2012/13–2013/14), numbers of nonlocal hunters are slightly lower, partially because transporters have had to travel further to find caribou and thus, could not book as many clients (Dau 2015a).

Between 1998 and 2014, the number of NFQU hunting caribou and the number of caribou harvested by NFQU in Unit 23 averaged 487 hunters (range: 404-662) and 511 caribou (range: 248-669), respectively (**Figure 9,** ADF&G 2016c, FWS 2016). In 2015, after the BOG enacted restrictions, the number of NFQU and caribou harvested by NFQU decreased appreciably (340 hunters and 230 caribou). In 2016, during the closure of Federal lands to NFQU, the number of NFQU and caribou harvested by NFQU decreased even further (149 hunters and 111 caribou), although there may still be some outstanding 2016 harvest reports from nonlocal residents (**Figure 9,** WINFONET 2017).

The major river drainages in which people hunt and harvest caribou are included in most (~90%) harvest reporting data (WINFONET 2017). This data can be used to compare caribou harvest and hunting intensity (measured as the number of hunters) by NFQU across Unit 23 at coarse (major river drainage) scales. At the coarse scale, cumulative caribou harvest and hunting intensity by NFQU from 2005-2014

was highest in the Noatak River drainage. While the total number of nonlocal hunters and harvest decreased in 2016 due to the Federal lands closure, the Noatak River Drainage still experienced the highest relative hunting intensity at the coarse and fine scales, respectively (WINFONET 2017).

From 1999-2013, 72% of nonlocal hunters on average accessed the WACH by plane. Most nonlocal harvest (85-90%) occurs between Aug. 25 and Oct. 7. In contrast, most local, subsistence hunters harvest WACH caribou whenever they are available using boats, 4-wheelers, and snowmachines (Dau 2015a, Fix and Ackerman 2015). In Unit 23, caribou are generally available during fall migration. The temporal concentration of nonlocal hunters during times of intensive subsistence hunting is responsible for user conflicts in Unit 23 (Dau 2015a).

Commercially licensed transporters and guides assist approximately 60% and 10% of nonlocal hunters in Unit 23, respectively (Unit 23 Working Group 2016). In the Noatak NP, nonlocal transporter clients primarily consist of nonresidents and Alaska residents from urban areas such as Anchorage, Fairbanks, and communities on the Kenai Peninsula (Fix and Ackerman 2015, ADF&G 2016c).

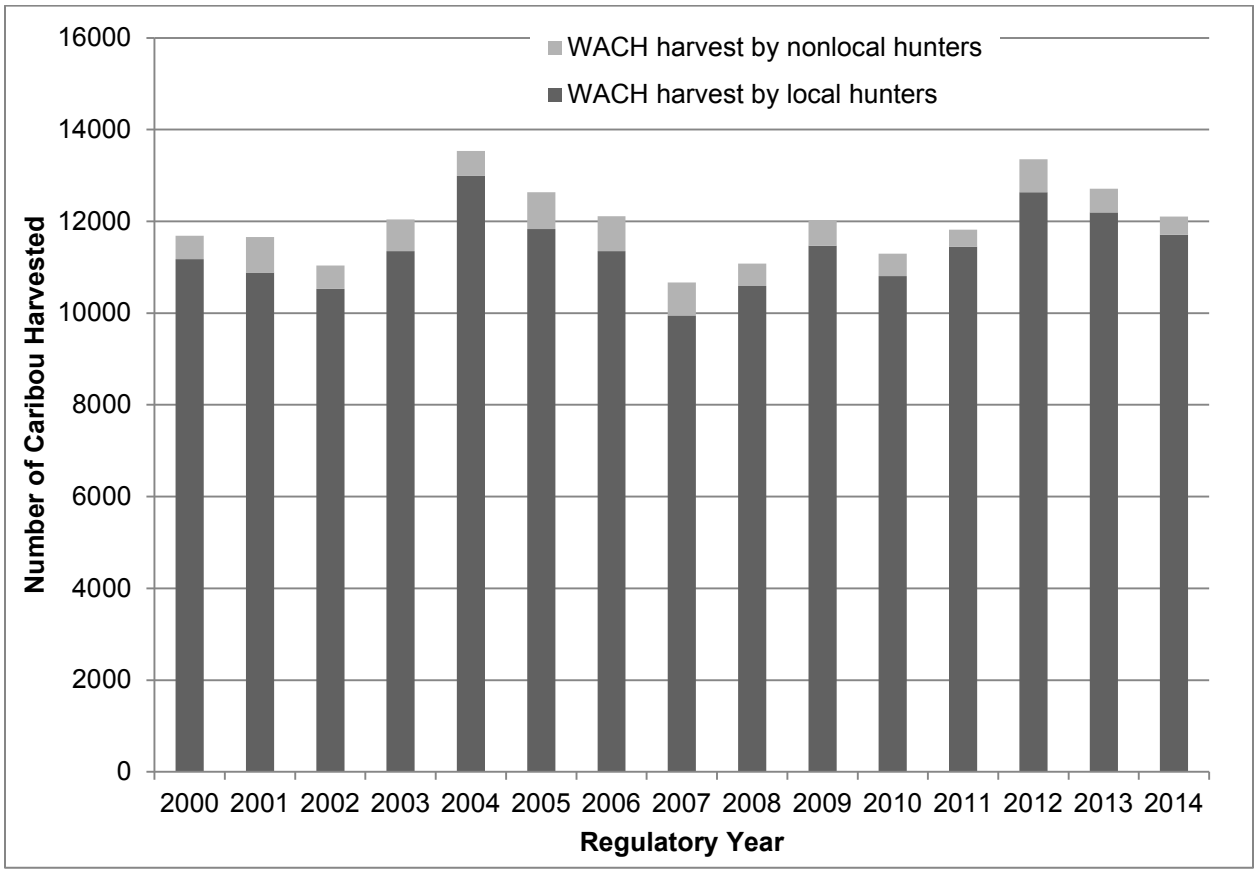


Figure 6. Estimated number of caribou harvested from the WACH by residency (Dau 2015a).

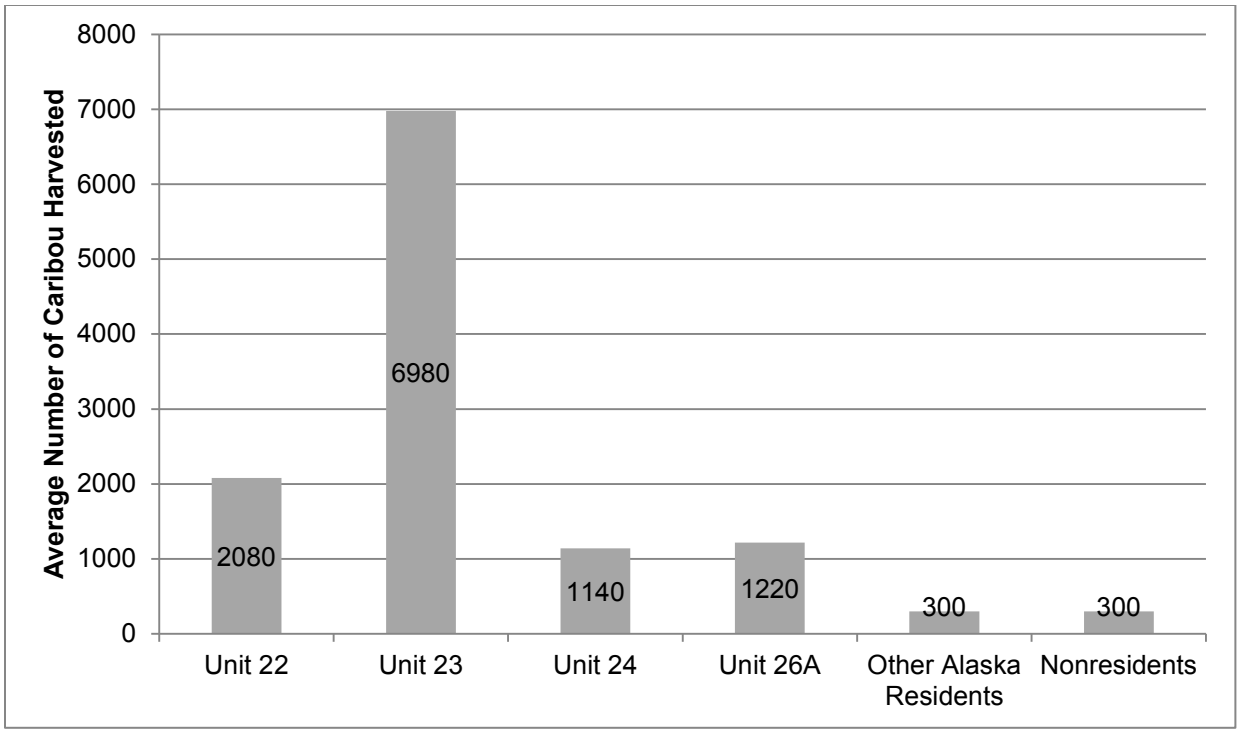


Figure 7. Average number of caribou harvested by unit and residency from 1998-2015 (ADF&G 2017c).

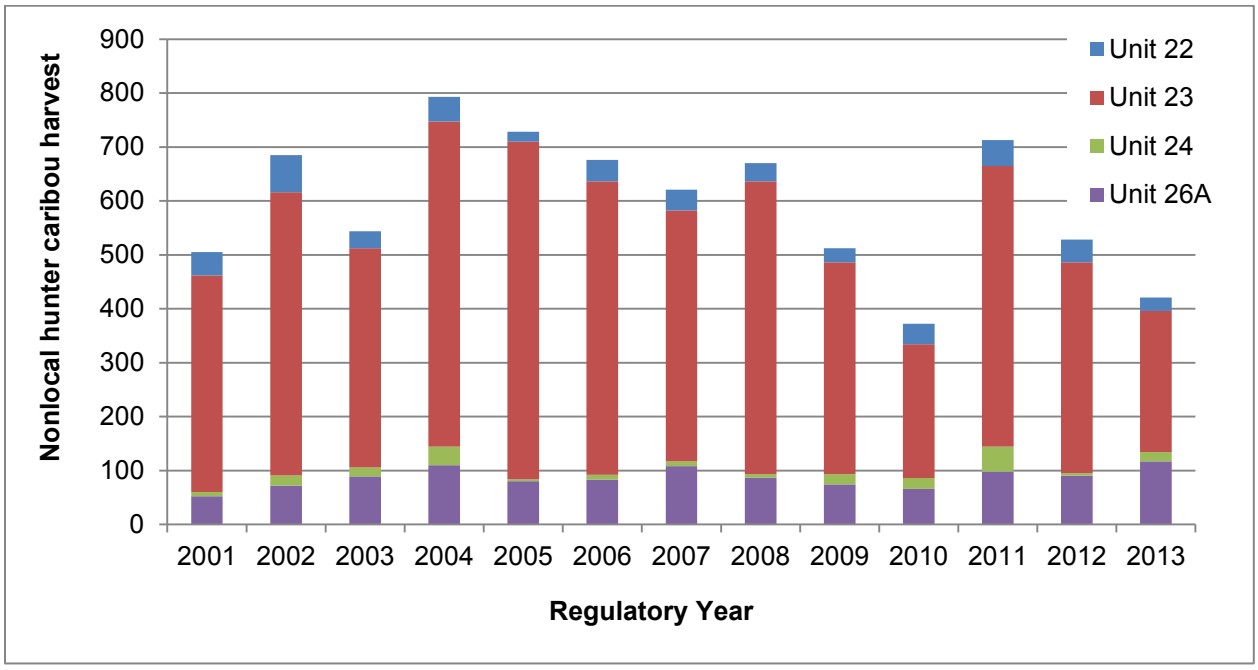


Figure 8. Nonlocal WACH harvest by unit (Dau 2015a, Dau 2013). Unit 21D was not included as only 0-2 caribou have been harvested from this unit each year.

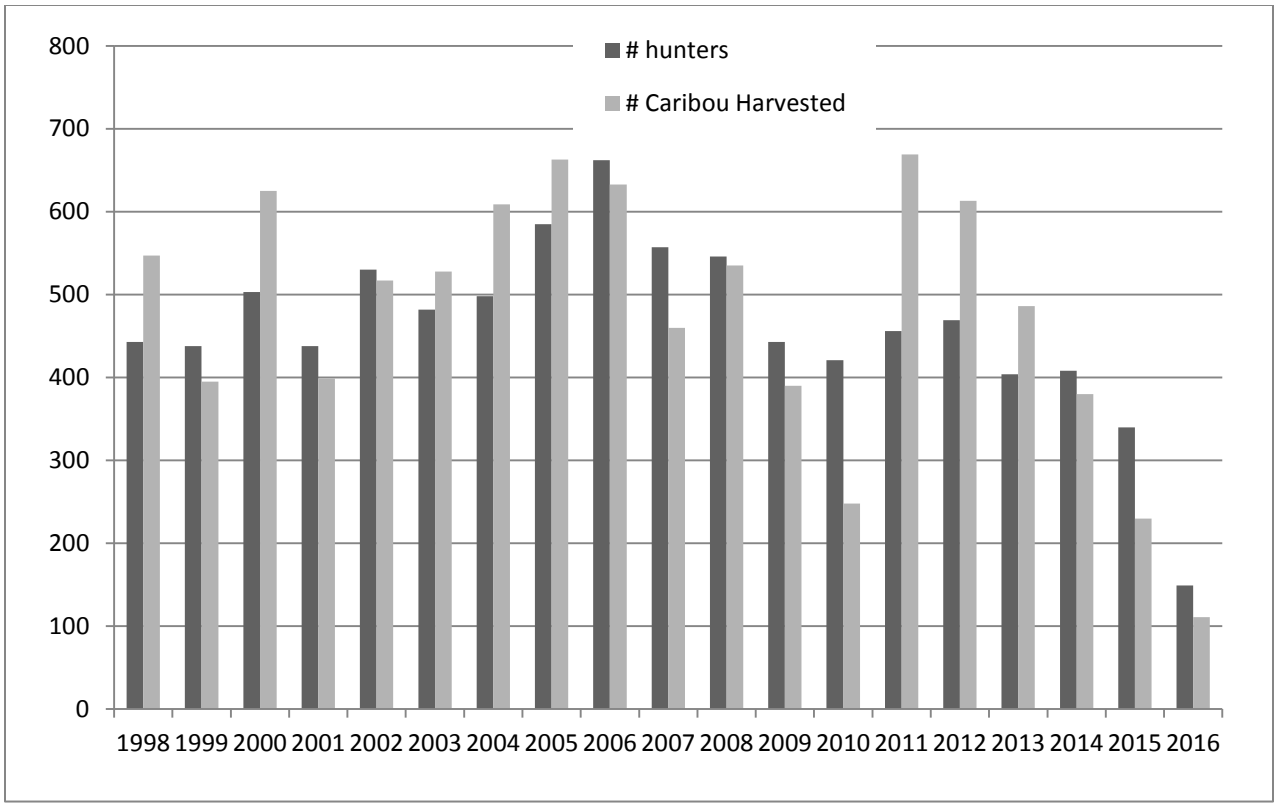


Figure 9. Number of non-Federally qualified users (NFQU) and number of caribou harvested by NFQU in Unit 23 (ADF&G 2016c, FWS 2016, WINFONET 2017).

Other Alternatives Considered

One alternative considered was to defer this proposal in order to allow for additional time to evaluate the effectiveness of the 2016 regulatory changes and to obtain additional information (e.g. population estimates) on the WACH. However, unless the State reduces the caribou harvest limit in Unit 23, this proposal would have no conservation effect and would restrict subsistence use in National Parks and areas open only to Federally qualified subsistence users.

Effects

If this proposal is adopted, the caribou harvest limit in Unit 23 would be reduced from 5 to 3 caribou per day, which reduces opportunity for Federally qualified subsistence users. This would also cause Federal regulations to be more restrictive than State regulations, contrary to the subsistence priority mandated by Title VIII of the Alaska National Interest Lands Conservation Act. State and Federal regulations would be further misaligned, which increases regulatory complexity and could add to user confusion.

While the WACH population was declining, the WACH Working Group now considers the herd to be stable. Reducing the Federal daily harvest limit is not expected to impact population recovery or reduce overall WACH harvest as all residents would still be able to harvest 5 caribou per day in Unit 23 under State regulations. Harvest in national parks and monuments may be reduced (i.e. Kobuk Valley and portions of

Gates of the Arctic National Parks), but is not expected to impact WACH conservation as these areas are not targeted by Federally qualified subsistence users for caribou hunting. In 2016, the harvest limit for caribou in Unit 23 was reduced from 15 to 5 caribou per day. Time is needed to evaluate the effectiveness of recent regulatory restrictions before enacting further restrictions. The outcomes of Proposals WP18-32, 46/47, and 48/49 may influence the effects of this proposal, if adopted.

OSM CONCLUSION

Oppose Proposal WP18-45.

Justification

Adoption of this proposal reduces opportunity for Federally qualified subsistence users, could negatively affect continuation of subsistence uses, and eliminates the subsistence priority. Additionally, impact to conservation of the WACH would be minimal. More time is needed to evaluate the regulatory changes which took effect in 2016 before further reducing the harvest limit under Federal regulations.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Western Interior Alaska Subsistence Regional Advisory Council

Take No Action on WP18-45. The Council deferred to the home region, justifying the position to take no action, noting the proposal would provide better opportunities for State hunters than for Federally qualified hunters, and that since the State regulations would still provide for a daily limit of 5, the proposal would not change harvest on areas where no closure was in effect. But Council members also supported the notion of reducing the daily limit to 3, but that it would need to also be adopted by the Alaska Board of Game in order to be effective. The Council explained that can be accomplished through submitting an agenda change request. The Council also expressed a desire for coordination among the four affected regions through the caribou working group to develop a strategy for submitting appropriate changes to the State and Federal regulatory process.

Seward Peninsula Subsistence Regional Advisory Council

Oppose WP18-45. The Council believed that reducing the number of animals per day without reducing the overall annual harvest limit would not conserve the herd but would put additional burdens on rural hunters. Other Council members remarked that there were multiple conservation measures already in place and it would be best to see how they contribute to herd conservation. The Council was also concerned that similar actions could be proposed for Unit 22.

Northwest Arctic Subsistence Regional Advisory Council

Oppose WP18-45. The Council stressed the need to align Federal and State regulations to make it easier for local users to understand. The Council noted three caribou are not enough, as people need to get their quota now, and given the expense and distance needed to access caribou. The Council also noted the proposal would cause hardship on Federally qualified subsistence users by reducing the harvest limit.

North Slope Subsistence Regional Advisory Council

Oppose WP18-45. A Council member from Point Hope noted that with the alarming decline of the WACH, it was possible that people in his area could get by on a harvest limit of 3 caribou per day if necessary to help recovery. He noted that many hunters in Point Hope now go out for just a day at a time by snow machine and return to the village and might support harvesting just 3 caribou since that is plenty to carry in a single trip. However the Council felt overall that there does not seem to be substantial evidence in support of this proposal. They felt that the desire to be good stewards is a good thing, but substantial reductions to subsistence harvest had just been made in the last wildlife cycle and those conservation efforts need to be evaluated before any further subsistence restrictions are made at this time. The Council also stressed that the proposal was rejected by the Council that proposed it for their region.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient bases for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-45: This proposal, submitted by the Northwest Arctic Subsistence Regional Advisory Council (RAC), would change the daily bag limits for caribou hunting in Unit 23.

Introduction: This proposal asks to change the daily bag limit for caribou in Unit 23 while retaining the season. Most of the caribou harvested in Unit 23 are from the Western Arctic Herd (WAH).

Hunt management for the WAH has changed in the past several years. With the decline of WAH, two new registration permits (RC800 and RC907) have been required for hunters. In Unit 23 and 26A, RC907 is in the first year of use. This new permit was put in place to provide more timely harvest information, but not to decrease the harvest.

Impact on Subsistence Uses: If adopted, this proposal would change the daily limit from 5 to 3 caribou. Depending on where a hunter is hunting, this could have very little impact or a great amount of impact on an individual hunter or community. High daily bag limits allow hunters to harvest caribou when they are available more efficiently. It is unknown if a change from 5 to 3 per day would impact overall harvest.

Impact on Other Uses: Since the proponent does not ask to limit caribou hunting to only federally qualified users, hunters could still use state regulations to hunt.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for the Western Arctic and Teshekpuk Lake caribou herds in Units 21, 22, 23, 24, and 26.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for Western Arctic and Teshekpuk Lake caribou is 8,000-12,000 animals.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
23 north of and including Singoalik River drainage.	5	July 1- October 14(Bulls) February 1 – June 30 (Bulls) July 15- April 30 (Cows) (RC907)	
	1 Bull		August 1 – September 30 (Harvest ticket)
23 remainder	5	July 1- October 14(Bulls) February 1 – June 30 (Bulls) September 1- March 31(Cows) (RC907)	
	1 Bull		August 1 – September 30 (Harvest ticket)

Special instructions:

For RC907

- PERMIT AVAILABILITY: Permits available online, at the Kotzebue and Barrow ADF&G offices, and license vendors within Units 23 and 26A beginning June 15.
- WHEN AND WHERE: Unit 23 north of and including Singoalik River drainage AND 26A, that portion of the Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Seas south and west of and including the Utukok River drainage:
- Bag Limit: Five caribou per day, calves may not be taken
- Season:
    - Bulls: July 1 – October 14; February 1 - June 30
    - Cows: July 15 - April 30
- Remainder of Unit 23:
    - Bag Limit: Five caribou per day, calves may not be taken
    - Season:
        - Bulls: July 1 – October 14; February 1 - June 30
        - Cows: Sept. 1 - March 31
- Remainder of 26A:
    - Bag Limit: Five bulls per day, calves may not be taken
    - Season: July 1 - July 15; Mar 16 - June
    - Five caribou per day, three of which may be cows; calves may not be taken, and cows with calves may not be taken July 16 - October 15
    - Three cows per day, calves may not be taken Oct 16 - December 31
    - Five caribou per day, three of which may be cows; calves may not be taken January 1 - Mar 15

- REPORTING: Successful Hunters: Report within 15 days of taking a legal annual bag limit. Unsuccessful hunters, those who did not hunt, and hunters who were successful but harvested less than 20 caribou must submit their report by July 15. Report in person, online at hunt.alaska.gov, by telephone (907) 443-2271 or (800) 560-2271 (you can leave a recorded message at Ext 8191), outside drop box at Nome ADF&G, or by pre-paid mail.
- WHO QUALIFIES: Alaska residents are qualified to hunt in all areas. Immediately upon taking an animal you must completely remove the number corresponding to that part of your bag limit and fill in the date you killed the animal as well as its sex in ink.
- PENALTY FOR FAILURE TO REPORT: If you fail to report you will not be eligible to receive any permits (Drawing, Targeted, Tier II, or Registration, including Tier I Nelchina Caribou) during the next regulatory year. In addition, your name may be turned over to the Alaska Wildlife Troopers for enforcement action.
- SIGNATURE: You must sign your permit and comply with the permit hunt conditions and any additional restrictions found in the Alaska Hunting Regulations. You must carry your signed permit while hunting or transporting caribou within the registration permit area and you must show it to any person authorized to enforce state and federal laws who requests to see it.
-

Conservation Issues: The proposal asks to change the daily bag limit in an area where ADF&G feel harvest does not need to be limited at this time. The Western Arctic herd has been declining for several years, but it is still the largest caribou herd in the State of Alaska. A photocensus conducted in July 2017 estimated the population at 259,000 caribou, indicating the population has stabilized and could even be increasing. The most recent fall composition survey indicated the calf:cow ratio was 57 calves:100 cows and bull:cow ratio was 54bulls:100 cows.

Enforcement Issues: Adoption of this proposal would create inconsistency in federal and state caribou regulations across a large area of the state.

Recommendation: ADF&G is **OPPOSED** to this proposal. The intent of the proposal is to reduce harvest; however, it is unlikely that the proposed change will have any impact on total harvest. All users could still hunt under more liberal state regulations. Additionally, the current level of harvest is believed to be within sustainable limits for this herd, and the current regulations in these different units are appropriate depending on which herd is present**.**

Appendix A

Estimated total caribou harvest by community, per capita caribou harvest by community, and data sources for Unit 23: Western Arctic caribou herd (ADF&G 2015).

Unit 23

Community	Year/Period	Est Caribou Harv.	# caribou per capita	Source
Ambler	2003	325	1.12	Georgette et al. 2005, unpublished data
	2009	456	1.75	Braem 2012
	2012	685	2.54	Braem et al. 2015
Buckland	2003	637	1.56	Magdanz et al. 2011
	2009	561	1.30	Braem 2012
Deering	1994	142	0.96	Magdanz et al. 2002
	2007-2008	182	1.37	Braem 2011
	2011-2012	237	1.91	Braem 2011
	2013	393	2.85	ADF&G unpublished data
Kiana	1999	488	1.23	ADF&G unpublished data
	2006	306	0.77	Magdanz et al. 2011
	2009	440	1.18	Braem 2012
Kivalina	1982	346	0.48	CSIS
	1983	564	0.78	CSIS
	1992	351	0.49	CSIS
	2007	268	0.67	Magdanz et al. 2010
	2010-2011	86	0.23	Braem et al. 2014
Kobuk	2004-2005	134	1.06	ADF&G unpublished data
	2009	210	1.72	Braem 2012
	2012	119	0.84	Braem et al. 2015
Kotzebue	1986	1917	0.71	Georgette and Loon 1993
	1991	3782	1.04	CSIS
	2001	2376	0.77	Whiting 2003
	2002	1719	0.56	Whiting 2003
	2003	1915	0.61	Whiting 2003
	2012-2013	1804	0.56	CSIS
	2013-2014	1629	0.51	ADF&G unpublished data
Noatak	1994	615	1.62	Magdanz et al. 2002
	1999	683	1.61	Georgette et al 2000., unpubd data
	2002	410	0.90	Georgette et al. 2004, unpubd data
	2007	441	0.90	Magdanz et al. 2010
	2010	66	0.13	Braem et al. 2014
	2011	360	0.66	Mikow et al. 2014
Noorvik	2002	988	1.46	Georgette et al. 2004, unpubd data
	2008	767	1.19	Braem et al. 2012
	2012	851	1.36	CSIS

-continued-

Unit 23, continued

Community	Year/Period	Est Caribou Harv.	# caribou per capita	Source
Point Hope	1994-1995	355	0.49	Bacon et al. 2009, rev. 2011
	2000-2001	219	0.31	Bacon et al. 2009, rev. 2011
Selawik	1999	1289	1.68	CSIS
	2006	934	1.11	CSIS
	2011	683	0.79	Braem et al. 2013
Shungnak	1998	561	2.17	Georgette 1999, unpubd data
	2002	403	1.62	Magdanz et al. 2004
	2008	416	1.53	Braem 2012
	2012	396	1.47	Braem et al. 2015

WP18–52 Executive Summary	
General Description	Proposal WP18-52 requests that the moose season in Unit 25D remainder be extended to Oct. 7. *Submitted by: Eastern Interior Alaska Subsistence Regional Advisory Council.*
Proposed Regulation	**Unit 25D, remainder—Moose** *Unit 25D, remainder – 1 antlered moose* *Aug. 25 – Oct. ~~1~~ 7 Dec. 1 – 20.*
OSM Conclusion	**Oppose**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	

WP18–52 Executive Summary	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	**Oppose**
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient bases for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Oppose**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-52

ISSUES

Proposal WP18-52, submitted by the Eastern Interior Alaska Subsistence Regional Advisory Council, requests that the moose season in Unit 25D remainder be extended to Oct. 7 (**Map 1**).

DISCUSSION

The proponent states that the proposed changes will better align the moose hunting season with recent weather changes in the area and will accommodate travel to hunting grounds. The proponent notes that ice is usually already forming on the Porcupine River by early October, but that the Yukon River where locals travel to hunt moose is generally ice-free then.

Existing Federal Regulation

Unit 25D, remainder—Moose

Unit 25D, remainder – 1 antlered moose	*Aug. 25 – Oct. 1* *Dec. 1 – 20.*

Proposed Federal Regulation

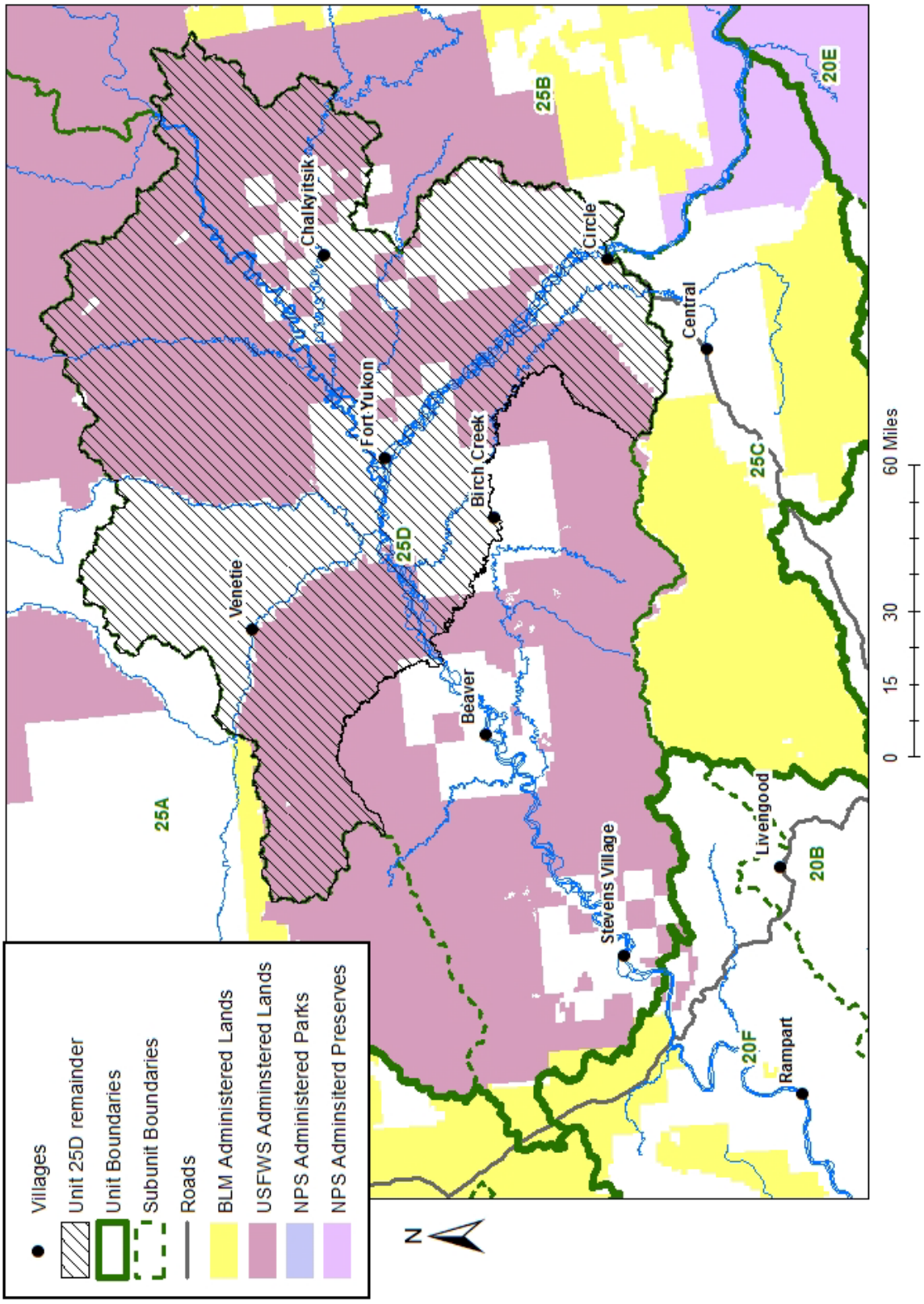
Unit 25D, remainder—Moose

Unit 25D, remainder – 1 antlered moose	*Aug. 25 – Oct. ~~1~~ 7* *Dec. 1 – 20.*

Existing State Regulation

Unit 25D, remainder—Moose

Unit 25D, remainder	*Residents: One bull* *OR*	*HT*	*Sept. 10 – Sept. 20* *Feb. 18 – Feb. 28*
	Residents: One bull by permit	*CM001*	*Sept. 10 – Sept. 20* *Feb. 18 – Feb. 28*
	Nonresidents: One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side	*HT*	*Sept. 10 – Sept. 20*



Map 1. Unit 25D remainder moose hunt area.

Extent of Federal Public Lands

Federal public lands comprise approximately 63% of Unit 25D and consist of 62% U.S. Fish and Wildlife Service (USFWS) managed lands and 1% Bureau of Land Management (BLM) managed lands.

Federal public lands comprise approximately 60% of Unit 25D remainder and consist of 60% USFWS managed lands (**Map 1**).

Customary and Traditional Use Determinations

Residents of the remainder of Unit 25 have a customary and traditional use determination for moose in Unit 25D remainder.

Regulatory History

In the early 1980s, the Alaska Board of Game (BOG) divided Unit 25D into Unit 25D West and Unit 25D remainder to allow use of regulatory schemes that reflected the difference status of these moose populations (permits are required in Unit 25D west due to low moose density and relatively high demand for moose by local residents while harvest tickets are required in Unit 25D remainder) (Caikoski 2014).

In 1990, the Federal moose season for Unit 25D remainder ran from Aug. 25 – Sept. 25 and Dec. 1 – Dec. 10 with a harvest limit of one bull.

In 1991, the Federal Subsistence Board (Board) adopted Proposal P91-74 to extend the winter season 10 days to Dec. 20 in order to provide greater harvest opportunity, particularly to accommodate inclement weather in December.

In 1993, the Board adopted Proposal P93-61 to modify the harvest limit to one antlered moose.

In 1995, the Board adopted Proposal P95-52, allowing the take of moose and caribou in Unit 25 from a snowmachine or motor boat. This was done to alleviate unnecessary restrictions on Federally qualified subsistence users in Unit 25 as this provision was already allowed in other units across the State.

In 2000, the BOG established a community harvest permit program for the Chalkyitsik Community Harvest Area (CM001), which includes Unit 25D remainder and Unit 25B remainder (Caikoski 2014).

In 2010, the Board adopted Proposal WP10-93 with modification to extend the closing date of the fall moose season in Unit 25D remainder from Sept. 25 to Oct. 1 to provide additional harvest opportunity.

In 2012, the Board adopted Proposal WP12-63, which required edible meat to be left on the bones of caribou and moose harvested in Unit 25 until removed from the field and/or processed for human consumption. This was done to reduce meat spoilage.

Biological Background

A Yukon Flats Cooperative Moose Management Plan (YFCMMP) was completed in 2002. The Alaska Department of Fish and Game (ADF&G), Division of Wildlife Conservation developed the plan in cooperation with the Yukon Flats Fish and Game Advisory Committee, the Council of Athabascan Tribal Governments, the Yukon Flats National Wildlife Refuge (NWR), and the U.S. Fish and Wildlife Service, Office of Subsistence Management (ADF&G 2002). The purpose of the plan was to "protect, maintain, and enhance the Yukon Flats moose population and habitat, maintain traditional lifestyles, and provide opportunities for use of the moose resource" (ADF&G 2002).

The YFCMMP recommends goals, objectives, strategies, and actions for the moose population, harvest, and predator management (ADF&G 2002). Current State management goals and objectives for moose in Unit 25D are similar to those in the YFCMMP and include (Caikoski 2014):

- Protect, maintain, and enhance the moose population and its habitat in concert with other components of the ecosystem while providing for maximum sustained harvest.
- Provide for subsistence use and for the greatest opportunity to harvest moose.
- Protect, maintain, and enhance the Yukon Flats moose population and habitat, maintain traditional lifestyles and provide opportunities for use of the moose resource.
- Increase the harvestable surplus of bull moose in key hunting areas near local communities by reducing mortality from bear and wolf predation.
- Improve moose harvest reporting.
- Minimize cow moose harvest, recognizing that some cows will probably be taken for ceremonial purposes when bull moose are seasonally in poor condition.
- Work with local communities to implement harvest strategies to increase bear and wolf harvest.
- Increase the size of the moose population by 2-5% annually in key hunting areas near local communities in Unit 25D.
- With assistance of the Division of Subsistence, implement a systematic household harvest survey in Unit 25D to obtain 90% reporting.
- Reduce illegal and potlatch harvest of cow moose to less than 5% of total annual harvest.
- Maintain a minimum of 40 bulls per 100 cows as observed in fall surveys.

Moose densities have been historically low across Unit 25D. During the 1980s and 1990s, when ADF&G and USFWS began conducting regular surveys, moose densities ranged from a low of 0.1 moose/mi^2 in 1984 to a high of 0.64 moose/mi^2 in 1989 (Caikoski 2014). Between 1999 and 2007, moose densities in Unit 25D remainder averaged 0.25 moose/mi^2 (range: 0.18-0.34 moose/mi^2, **Table 1**). No population or composition surveys were completed in 2011 or 2012 due to poor survey conditions (Caikoski 2014). In 2015, moose density in Unit 25D remainder was estimated at 0.34 moose/mi^2 (Bertram 2017, pers. comm.).

Between 1999 and 2015, fall bull:cow ratios in Unit 25D remainder averaged 64 bulls:100 cows (range: 35-95 bulls:100 cows), meeting management objectives (40 bulls:100 cows) in all years except 2015 (**Table 1**, Caikoski 2014, Bertram 2017, pers. comm.). November calf:cow ratios of < 20 calves:100

cows, 20-40 calves:100 cows, and > 40 calves:100 cows may indicate declining, stable, and growing moose populations, respectively (Stout 2010). Between 1999 and 2007, fall calf:cow ratios in Unit 25D remainder averaged 48 calves:100 cows (range: 37-59 calves:100 cows), suggesting a stable or growing moose population (**Table 1**, Caikoski 2014). In 2015, fall calf:cow ratios were extremely high at 80 calves:100 cows (Bertram 2017, pers. comm.). However, Caikoski (2014) cautions that interpretation of demographic trends may be confounded by variations in survey areas and small sample sizes.

Telemetry studies indicate that some moose in Unit 25D remainder migrate between higher elevations in early winter and lower elevations in late winter and summer (Caikoski 2014). Habitat is not considered a limiting factor. Unit 25D remainder contains excellent moose habitat that is maintained by wildfires and moose nutritional status is excellent (Caikoski 2014).

Predation by wolves and bears, however, appears to be limiting the Unit 25 moose population (Caikoski 2014). Lake et al. (2013) investigated wolf kill rates of moose in Unit 25D. They found that wolf kill rates approximated those in areas with higher moose densities, suggesting that wolf predation is contributing to persistent low moose densities (Lake et al. 2013). Similarly, Bertram and Vivion (2002) found that while calf production is high in Unit 25D, only 20% of radio collared calves survived their first year. Predation of neonates (< 1 month old calves) by black and brown bears was the primary source (84%) of mortality. High predation rates combined with illegal cow harvest and low predator harvest may act in concert to maintain low moose densities in Unit 25D (Bertram and Vivion 2002, Caikoski 2014). However, cow harvest may be becoming less of a limiting factor as community household surveys of Unit 25D communities documented only 3 cow moose harvested between 2008/09-2010/11 (Van Lanen 2012, CATG 2011).

Table 1. Moose density and composition data for Unit 25D remainder (Caikoski 2014, Bertram 2017, pers. comm.).

Year	Bulls:100 cows	Calves:100 cows	Density (moose/mi^2)
1999	57	59	0.28
2000	79	49	0.25
2001	95	43	0.18
2004	43	51	0.26
2005	80	58	0.34
2006	60	37	0.27
2007	64	39	0.20
2015	35	80	0.34
Average	64.13	52.00	0.27

Cultural Knowledge and Traditional Practices

Four communities are included in the customary and traditional use determination for moose in Unit 25D remainder. The communities are the following: Chalkyitsik, Circle, Fort Yukon, and Venetie. In 2010, the populations of these communities ranged from a low of 69 people at Chalkyitsik to a high of 583 people at Fort Yukon. Approximately 922 people comprising 371 households lived in the area (ADLWD 2017). The communities are not road connected to one another; however, the Steese Highway extends from Fairbanks to Circle.

The communities affected by the proposal are culturally affiliated with Gwich'in Athabascans and are situated in the Yukon Flats area of interior Alaska. For centuries, caribou comprised a large part of the harvest of wild resources for food. Large numbers of migratory caribou were available from the Porcupine and Fortymile caribou herds. Communal hunting of caribou was common. Fences were used to guide caribou or funnel them into corrals to be killed. Large quantities of caribou meat (from harvests of sometimes hundreds of caribou) were dried for winter. Since the mid-1800s, agents of change included a growing emphasis on trapping furs to be used in trade and barter, the introduction of sleds pulled by dogs to work trap lines that required the harvest of more fish to feed dogs, and the introduction of accurate rifles and snowmachines that made communal hunting methods less necessary. Settlement patterns since 1900 have been characterized by movement from nomadism to permanent settlements at important harvesting sites, around trading posts, to send children to school, for employment in the developing mining industry, or building highways and communication systems (Hosley 1981 and VanStone and Goddard 1981). The collapse of the Fortymile caribou herd between 1950 and 1970 had an enormous effect on the ability of many villages to harvest caribou. Today, "In terms of effort, use, and social significance, moose is the single most important game resource for Yukon Flats communities. . . . For many Yukon Flats residents moose hunting is the primary fall harvesting activity and moose provides the primary source of wild meat" (Van Lanen et al. 2012:20).

Gwich'in traditionally hunted moose year-round when the need for meat arose. Bull moose are considered prime for harvest from late summer through early fall. Strong food sharing networks continue to operate within and between the communities (Van Lanen et al 2012:21, 35).

Data on the harvest of moose by these communities is sparse, and just how many moose are harvested is unknown. It is likely that many Gwich'in hunters have not reported their harvest efforts (see Van Lanen et al. 2012 and Anderson and Alexander 1992 for a discussion). The State Division of Subsistence conducted community-based house-to-house harvest surveys in the communities in 2008 and 2009 (and one in 1987 at Fort Yukon) describing one-year study periods. Based on these surveys, 53–100% of households used moose, 31–75% of households attempted to harvest moose, and 13–55% of households successfully harvested moose. Moose harvest rates ranged from an estimated low of 28 lb edible weight of moose per person at Circle in 2008 to a high of 168 lb per person at Fort Yukon in 1987. Estimated harvests ranged from a low of 5 moose at Circle in 2008 to a high of 150 moose at Fort Yukon in 1987 (ADF&G 2017 and Van Lanen et al. 2012, **Table 2**).

Table 2. The estimated harvest and use of moose at communities with a customary and traditional use determination in Unit 25D remainder, based on household harvest surveys (ADF&G 2017 and Van Lanen et al. 2012).

Community	Study year	Percentage of households:			Moose harvest		
		Use moose	Attempt to harvest moose	Harvest moose	Estimated harvest of moose	95% confidence interval	Per person harvest in pounds
		%	%	%	moose	+/- %	lb
Chalkyitsik	2008	96	36	32	8	26	75
Chalkyitsik	2009	100	33	33	10	36	103
Circle	2008	100	75	13	5	0	28
Circle	2009	53	47	33	10	57	103
Fort Yukon	1987	99	72	55	150	20	168
Fort Yukon	2008	60	31	24	61	29	76
Fort Yukon	2009	86	49	30	64	23	103
Venetie	2008	95	51	32	22	111	80
Venetie	2009	53	41	13	24	64	86

Harvest History

From 2002-2012, reported moose harvest in Unit 25D remainder averaged 20 moose/year (range: 8-25 moose/year) (**Table 3**, Caikoski 2014). Over the same time period, reported moose harvest by residents of Unit 25 (local residents), nonlocal residents, and nonresidents averaged 42%, 47%, and 10% of the total reported harvest in Unit 25D, respectively (Caikoski 2014). No moose have been reported on the Chalkyitsik community harvest permit since regulatory year 2003/04 (Caikoski 2014).

Moose is the primary and most important wild food resource for residents of Unit 25D (CATG 2011, Van Lanen et al. 2012). Harvest reporting by local residents of Unit 25D has historically been low, partially due to confusion over permit requirements and geographical boundaries (Caikoski 2014). The YFCMMP references community harvest survey data from the 1990s which indicates that local residents (not defined in plan) harvest about 150-200 moose in Unit 25D remainder annually while reported moose harvest (1989-1998) ranged from 14-53 moose per year (ADF&G 2002). The plan assumed a total harvest of 225 moose in Unit 25D remainder, representing a 6-9% harvest rate, which is high for a low density moose population, particularly since cow moose are also harvested (ADF&G 2002).

According to the most recent household survey data (which extrapolate harvests from sampled households to the entire community, resulting in fractions of animals), 105 moose, 123.5 moose, and 95.5 moose were harvested by residents of Unit 25D during regulatory years 2008/09, 2009/10, and 2010/11, respectively (Van Lanen et al. 2012, CATG 2011). Some of these moose were harvested in other subunits or from unknown locations, resulting in at least 93 moose, 105.6 moose, and 48.5 moose being harvested from Unit 25D each year, respectively (Van Lanen et al. 2012, CATG 2011). As total reported moose harvest for all

of Unit 25D averaged 31 moose/year between 2002 and 2012, unreported harvest still appears to account for a significant portion of the harvest (Caikoski 2014, ADF&G 2016, OSM 2016). Only 3 cow moose and 3.5 moose of unknown sex were documented during the 2008/09-2010/11 household surveys of Unit 25D communities (Van Lanen 2012, CATG 2011).

Most of the reported moose harvest in Unit 25D remainder occurs during the 2nd and 3rd weeks of September (Caikoski 2014). However, as the State season closes Sept. 20, any harvest reported during the last week of September is by Federally qualified subsistence users (i.e. Unit 25 residents except residents of Unit 25D west). Household surveys of all Unit 25D communities in 2008-2010 showed that the vast majority of moose harvest by local hunters occurs in September (~90%) with no harvest documented in October (CATG 2011, Van Lanen et al. 2012). Boats are the primary transport method used by moose hunters in Unit 25D remainder (Caikoski 2014).

Table 3. Reported moose harvest for Unit 25D remainder (Caikoski 2014). All moose reported were bulls.

Year	Harvest
2002	24
2003	12
2004	8
2005	23
2006	16
2007	15
2008	19
2009	24
2010	25
2011	24
2012	25

Effects of the Proposal

If this proposal is adopted, Federally qualified subsistence users would be able to harvest moose in Unit 25D remainder until Oct. 7, providing an additional 6 days of harvest opportunity. Considering past harvest chronology, hunting pressure and harvest during the extended season is expected to be low. However, given trends of warmer falls due to climate change, harvest may begin to shift later into the season when temperatures are cooler in order to reduce meat spoilage and ease meat care. Considering the relatively high unreported harvest, low density moose population, harvest of cows by local residents, and depressed bull:cow ratios, current harvest rates may already be unsustainable.

Adoption of this proposal could also affect moose breeding and the age structure of harvest. Over a 12 year period, Ballenberghe and Miquelle (1993) found moose in Interior Alaska copulate between September 24 and October 7. Older mature bulls come into rut earlier than young bulls and are more susceptible to harvest when seasons extend into the peak of rut (Timmerman and Gollat 1982). If this proposal is adopted, Federally qualified subsistence users would have additional opportunity to hunt later

into the breeding season, which could disrupt mating moose, impede or delay impregnation, and cause mature bulls to be more susceptible to harvest. If this proposal is adopted, closely monitoring the moose population and harvest by Federally qualified subsistence users would be necessary to measure any effects from an extended season and to inform sustainable management.

OSM CONCLUSION

Oppose Proposal WP18-52.

Justification

There are conservation concerns for this moose population. The moose density is Unit 25D remainder is low and the most recent (2015) bull:cow ratio declined substantially and is below management objectives for the first time. Additionally, extending the season into the peak of rut could disrupt moose reproduction and productivity. While additional harvest during the extended season is expected to be low, current harvest rates are relatively high and may already be unsustainable. Therefore, a conservative approach is warranted.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Eastern Interior Alaska Subsistence Regional Advisory Council

Oppose WP18-52. The idea for this proposal originated from a Council meeting in Fort Yukon. The Council listened to public testimony from three residents of Fort Yukon regarding concerns over extending the moose season because of the low moose population, extending the season into the peak of the rut, and the possibility of users from other areas coming and taking advantage of the extended season. The Council opposed the proposal due to the overwhelming public disapproval and for conservation concerns.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient bases for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-52: Proposal WP18-52, submitted by the Eastern Interior Alaska Federal Subsistence Regional Advisory Council, requests that the moose season closing date in Unit 25D remainder be extended to October 7.

Introduction: The proponent states that the proposed changes will better align with recent weather changes in the area and will accommodate travel to hunting grounds. The proponent notes that ice is usually already forming in the Porcupine River by early October, but that the Yukon River where locals travel to hunt moose is generally ice-free.

Impact on Subsistence Uses: Extending this season into October would result in some additional opportunity for subsistence use. Harvesting bull moose could result in wasted meat due to the approaching rut affecting palatability of the meat. It could also negatively affect moose breeding, if numerous hunters disrupt breeding while hunting bulls in rut.

Impact on Other Uses: Due to low anticipated participation and harvest, this proposal would likely have no effect on nonfederally qualified users.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for moose in Unit 25D East.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for moose in Unit 25D East is 150-250 animals.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
25D Remainder	One Bull	September 10 – September 20 (Harvest ticket)	September 10 – September 20 (Harvest ticket)
25D Remainder	One Bull	February 18 – February 28 (Harvest ticket)	
25D Remainder	One Bull	September 10 – September 20 (Community subsistence harvest hunt CM001)	
25D Remainder	One Bull	February 18 – February 28 (Community subsistence harvest hunt CM001)	

Special instructions: State community subsistence hunt permit CM001 has not been issued in recent years because communities and hunters have not requested these permits.

Conservation Issues: Hunting during the rut could disrupt breeding, but this effect would be negligible due to low hunter participation. The most recent moose population estimate of 25D remainder (east) is 3,118–4,730 moose, making 156-237 moose available for harvest. The ANS is 150-250 moose in Unit 25D East. Current harvest averages about 100 moose per year based on household surveys. Although some additional harvest may be possible, the bull:cow ratio has dropped in the most recent survey, and the most recent survey was also on the high end compared to long-term estimates that bounce around.
Enforcement Issues: No issues with enforcement are expected.

Recommendation: ADF&G is **OPPOSED** to regulatory changes that would be expected to result in additional harvest. When the Board of Game considered similar proposals, ADF&G recommended no additional harvest and expressed concern about disrupting the rut.

WP18–53a Executive Summary	
General Description	Proposal WP18-53a requests to establish a customary and traditional use determination for moose in Units 25B and 25C for the residents of Units 25B and 25C. *Submitted by: Eastern Interior Alaska Subsistence Regional Advisory Council.*
Proposed Regulation	***Customary and Traditional Use Determination – Moose*** *Unit 25B and Unit 25C* ~~*All rural*~~ ***Residents of Units 25B and 25C***
OSM Conclusion	**Support** Proposal WP18-53a **with modification** to recognize the customary and traditional uses of moose in Units 25B and 25C by residents of Units 20D, 20E, 25B, 25C, 25D and residents of the communities of Tok and Livengood. The modification should read: **Customary and Traditional Use Determination—Moose** *Unit 25B and Unit 25C* ~~*All rural*~~ ***Residents of Units 20D, 20E, 25B, 25C, 25D and residents of Tok and Livengood..***
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	

WP18–53a Executive Summary	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	**Support as modified by OSM**
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient bases for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Neutral**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-53a

ISSUES

Proposal WP18-53a, submitted by the Eastern Interior Alaska Subsistence Regional Advisory Council (Eastern Interior Council), requests to establish a customary and traditional use determination for moose in Units 25B and 25C for the residents of Units 25B and 25C.

A related proposal, WP18-53b, addresses requested changes to hunting seasons for moose in Unit 25B.

DISCUSSION

The proponent notes that there is no customary and traditional use determination for moose in Unit 25B and therefore all rural residents of Alaska are eligible to harvest moose in Unit 25B under Federal hunting regulations. The proponent expresses concern that if its proposal to extend the hunting season (WP18-53b) was adopted by the Federal Subsistence Board (Board), even more hunters from outside the area (for example, Glennallen) would participate and overcrowding might result (similar to the situation on the Taylor Highway). Hunters would be competing to harvest moose in an area where moose population densities are some of the lowest in the state. Both proposals, WP18-53a to establish a customary and traditional use determination for moose in Unit 25B and WP18-53b to extend the moose season in Unit 25B, have similar intent—to provide more hunting opportunity for Federally qualified subsistence users to fulfill their basic subsistence needs. The proponent also requests that a customary and traditional use determination for moose in Unit 25C in addition to Unit 25B be adopted by the Board. Establishing customary and traditional use determinations for moose in Units 25B and 25C will protect a subsistence right of local users to harvest this resource. At its winter 2016 meeting, the Council also requested staff to consider all rural residents in its analysis of customary and traditional uses of moose in Units 25B and 25C and to provide a recommendation to the Council as to which rural residents are qualified (EIRAC 2017).

To date there have been no customary and traditional use determinations made for moose in Units 25B and 25C and therefore all rural residents may currently hunt for moose in these units under Federal regulations. The only established community within these units is Central, located in Unit 25C.

When a proposal is received requesting a customary and traditional use determination where none has been made previously for the resource, the analyst evaluates use by all rural residents who may harvest the resource in the wildlife management unit, fish management area or within other geographic boundaries defined by the proponent in the request for a customary and traditional use determination.

Existing Federal Regulation

Customary and Traditional Use Determination—Moose

Unit 25B and Unit 25C	*All rural residents*

Proposed Federal Regulation

Customary and Traditional Use Determination—Moose

Unit 25B and Unit 25C	~~*All rural*~~ ***Residents of Units 25B and 25C***

Extent of Federal Public Lands

Federal public lands comprise approximately 82% of Unit 25B and consist of 38% Bureau of Land Management (BLM) managed lands, 36% U.S. Fish and Wildlife Service (USFWS) managed lands, and 8% National Park Service (NPS) managed lands (**see Unit 25 Map**).

Federal public lands comprise approximately 73% of Unit 25C and consist of 63% BLM managed lands, 9% NPS managed lands, and 2% USFWS managed lands (**see Unit 25 Map**).

Regulatory History

At the beginning of the Federal Subsistence Management Program in 1992, the Board did not adopt a customary and traditional use determinations for moose in Units 25B or 25C (72 CFR 22961; May 29, 1992). The Board has not received a proposal to adopt a customary and traditional use determination for moose in Units 25B or 25C until now.

Community Characteristics

Unit 25B falls within the traditional territories of the *Gwich'in* and *Han* Athabascan people while Unit 25C falls within the traditional territories of the Gwich'in, Han, *Tanana*, and *Koyukon* Athabascan people (Krauss et al. 2011; **Figure 1**).

Residents of Units 25B, 25C, 25D, 20E, and 12 north of Wrangell-St. Elias National Park were mentioned by the Eastern Interior Council as possibly demonstrating customary and traditional uses for moose in Units 25B and 25C. Communities in these units are situated entirely within the traditional boundaries of several Athabascan cultural groups (**Figure 1**), including the Gwich'in, Han, Koyukon, Tanana, Upper Tanana, *Tanacross*, and *Ahtna*. **Table 1** shows the origin of several communities in the region.

Units 25B and 25C encompass upper Yukon River drainages. Traditional Han Athabascan territory extended along the Yukon River on both sides of the U.S. and Canada border, upstream from the Yukon flats (Crow and Obley 1981). Settlement patterns in the upper Yukon region were heavily impacted by the gold rush in the 1890s that brought tens of thousands of miners. Large numbers of Han and Peel River Gwich'in were attracted to the Eagle area and Dawson. Their descendants are the primary residents of Eagle Village. The enforcement of the U.S-Canada boundary since the 1940s has cut them off from much of their hunting and trapping areas in Canada. Eagle, Chicken, and Central were established as gold mining supply sites; however, most miners left the area by 1910. Native and non-Natives worked on steamboats, in mines, and in wood chopping camps, as well as on traplines. In the 1970s land auctions

attracted new residents to Eagle, and the construction of the oil pipeline, development of oil and gas in the area, and road construction provided wage employment. Gold miners continue to return to the area seasonally. The communities rely on subsistence resources, government wage employment, such as firefighting, and other seasonal work, such as mining and handicrafts. Roads have linked Eagle with the Alaska Highway since the 1950s, and the Steese Highway connected Central with Fairbanks in 1927. Additionally, the Yukon River continues to be used as a water "highway" (ADCCE 2017, Caulfield 1979, Crow and Obley 1981, Hosley 1981).

There are no established cities in Units 25B or 25C, and the community of Central is the only Census Designated Place within Units 25B and 25C. Central is situated 125 miles northeast of Fairbanks. During the late 19th century, gold was discovered in the Circle Mining District (ADCCE 2017). By the 1890s, a centrally located roadhouse was needed between Circle (a supply point on the Yukon River) and mining operations at Mammoth, Mastodon, Preacher, and Birch Creeks (ADCCE 2017). A roadhouse was built in 1894 along this route at its intersection with Crook Creek (ADCCE 2017) and developed into a small community of miners. In 1906 the Alaska Road Commission began construction of a wagon road to replace the pack trail and by 1908 this road connected to Central (ADCCE 2017). The road link to Fairbanks was completed in 1927 and became known as the Steese Highway (ADCCE 2017). Mining in the vicinity of Central went through periods of boom and bust and in 1978 the Circle Mining District was the most active in Alaska; 65 gold mining operations employed over 200 people at that time (ADCCE 2017). The 2010 census documented 96 residents of the community (ADCCE 2017).

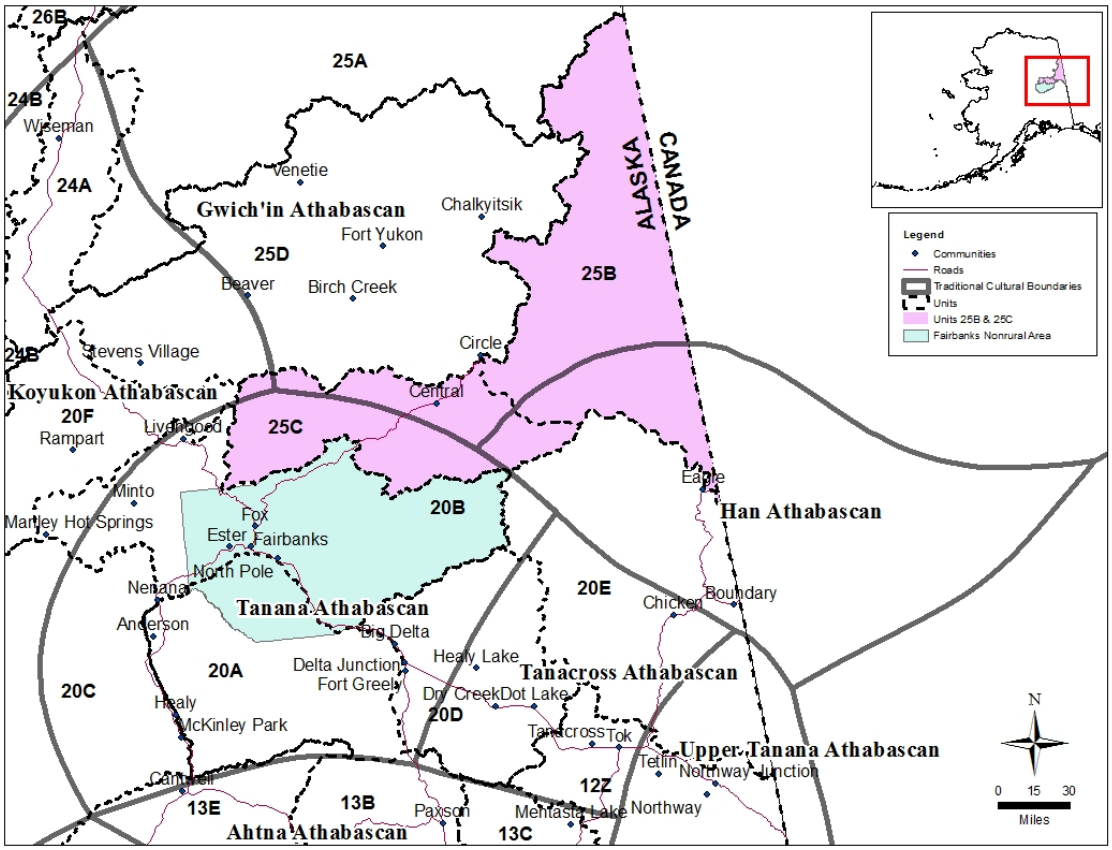


Figure 1. Map depicting eastern interior Alaska communities, wildlife management units, and traditional cultural boundaries.

Table 1. Origins and cultural affiliations of the communities in the region of the request.

Unit of residence	Community	Origin of community
12*	Northway	*Upper Tanana*, salmon fish camp at nearby Moose Creek
	Northway Junction	Alaska Highway construction supply site with airfield (1940s)
	Tanacross	*Upper Tanana*, Alaska Highway construction supply site with airfield (1940s)
	Tetlin	*Upper Tanana* whitefish camp
	Tok	Alaska Highway supply site and airfield (1940s)
20B	Livengood	Gold mining supply site (1910s)
	Manley	Homesteaded (1900s), telegraph line maintenance station (1900s), trading post (1900s), mining supply site (1900s), vacation resort
	Minto	*Tanana*, telegraph line maintenance station (1900s)
20D	Delta Junction	McCarthy telegraph line construction supply site
	Dot Lake	Highway construction supply site
	Dot Lake Village	*Tanacross*, people from Tanacross, Healy River, and Mentasta Lake
	Fort Greely	McCarthy telegraph station supply site
	Healy Lake	*Tanacross*, trading post
20E*	Chicken	Gold mining supply site (1880s)
	Eagle City	Gold mining supply site (1880s), Ft. Egbert telegraph line (1902)
	Eagle Village	*Han*, trading post (1880s), mining supply site (1880s)
20F	Rampart	*Koyukon*, trading post (1880s)
	Tanana	*Koyukon*, trading post, telegraph line maintenance station (1900s), hospital (1950s)
25A	Arctic Village	*Gwich'in*
25C*	Central	Mining supply site (1890s), telegraph line maintenance station (1900s), road-connected to Fairbanks (1927)
25D*	Beaver	*Gwich'in*
	Birch Creek	*Gwich'in*
	Chalkyitsik	*Gwich'in*
	Circle	*Gwich'in*
	Fort Yukon	*Gwich'in*, trading post
	Stevens Village	*Koyukon/Gwich'in*
	Venetie	*Gwich'in*

*Units mentioned by EIRAC as candidates.
Source: Hosley 1981, VanStone and Goddard 1981.

Eight Factors for Determining Customary and Traditional Use

A community or area's customary and traditional use is generally exemplified through these eight factors: (1) a long-term, consistent pattern of use, excluding interruptions beyond the control of the community or area; (2) a pattern of use recurring in specific seasons for many years; (3) a pattern of use consisting of methods and means of harvest, which are characterized by efficiency and economy of effort and cost, conditioned by local characteristics; (4) the consistent harvest and use of fish or wildlife as related to past methods and means of taking: near, or reasonably accessible from the community or area; (5) a means of handling, preparing, preserving, and storing fish or wildlife, which has been traditionally used by past generations, including consideration of alteration of past practices due to recent technological advances, where appropriate; (6) a pattern of use, which includes the handing down of knowledge of fishing and hunting skills, values, and lore from generation to generation; (7) a pattern of use, in which the harvest is shared or distributed within a definable community of persons; and (8) a pattern of use, which relates to reliance upon a wide diversity of fish and wildlife resources of the area and which provides substantial cultural, economic, social, and nutritional elements to the community or area.

The Board makes customary and traditional use determinations based on a holistic application of these eight factors (50 CFR 100.16(b) and 36 CFR 242.16(b)). In addition, the Board takes into consideration the reports and recommendations of any appropriate Regional Advisory Council regarding customary and traditional use of subsistence resources (50 CFR 100.16(b) and 36 CFR 242.16(b)). The Board makes customary and traditional use determinations for the sole purpose of recognizing the pool of users who generally exhibit the eight factors. The Board does not use such determinations for resource management or restricting harvest. If a conservation concern exists for a particular population, the Board addresses that concern through the imposition of harvest limits or season restrictions rather than by limiting the customary and traditional use finding.

State and Federal harvest reporting data for moose in Units 25B and 25C is available for the years between 1983 and 2016. This data is combined below in **Table 2** for Unit 25B and **Table 3** for Unit 25C. The tables include harvest reporting data for only rural Alaska communities and suggest a **pattern of use** for moose in these units.

The customary and traditional use determinations for other large wildlife species in Unit 25B and Unit 25C can provide additional insights on which residents generally exhibit the eight factors for moose, using these other species as proxies. **Table 4** lists the customary and traditional use determinations for brown bear, caribou, and sheep in Units 25B or 25C. The determinations for these species in Unit 25B or 25C are identical for each species.

Among the communities that have customary and traditional use determinations for brown bear, caribou, or sheep in Units 25B or 25C, and which have some documented harvest, it also is useful to know which of these communities already have a customary and traditional use determination for moose elsewhere.

Table 5 illustrates that all of these communities have a demonstrated customary and traditional uses for moose.

The communities listed in **Table 5** are primarily those in proximity to Units 25B or 25C. It is likely that rural Alaska residents living within or adjacent to these units but not living within an established community may also have demonstrated customary and traditional uses of moose. In fact, many of the existing customary and traditional use determinations for moose in the region identify residents of units and not specific communities.

Table 2. The reported harvest of moose in Unit 25B by rural Alaska community, based on State and Federal reporting systems, 1983-2016 cumulative (ADF&G 2017, OSM 2017).

Subunit of Residency	Hunter Residency	Number of Hunters	Number of Moose Harvested
01C	EXCURSION INLET	1	0
01D	HAINES	26	7
01D	SKAGWAY	3	0
02Z	CRAIG	7	2
03Z	KAKE	1	0
03Z	PETERSBURG	5	1
03Z	WRANGELL	20	8
04Z	ANGOON	1	1
04Z	PELICAN	1	1
04Z	SITKA	20	10
06C	CORDOVA	7	2
08Z	KODIAK	4	2
08Z	LARSEN BAY	1	1
12Z	TOK	61	19
13D	CHITINA	1	0
13D	COPPER CENTER	2	1
13D	GLENNALLEN	2	0
14A	CHICKALOON	1	0
14A	MOOSE CREEK	1	0
14A	WILLOW	2	2
14B	TALKEETNA	2	1
15C	NINILCHIK	1	0
16A	TRAPPER CREEK	1	0
18Z	BETHEL	2	0
20C	HEALY	1	0
20D	DELTA JUNCTION	6	2
20D	FORT GREELY	1	0
20E	EAGLE	350	152
23Z	KOBUK	1	1
25C	CENTRAL	105	38
25C	CIRCLE	51	36
25D	BEAVER	2	1
25D	CHALKYITSIK	16	11
25D	FORT YUKON	236	151
25D	STEVENS VILLAGE	1	1
26A	BARROW	1	0

Table 3. The reported harvest of moose in Unit 25C by rural Alaska community, based on State and Federal reporting systems, 1983-2016 cumulative (ADF&G 2017, OSM 2017).

Subunit of Residency	Hunter Residency	Number of Hunters	Number of Moose Harvested
01A	METLAKATLA	1	0
01D	HAINES	21	8
01D	KLUKWAN	1	0
03Z	PETERSBURG	4	2
03Z	WRANGELL	6	0
04Z	SITKA	4	0
04Z	TENAKEE SPRINGS	2	0
04Z	WHITESTONE CAMP	7	2
08Z	KODIAK	13	4
08Z	UGANIK BAY	1	0
10Z	DUTCH HARBOR	1	0
10Z	UNALASKA	6	4
12Z	TOK	2	1
13C	SLANA	1	0
13D	COPPER CENTER	8	2
13D	GLENNALLEN	1	0
13E	CANTWELL	1	0
14A	WILLOW	16	5
14B	TALKEETNA	2	1
15C	NINILCHIK	3	0
15C	SELDOVIA	1	0
16A	TRAPPER CREEK	6	2
17C	DILLINGHAM	1	1
17C	PORTAGE CREEK	1	0
18Z	BETHEL	3	2
18Z	MARSHALL	1	0
19A	CHUATHBALUK	1	0
20A	NENANA	1	0
20C	HEALY	3	1
20D	DELTA JUNCTION	8	1
20E	EAGLE	11	3
25C	CENTRAL	536	112
25C	CIRCLE	49	16
25D	BEAVER	8	7
25D	BIRCH CREEK	1	1
25D	CHALKYITSIK	1	0
25D	FORT YUKON	17	2
25D	STEVENS VILLAGE	2	1
25D	VENETIE	1	0
26A	BARROW	3	1
2Z	CRAIG	1	0
6C	CORDOVA	2	0
7Z	HOPE	2	1

Table 4. Customary and traditional uses determinations for brown bear, caribou, and sheep in Units 25B or 25C. Communities that have reported hunting moose in Units 25B or 25C based on State and Federal reporting systems, 1986–2016, are bolded.

CUSTOMARY AND TRADIITONAL USE DETERMINATIONS				
Unit of residence	**Rural community**	**Brown bear**	**Caribou**	**Sheep**
25D	**Beaver**	Yes	Yes	Yes
25D	**Birch Creek**	Yes	Yes	Yes
25D	**Chalkyitsik**	Yes	Yes	Yes
25D	**Circle**	Yes	Yes	Yes
25D	**Fort Yukon**	Yes	Yes	Yes
25D	**Stevens Village**	Yes	Yes	Yes
25D	**Venetie**	Yes	Yes	Yes
25C	**Central**	Yes	Yes	Yes
25A	Arctic Village	Yes	Yes	
20D	**Delta Junction**		Yes	
20D	Dot Lake		Yes	
20D	**Fort Greely**		Yes	
20D	Healy Lake		Yes	
20E	Boundary		Yes	Yes
20E	Chicken		Yes	Yes
20E	**Eagle**	Yes	Yes	Yes
20F	Rampart		Yes	
20F	Tanana		Yes	
12	Northway		Yes	
12	Northway Junction		Yes	
12	Tanacross		Yes	
12	Tetlin		Yes	
12	**Tok**		Yes	

Table 5. Customary and traditional use determinations for moose in communities demonstrating harvest reporting for moose in Units 25B and 25C (based on State and Federal reporting systems, 1986–2016) and customary and traditional use determinations for other large wildlife species in these units.

CUSTOMARY AND TRADIITONAL USE DETERMINATIONS			
Unit of residence	**Rural community**	**Moose**	**Location**
25D	Beaver	Yes	25A, 25D West,
25D	Birch Creek	Yes	25A, 25D West,
25D	Chalkyitsik	Yes	25A, 25D Remainder
25D	Circle	Yes	25A, 20E, 25D Remainder
25D	Fort Yukon	Yes	25A, 25D Remainder
25D	Stevens Village	Yes	25A, 25D West, 20F
25D	Venetie	Yes	25A, 25D Remainder
25C	Central	Yes	20E
20D	Delta Junction	Yes	20D
20D	Fort Greely	Yes	20D
20E	Eagle	Yes	20E
12	Tok	Yes	20E, 12, 11 (portion), 13C

Because of the potential for underreporting, conventional Alaska Department of Fish and Game (ADF&G) and USFWS harvest reporting systems do not always reflect the true level of harvest. Communities that have demonstrated customary and traditional uses of moose in Units 25B or 25C may not appear in harvest reports. While **Table 5** represents communities in Units 25C, 25D, 20D, and 20E, the customary and traditional use determination for caribou in Units 25B and 25C additionally includes residents of Units 12 north of Wrangell-St. Elias National Park, 20F, Eureka, Livengood, Manley, and Minto.

Alaska Department of Fish and Game Division of Subsistence household subsistence surveys are often another source of spatial information regarding search and harvest areas for a given species. Among the communities having a customary and traditional use determination for caribou in Units 25B and 25C, but no harvest reporting for moose in these units, only Minto and Tanacross have published spatial data from household subsistence harvest surveys. For Minto, moose hunt areas reported for the period between 1960 and 1984 occurred primarily within the Minto Flats Management Area in Unit 20B (Andrews 1988: 162-164). This hunt area is said to generally represent search and harvest areas used by community residents traditionally (Andrews 1988:162).

Customary and traditional use of Units 25B and 25C for moose may be in part a function of distance. Reported moose search and harvest areas for Tanacross for the period between 1968 and 1988 suggest that the northern extent of moose hunting activity for those communities was in the vicinity of Eagle in Unit 20E

(Marcotte 1991:90). The reported search and harvest areas in 2011 for the Unit 20B communities of Healy Lake, Dot Lake, and Dry Creek suggest that most moose hunting activities occurred within Unit 20B, primarily in proximity to each community, in that study year (Holen et al. 2012:425, 463, 512). The historical harvest areas of Tanacross and Upper Tanana Athabascans included the Fortymile River drainage where caribou, moose, and sheep were harvested (Haynes and Simeone 2007). Their descendants reside in the contemporary villages of Dot Lake, Healy Lake, Northway, Tanacross, and Tetlin.

Fort Greely has often been considered primarily a military installation though non-military personnel and Federally qualified subsistence users do reside in the vicinity. In 2015 the community had an estimated 430 residents, 42 of which were 16 years of age or older and employed in private, local government or state government sectors (ADLWD 2017). Additionally, both Fort Greely and Delta Junction are located within Unit 20D and along with other residents of the unit are near and reasonably accessible to Units 25B and 25C.

While the community of Livengood has not reported harvest of moose in Units 25B and 25C and no household subsistence surveys have been conducted there, the community is situated less than 20 miles from the westernmost border of Unit 25C. It is nearer to Unit 25C than most communities in **Table 5** and is located along the road system. The community has a customary and traditional use determination for both moose and caribou in Unit 20B Remainder and Unit 20B, respectively. Additionally, Livengood residents have reported harvest of moose in Unit 25 in multiple years, but the area within the Unit that these activities took place is unknown.

All of the communities listed in **Table 5** and Livengood have an existing customary and traditional use determination for moose; this request would therefore extend the spatial extent of the determinations to include Units 25B and 25C. For these communities, Units 25B and 25C are **near and reasonably accessible**.

Effects of the Proposal

If this proposal was adopted, those eligible to hunt moose under Federal regulations in Units 25B and 25C would decrease from all rural residents to only residents of Units 25B or 25C.

If this proposal is not adopted, all rural residents of the state would continue to be able to hunt for moose under Federal regulations in Units 25B and 25C.

OSM CONCLUSION

Support Proposal WP18-53a **with modification** to add the residents of Unit 25D, Unit 20D, Unit 20E and residents of Tok, and Livengood to the customary and traditional use determination for moose in Units 25B and 25C.

The modification should read:

Customary and Traditional Use Determination—Moose

Unit 25B and Unit 25C ~~*All rural*~~ *Residents of Unit 25B, 25C,* ***25D, 20D, 20E, Tok, and Livengood.***

Justification

Residents of Units 25B, 25C, 25D, 20D, 20E, and Tok have demonstrated use of moose in Units 25B and 25C. Residents of these areas have also demonstrated the use of other large wildlife species within units 25B and 25C and have a customary and traditional use determination for these species in those units. This suggests a pattern of use of the area that is likely to extend to moose. Residents of these areas and Livengood also have a customary and traditional use determination for moose in other units and therefore generally exhibit the 8 factors used for determinations as they relate to moose. In addition, Units 25B and 25C are near and reasonably accessible for the harvest of moose for residents of these areas.

While the proposal requests the establishment of a customary and traditional use determination for residents of Units 25B and 25C for moose in Units 25B and 25C, transcripts of the Council meeting at which the proposal was developed suggest that the proponent intended the determination to be broader than the request. These transcripts also suggest that the proponent preferred the scope of the determination to be defined during the analysis process. For these reasons, the OSM preliminary conclusion reasonably aligns with the stated intent of the proponent.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Eastern Interior Alaska Subsistence Regional Advisory Council

Support WP18-53a **as modified by OSM** to recognize the customary and traditional uses of moose in Units 25B and 25C by residents of Units 20D, 20E, 25B, 25C, 25D and residents of the communities of Tok and Livengood.

The modification should read:

Customary and Traditional Use Determination—Moose

Unit 25B and Unit 25C	~~*All rural*~~ ***Residents of Units 20D, 20E, 25B, 25C, 25D and residents of Tok and Livengood*****..**

The Council initiated this proposal as an accompanying proposal to WP18-53b and considered this proposal to be very important to alleviate the concerns of users from other areas and regions coming and taking advantage of an extended season. Currently there is no C&T determination for moose in Units 25B and 25C, and the Council welcomed the determination, pointing out that it will protect the interests of local subsistence users. The Council agreed that there is strong evidence pointing to the traditional use of this resource by all communities indicated in the analysis.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient bases for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-53a: This proposal, submitted by the Eastern Interior Subsistence Regional Advisory Council, would find that only residents of Units 25B and 25C have customary and traditional determinations for moose in those units. Currently all rural residents (statewide) have a customary and traditional use determination for moose in Units 25B and 25C. This proposal has a companion proposal, WP 18-53b, that asks to extend the Unit 25B moose season.

Introduction: Moose densities in Units 25B and 25C have historically been low (Caikoski J.R. 2016). Unit 25B is situated to the east of Unit 25D and includes the upper Porcupine, Black, Kandik, and Nation river drainages. Unit 25D has 7 communities (Beaver, Birch Creek, Chalkyitsik, Circle, Fort Yukon, Ste-

vens Village, and Venetie). The importance of moose to these communities (Van Lanen et al. 2012) and other Alaska residents, despite historically low moose densities, resulted in moose being identified as an intensive management (IM) species for Unit 25D. Therefore, legal and management goals for Unit 25D and eastern Unit 25B reflect harvest needs for those subunits, and most of the Unit 25 moose funding is allocated to monitor or research moose populations in Unit 25D.

Unit 25C includes drainages that flow into the south bank of the Yukon River upstream from Circle to, but not including, the Charley River drainage; the Birch Creek drainage upstream from the Steese Highway bridge; the Preacher Creek drainage upstream from and including the Rock Creek drainage; and the Beaver Creek drainage upstream from and including the Moose Creek drainage (Hollis 2016). The communities of Circle (population estimate 108 in 2016; ADLWD 2017), Eagle City (79), and Eagle Village (66) are on the boundary of Unit 25B with other units. Communities in Unit 25C are Central (86) and Circle Hot Springs (108).

Impact on Subsistence Uses: Adoption of this proposal would decrease the pool of subsistence users eligible to participate in opportunities provided under ANILCA. Particularly apparent would be potential impact to federally-qualified subsistence users who live across the Yukon River in Unit 20E and use that river as an access corridor to moose hunting areas.

Impact on Other Uses: If this proposal were adopted, impact to other users would depend on actions taken by the Federal Subsistence Board or the Alaska Board of Game to provide opportunities to a smaller pool of users eligible for hunting under ANILCA.

Opportunity Provided by State:
State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for moose in Unit 25B, and in Unit 25C outside the state Fairbanks Nonsubsistence Area.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for moose in Unit 25B is 15-37 animals, and the ANS for moose in Unit 25C outside the Fairbanks Nonsubsistence Area is 8-15 animals.

Conservation Issues: There are no conservation concerns associated with the proposed changes. ADF&G estimates annual harvest from general season harvest ticket report cards that hunters are required to submit. Harvest data are summarized from the WinfoNet database by regulatory year, hunter residency, and hunter success rate. Average annual reported moose harvest in Unit 25B during RY10–RY14 was 29 moose (range = 26–32). The total number of hunters averaged 82 (range = 76–96) per year, and annual success rate averaged 35% (range = 31%–42%; Caikoski 2016). Annual harvest, number of hunters, and success rates have remained relatively stable over the past 10 years (Caikoski 2014). During RY10–RY14 the average reported moose harvest was 83 moose (range 64–95) in Unit 25C, an increase compared to RY05–RY09 (Hollis 2016). Between 1983 and 2016, hunters from the communities of Central, Circle, Eagle, and Fort Yukon harvested the largest number of moose from Unit 25B. For the same years, hunters from Central harvested the largest number of moose from Unit 25C.

Recommendation: The State of Alaska is **NEUTRAL** on eligibility requirements for the allocation of sustainable hunting opportunity provided under ANILCA.

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WP18–55 Executive Summary	
General Description	Proposal WP18–55 requests that the fall and winter moose seasons be extended from Aug. 24-Sept. 20 and Nov. 1-Feb. 28 to Aug. 20-Sept. 30 and Nov. 1-Apr. 30, in a portion of Unit 12. *Submitted by: Tetlin National Wildlife Refuge*.
Proposed Regulation	**Unit 12—Moose** *Unit 12—that portion within Tetlin National Wildlife Refuge and those lands within the Wrangell –St. Elias National Preserve north and east of a line formed by the Pickerel Lake Winter Trail from the Canadian border to Pickerel Lake- 1 antlered bull by Federal registration permit* — ~~*Aug. 24 – Sept. 20*~~ ***Aug. 20 – Sept. 30***; *Nov. 1 –* ~~*Feb. 28*~~ ***Apr. 30***
OSM Preliminary Conclusion	**Support**
OSM Conclusion	**Oppose**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	**Oppose**
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	

WP18–55 Executive Summary	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	**Oppose**
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Oppose**
Written Public Comments	**3 Neutral**

STAFF ANALYSIS
WP18-55

ISSUES

Proposal WP18-55, submitted by Tetlin National Wildlife Refuge (NWR), requests that the fall and winter moose seasons be extended from Aug. 24-Sept. 20 and Nov. 1-Feb. 28 to Aug. 20-Sept. 30 and Nov. 1-Apr. 30, in a portion of Unit 12.

DISCUSSION

The proponent states that extending the fall and winter moose season in the portion of Unit 12 within Tetlin NWR and Wrangell-St. Elias National Preserve north and east of the Pickerel Lake Winter Trail, would align the fall season dates with the moose season in the southern hunt area of Unit 12 and Unit 20E, and would align the winter season closing date with the caribou season closing date in Unit 12 remainder. The proponent states that this would provide Federally qualified subsistence users with additional opportunity and would reduce user confusion in the unit. The proponent mentions that a majority of moose in the area winter at higher elevations and that harvest at this time is most likely incidental to hunting of caribou. This proposal would allow Federally qualified subsistence users to harvest moose while hunting for caribou during the winter season in Unit 12 remainder.

Existing Federal Regulation

Unit 12—Moose

Unit 12—that portion within Tetlin National Wildlife Refuge and those lands within the Wrangell –St. Elias National Preserve north and east of a line formed by the Pickerel Lake Winter Trail from the Canadian border to Pickerel Lake- 1 antlered bull by Federal registration permit	*Aug. 24 – Sept. 20* *Nov. 1 – Feb. 28*

Proposed Federal Regulation

Unit 12—Moose

Unit 12—that portion within Tetlin National Wildlife Refuge and those lands within the Wrangell –St. Elias National Preserve north and east of a line formed by the Pickerel Lake Winter Trail from the Canadian border to Pickerel Lake- 1 antlered bull by Federal registration permit	*~~Aug. 24 – Sept. 20~~* ***Aug. 20 – Sept. 30*** *Nov. 1 – ~~Feb. 28~~* ***Apr. 30***

Existing State Regulation

Unit 12—Moose

Unit 12, remainder	*Residents—one bull*	*Aug. 24-Aug. 28* *Sept. 8-Sept. 17*
	Nonresidents—One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side	*Sept. 8-Sept. 17*

Extent of Federal Public Lands

Federal public lands comprise approximately 59.78% of Unit 12, and consist of 48.01% National Park Service (NPS) managed lands, 10.84% U.S. Fish and Wildlife Service (USFWS) managed lands, and 0.92% Bureau of Land Management (BLM) managed lands (**Figure 1**).

Customary and Traditional Use Determinations

Residents of Units 12, 13C, Dot Lake, and Healy Lake have a customary and traditional use determination for moose in that portion of Unit 12 that lies within the Tetlin NWR and those lands within the Wrangell-St. Elias National Preserve north and east of a line formed by the Pickerel Lake Winter Trail from the Canadian border to Pickerel Lake.

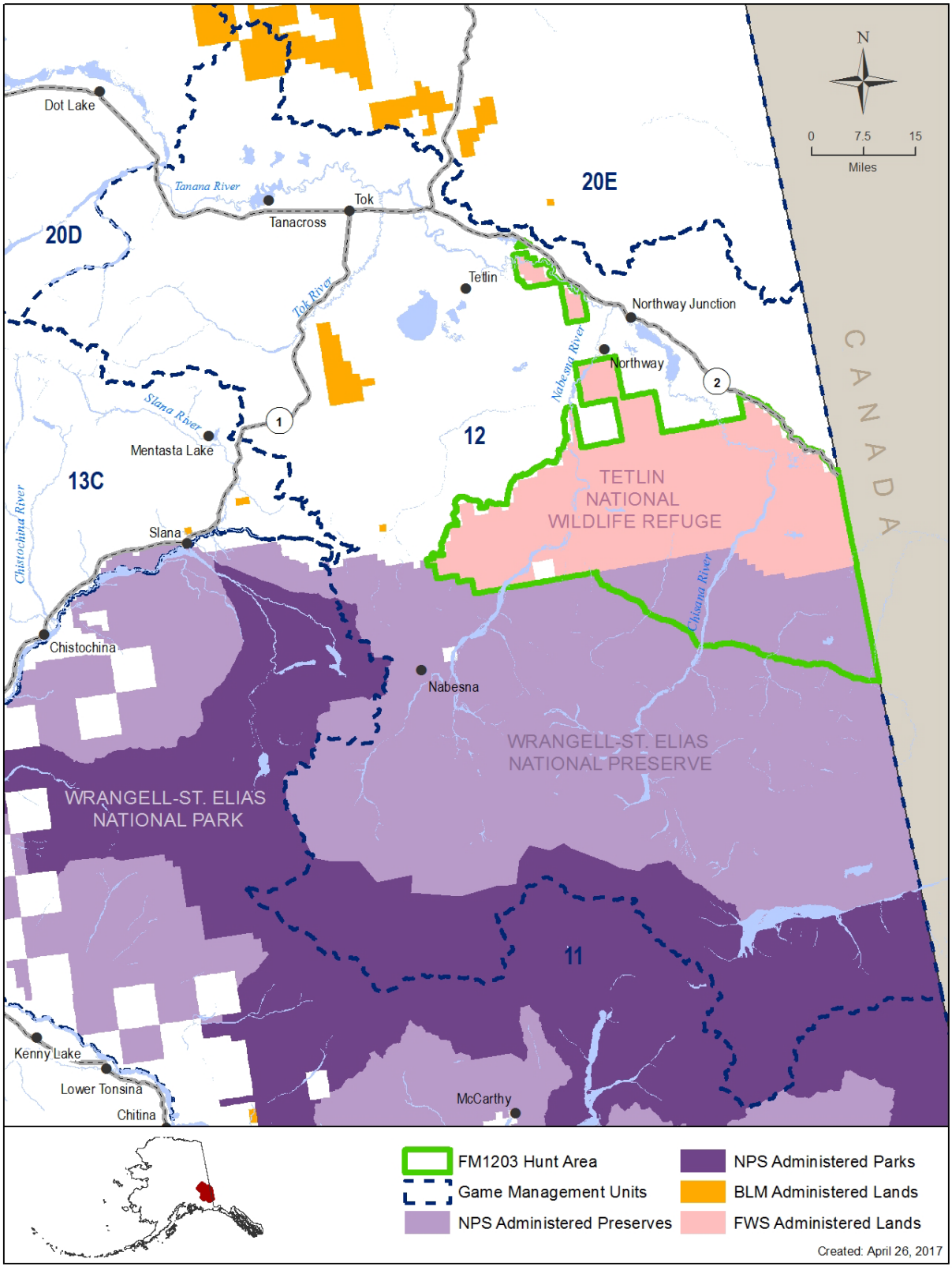


Figure 1. Federal public lands and the hunt area for FM1203 in Unit 12.

Regulatory History

Federal and State moose hunting regulations in Unit 12 have changed numerous times since 1989. The Federal seasons and harvest limits have most often been changed in response to the State's establishment, modification, and/or subsequent discontinuance of spike-fork seasons. State and Federal regulations for the remote hunt area south of the Pickerel Lakes Winter Trail remained consistent until the Alaska Board of Game (BOG) added the unit-wide Aug. 20-Aug. 28 spike-fork season in 1995, and the Federal Subsistence Board (Board) followed suit in 1996. In 1998, the BOG opened the Unit 12 spike-fork season on August 15 — five days earlier. In 1999, the Board aligned Federal regulations with the longer State season.

The BOG continued to modify moose regulations in Unit 12 throughout the 2000s. In March of 2000, the BOG adopted Proposal 38, submitted by the Alaska Department of Fish and Game (ADF&G), which changed the State's Unit 12 moose hunting season into a five day August season and a ten day September season. In March of 2012, the BOG adopted Proposal 186 with modification to change the hunting seasons and harvest limit of moose in Units 11 and 12. In Unit 12 this added a resident and nonresident bull (with antler restrictions) registration hunt (RM291) season from Aug. 20-Sept. 17 in a portion of the Nabesna River Drainage (Wells 2014). In 2017, the BOG adopted Proposal 88 which clarified the antler-restricted moose hunting area within the Tok River drainage.

Federal Regulations also changed multiple times since the year 2000. Due to conservation concerns expressed by ADF&G and staff of the Tetlin NWR, the Eastern Interior Subsistence Regional Advisory Council submitted Proposal WP01-41 requesting changes to the dates (from Aug. 15-Aug. 28 and Sept. 1-Sept. 15 to Aug. 24-Aug. 28 and Sept. 8- Sept. 17) of the fall season and the removal of the August spike-fork season from a portion of Unit 12. The Board adopted the proposed regulations for the 2001/02 regulatory year for the Tetlin National Wildlife Refuge hunt area portion of Unit 12.

Throughout the following years, the Board took action on many proposals concerning moose in Unit 12. In May 2003, the Board adopted Proposal WP03-45 with modification, which established new dates for the fall moose season (from Aug. 15-Aug. 28 and Sept. 1-Sept. 30 to Aug. 24-Sept. 30) and paralleled the State actions eliminating the spike-fork season, in that portion of Unit 12 east of the Nabesna River and the Nabesna Glacier and south of the Winter Trail running southeast from Pickerel Lake to the Canadian border (Unit 12 southern hunt area). The Board adopted Proposal WP06-59 in 2006 to clarify moose regulations in Unit 12. This proposal simplified the language for hunt area boundaries within the unit to reduce user confusion. In 2006, WP06-60 was also adopted with modification to eliminate the spike fork antler restriction in Unit 12 remainder during the Aug. 24-28 and Sept. 1-17 portion of the season while maintaining the restriction during the Aug. 15-23 season. In 2007, the Board adopted WP07-57 with modification, which requested a change in the winter season dates (from Nov. 20-Nov. 30 to Nov. 20-Dec. 10) in the FM1203 hunt.

The Board addressed multiple proposals concerning moose in Unit 12 during the 2012 regulatory cycle. The Board adopted Proposal WP12-71/72 with modification to extend the winter season in the Tetlin NWR hunt area portion of Unit 12 from Nov. 20-Dec. 10 to Nov.1-Feb. 28 and to extend the fall season from Aug. 24-Aug. 28 and Sept. 8-Sept. 17 to Aug. 24-Sept. 20, while also maintaining the Federal registration permit

requirement for the winter season. The same year, Proposal WP12-70/73 was also adopted with modification to align the Unit 11 and Unit 12 remainder moose seasons to Aug. 20-Sept. 20 and to create a joint-State Federal registration permit for a portion of Unit 11 (that portion draining into the east bank of the Copper River upstream from and including the Slana River drainage) and Unit 12 remainder. In 2012, a Wildlife Special Action Request (WSA12-05) was submitted by Wrangell-St. Elias National Park and Preserve (WRST) to extend the moose season for the Batzulnetas Culture Camp by 31 days, changing the season end date from July 31 to August 31, 2012. This request was unanimously approved by the Board.

Biological Background

Habitat

Moose rely on willow and shrub habitats for browsing and for cover from predators and typically select areas with habitat heterogeneity (Maier et al. 2005) to meet their nutritional and shelter needs. Wildfire (the primary driver of boreal forest succession and habitat heterogeneity; Maier et al. 2005) frequency is forecast to increase as the Arctic climate warms, causing projected moose habitat to increase (Joly et al. 2012). Currently, moose have been found to occur in greater densities in areas where fire occurred within the past 11-30 years (Maier et al. 2005). Due to changes in climate, connectivity between moose populations is expected to increase as populations expand to make use of habitat expansion (Schmidt et al. 2008, Tape et al. 2016).

In Unit 12, moose typically inhabit areas below 4,500 feet with extensive river margin (Maier et al. 2005, Wells 2014, 2016). Approximately 6,000 mi^2 is categorized as suitable moose habitat within the unit, with approximately 5,250 mi^2 available in the winter and 6,572 mi^2 available in the summer (Wells 2014, 2016).

The landscape within the Tetlin NWR hunt area of Unit 12 contains large swaths of boreal forest, shrub and sedge meadows, and interspersed wetlands (Collins et al. 2005, Wells 2016). Shrub habitat is commonly found near water bodies and in recently burned areas (Collins et al. 2005). These areas are typically comprised primarily of willow, alder, and dwarf birch species (Collins et al. 2005). Shrub habitat can also be found above 4,000 feet, in gullies that drain subalpine tundra (Collins et al. 2005). These higher elevation habitat areas attract higher concentrations of moose during fall and early winter, following the rut (Collins et al. 2005).

Ecosystems can be modified by moose foraging (Maier et al. 2005, Schmidt et al. 2008) and thus, habitat and browse surveys are an important component of wildlife monitoring and management. In Unit 12 browse surveys have been periodically conducted since the 1970s (Wells 2014). Although fire suppression led to many areas of potentially good moose habitat becoming dominated by spruce forest, browse surveys have shown that use of preferred browse species in the unit is low relative to availability (Wells 2014). During these surveys it was noted that early successional species of browse were used far more than species in undisturbed areas. Habitat was not found to be a limiting factor on the moose population in Unit 12 (Wells 2014).

A fire management plan was developed by ADF&G in 2013 and Tetlin NWR developed a fire management plan in 2001. In 2003, a 40,000 acre wildfire burned on the Tetlin NWR (ADF&G 2017a). That portion

of the refuge would now fall into the 11-30 year post fire timeframe that moose prefer. Prescribed burns have not taken place over the last few years, but many wildfires have occurred over the past 10 years (**Figure 2**; Bayless 2017, pers. comm.). Since 2010, there have been wildfires in three locations on the refuge (Bayless 2017, pers. comm.): on either side of the Upper Chisana River (2013 and 2015) and southeast of Northway (2016).

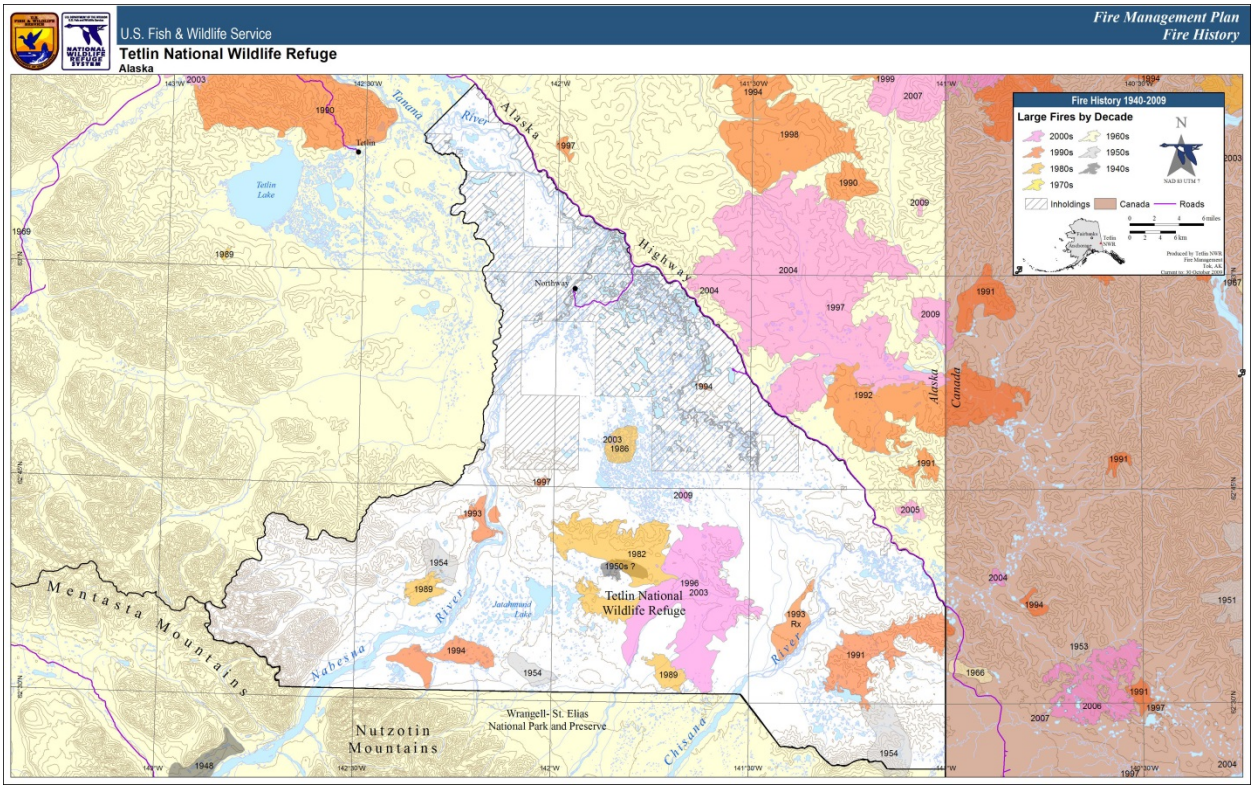


Figure 2. Major wildfires that took place on and adjacent to Tetlin National Wildlife Refuge between 1940 and 2009 (Bayless 2017, pers. comm.).

Population Management

State moose management goals for Unit 12 include protecting the moose population in conjunction with ecosystem function, maintaining subsistence use of moose, maximizing moose hunting opportunities, and maximizing nonconsumptive use opportunities for moose (Wells 2014, 2016). The State management objective for moose in Unit 12 is to maintain a post hunt ratio of 40 bulls:100 cows east of the Nabesna River and a bull:cow ratio of 25:100 in the remainder portion of the unit (Wells 2014, 2016).

Management goals pertaining to moose, developed by the Tetlin NWR in the Comprehensive Conservation Plan, include continuing surveys to monitor population trends, distribution, and habitat needs of moose on, and adjacent to, the refuge (USFWS 2008). Moose are an important subsistence resource for communities of the Upper Tanana Valley and other area residents (Collins et al. 2005), with moose being the preferred red meat resource in many households in Northway and the most available source of red meat for communities in the eastern upper Tanana Valley (Godduhn and Kostick 2016).

Tetlin NWR began collaborating with ADF&G to collect moose population data shortly after the refuge was established in 1981 (Collins et al. 2005: 3). An estimate of 4,300-5,600 moose was determined in 2008 using fall Geospatial Population Estimation (GSPE) survey data (ADF&G 2017a). This is a slight increase from the 2003 estimate of 2,900-5,100 moose (ADF&G 2017a). Moose densities vary widely throughout the unit, ranging from approximately 0.03 moose/mi^2 in Northway Flats to >2 moose/mi^2 by the north side of the Nutzotin Mountains (ADF&G 2017a).

Region and habitat specific surveys have been conducted since the unit-wide 2008 population survey (**Table 1**), with unit-wide estimates being extrapolated from regional data. The Tetlin NWR portion (included in the southeastern Unit 12 survey area; **Figure 3**) of Unit 12 was surveyed in November of 2012 along with the northern and northwestern sections (excluding WRST) of the unit. The GSPE surveys conducted in these areas produced an estimate of 4,773 moose present in these Unit 12 survey areas (Wells 2014). This data was then extrapolated to the rest of the 6,000 mi^2 of estimated moose habitat within Unit 12 to develop an estimate of 4,883-6,571 (0.8-1.1 moose/mi^2) observable moose (Wells 2014). Similarly, data collected throughout the unit from 2010-2014 was summarized to develop a unit-wide observable November population estimate of 4,492-6,444 moose (Wells 2016). Surveys are only conducted in each survey area approximately every three or four years, which can make it difficult to determine and respond to population trends in a timely manner (Wells 2016). Additionally, moose population surveys have not taken place on Tetlin NWR in the last five years due to inadequate survey conditions (Bayless 2017, pers. comm.). Moose densities appear to have been relatively stable within the southeastern and northwestern survey areas since 2008 and are expected to remain stable throughout most of the unit (ADF&G 2017a, Wells 2016).

Current estimated unit-wide bull:cow ratios are below the management goal of 40:100 east of the Nabesna River and above the management goal of 25:100 in the remainder of the unit (ADF&G 2017a, Wells 2016, 2018 pers. comm.). A majority of the moose harvest takes place near the highway system and the Tok, Little Tok, and Tanana rivers due to easy access. In these heavily hunted areas the bull:cow ratio dropped to 20-40 bulls:100 cows in the past, but this ratio has improved since antler restrictions were put in place in portions of the unit (ADF&G 2017a). A composition survey was conducted in the Tetlin NWR survey area (Southeastern Unit 12) in 2012 when the bull:cow ratio was estimated at 52 bulls:100 cows, which was a decrease from 89 bulls:100 cows for the survey area in 2003 (**Table 2**; Wells 2014). Similarly, the calf:cow ratio also decreased from 33 calves:100 cows to 18 calves:100 cows from 2003 to 2012 (Wells 2014). The most recent composition survey took place in November 2017 and included the portion of Unit 12 east of the Nabesna River that would be affected by this proposal. This survey produced an estimate of 28 bulls:100 cows east of the Nabesna River, which is below the objective of 40 bulls:100 cows and is much lower than the 2012 estimate of 46 bulls:100 cows in this area (Wells 2018 pers. comm.).

Table 1. Unit 12 moose population estimates from 2003-2014. The sightability correction factor (SCF) used for 2003-2006 was a factor of 1.25 and a factor of 1.20 for the years 2008-2012 (Wells 2014). No SCF was available for the Chisana survey area in 2014 (Wells 2016).

Survey Area	Year	Population Estimate (±90% CI)	Population Estimate with SCF	Moose/mi² w/SCF
Northwestern Unit 12	2003	3,064 (±35%)	3,830	1.35
	2005	2,129 (±15%)	2,661	0.94
	2006	2,317 (±18%)	2,896	1.07
	2008	3,225 (±18%)	3,870	1.43
	2012	3,058 (±12%)	3,670	1.36
Southeastern Unit 12	2003	1,317 (±19%)	1,646	0.56
	2004	1,272 (±20%)	1,590	0.54
	2008	1,843 (±20%)	2,212	0.75
	2012	1,613 (±17%)	1,936	0.66
Nabesna Road	2011	1,272 (±17%)	1,526	0.95
Chisana Alaska Portion	2014	673 (±23%)	---	---

Table 2. Fall aerial moose composition counts for Unit 12 from 2003-2014 (Wells 2014, 2016).

Survey Area	Year	Bulls:100 Cows	Calves:100 Cows	Percent Calves	Calves Observed	Adults Observed
Northwestern Unit 12	2003	25	32	19	111	464
	2005	22	30	18	69	315
	2006	37	41	21	185	688
	2008	46	35	20	218	899
	2012	29	27	16	133	650
Southeastern Unit 12	2003	89	33	16	89	475
	2004	70	48	20	89	351
	2008	62	24	13	81	552
	2012	52	18	9	65	634
Nabesna Road	2011	34	27	14	75	476
Chisana Alaska Portion	2014	50	11	---	---	---

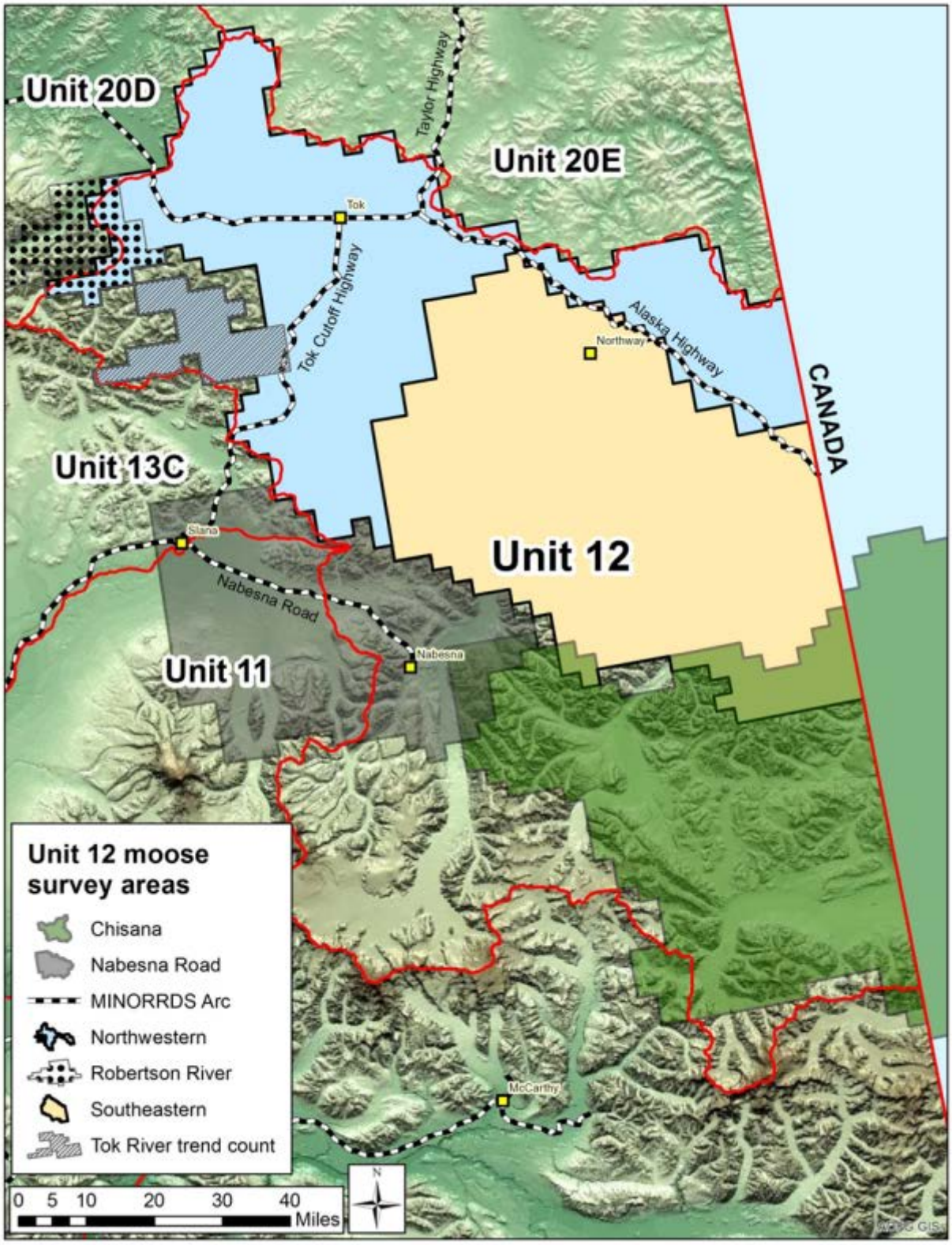


Figure 3. Survey areas used by ADF&G for moose surveys in Unit 12. Map is from Wells (2016).

Harvest History

The State sustainable harvest rate for moose in Unit 12 is 3-4% (Wells 2014). Most of the unit is difficult to access, especially within the Tetlin NWR, which leads to those areas near roads and rivers receiving higher harvest than the rest of the unit. An average of 132 moose have been harvested annually over the last ten years, with 163 moose being harvested in 2015, the last year for which data are available (**Table 3;** ADF&G 2017b). This falls within the State sustainable harvest rate for the unit. Only one cow moose was reported harvested during the fall and winter seasons in this ten year period, due to regulatory restrictions that only allow bull harvest and include antler restrictions, although an average of four cow moose were taken annually between 2011 and 2014 for potlatch use (Wells 2016). In 2015, approximately 30% of the moose harvest was taken by local Unit 12 users (**Figure 4;** ADF&G 2017b). It is important to note that some nonlocal (those residing outside of Unit 12) resident users also have a cultural and traditional use determination for portions of Unit 12 and therefore some of the nonlocal resident harvest may have also been from Federally qualified subsistence users for each of the hunt areas.

Table 3. All moose harvest in Unit 12 from 2006 through 2015 according to ADF&G harvest reports (ADF&G 2017b).

Year	Species	Local Resident Harvest	Nonlocal Resident Harvest	Total Resident Harvest	Non-Resident Harvest	Unknown Residency Harvest	Total Harvest	Bulls Harvested	Cows Harvested	Unknown Gender
2015	Moose	49	78	127	34	2	163	162	0	1
2014	Moose	59	72	131	38	0	169	169	0	0
2013	Moose	35	39	74	25	1	100	99	0	1
2012	Moose	33	59	92	34	1	127	124	0	3
2011	Moose	45	40	85	27	0	112	112	0	0
2010	Moose	44	47	91	18	0	109	109	0	0
2009	Moose	57	59	116	26	3	145	142	1	2
2008	Moose	55	53	108	49	0	157	157	0	0
2007	Moose	52	46	98	24	0	122	121	0	1
2006	Moose	45	44	89	26	2	117	117	0	0
Total:		**474**	**537**	**1011**	**301**	**9**	**1321**	**1312**	**1**	**8**
Average:		**47.4**	**53.7**	**101.1**	**30.1**	**0.9**	**132.1**	**131.2**	**0.1**	**0.8**

Currently harvest tickets are mandatory within Unit 12 when State or Federal registration permits are not required. These harvest tickets require users to submit a harvest report to track harvest throughout the unit. To increase the reporting rate for harvest tickets, ADF&G sends reminder letters to users who did not initially report their harvest (Wells 2014). The State also conducts community household surveys in local communities, which helps assess unreported harvest.

A community household survey was completed in Unit 12 for 2011 in Tok. Based on this survey, 48 moose were recorded as being harvested by Tok residents (ADF&G 2011). This is greater than the overall harvest recorded (45 moose) in harvest reports for all local users in Unit 12. Due to only 26% of Tok households being surveyed, the State used a conversion factor to develop an estimated harvest of 187 moose taken by Tok residents, some of which may not have been harvested in Unit 12 (ADF&G 2011,

Holen et al. 2012). The most recent community household survey for Northway was completed for 2014. Ninety six percent of Northway households reported using moose meat in 2014 (Godduhn and Kostick 2016). An estimated 23 moose were recorded as harvested by Northway residents during this survey with 20 of these moose being harvested in September (Godduhn and Kostick 2016).

There is currently a Federal registration hunt (FM1203) for the Tetlin NWR hunt area. On average, 55 permits are issued annually with 22 users actually hunting (**Table 4;** USFWS 2017). The average annual harvest during this Federal registration hunt is approximately two moose. The communities of Tok and Northway take part in the FM1203 hunt more than any other community (**Table 5;** USFWS 2017).

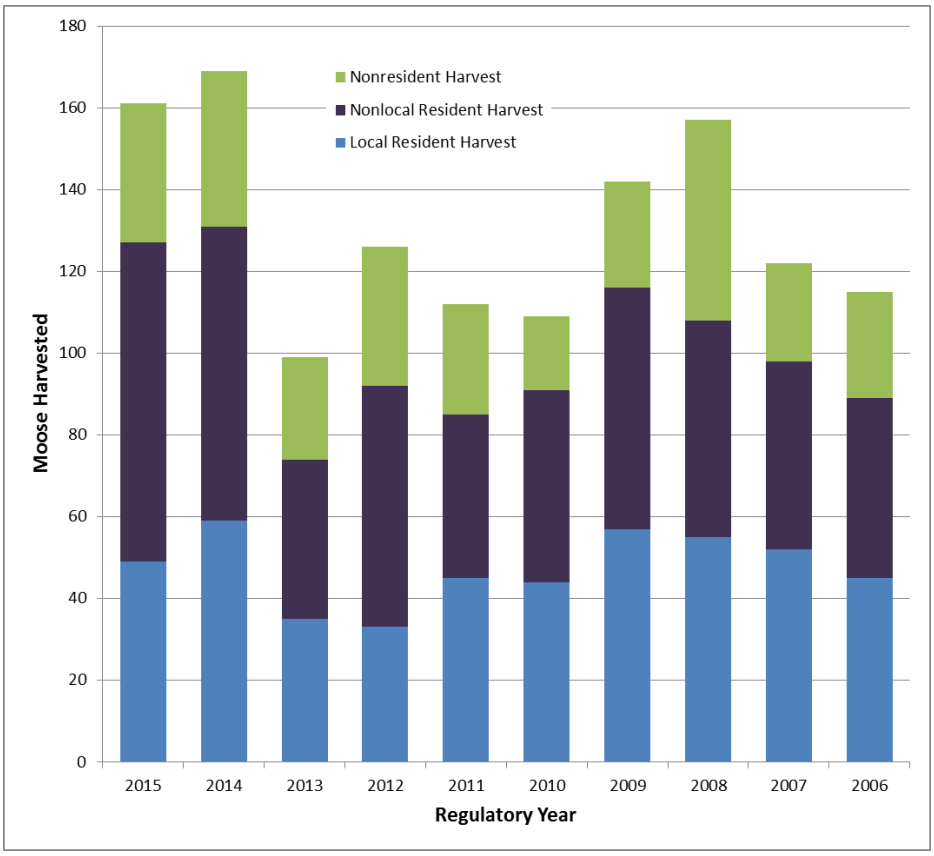


Figure 4. Moose harvest in Unit 12 broken down by user residency from 2006-2015 according to ADF&G harvest reports (ADF&G 2017b).

Table 4. Moose harvest for the FM1203 Federal registration permit in Unit 12 by year for 2006-2015 (USFWS 2017).

Year	Species	FM1203 Permits Issued	Number Who Hunted	Total Harvest	Bulls Harvested	Cows Harvested	Unknown Harvested	Percent Success
2015	Moose	97	28	4	4	0	0	14.30%
2014	Moose	84	36	3	1	0	1	8.30%
2013	Moose	95	46	5	4	0	0	10.90%
2012	Moose	101	51	2	2	0	0	3.90%
2011	Moose	25	8	3	3	0	0	37.50%
2010	Moose	30	12	1	1	0	0	8.30%
2009	Moose	20	9	0	0	0	0	0%
2008	Moose	46	12	0	0	0	0	0%
2007	Moose	41	9	0	0	0	0	0%
2006	Moose	11	4	0	0	0	0	0%
TOTAL		550	215	18	15	0	1	

Table 5. Moose harvest by community for the FM1203 Federal registration permit in Unit 12 for 2006-2015 (USFWS 2017).

Res Comm	Unit	FM1203 Permits Issued	Individuals Who Hunted	Total Harvest	Bulls Harvested	Cows Harvested	Unknown Harvested	Percent Success
UNKNOWN	---	4	1	0	0	0	0	0%
BORDER	12	10	7	0	0	0	0	0%
NABESNA	12	2	2	0	0	0	0	0%
TOK	12	259	99	13	12	0	0	13.10%
TETLIN	12	1	0	0	0	0	0	---
CHISANA	12	1	0	0	0	0	0	---
NORTHWAY	12	267	104	5	3	0	1	4.80%
SLANA	13	2	0	0	0	0	0	---
MENTASTA LAKE	13	2	2	0	0	0	0	0%
GLENNALLEN	13	1	0	0	0	0	0	---
FAIRBANKS	20	1	0	0	0	0	0	---
TOTAL		550	215	18	15	0	1	

Effects of the Proposal

If adopted, this proposal would extend the moose season and increase harvest opportunity for Federally qualified subsistence users.

If adopted, this proposal would align the fall season with the Unit 20E season and the fall season end date with the Unit 12 hunt area south of the hunt area being addressed, but it would misalign the FM1203 moose season with the Unit 12 remainder hunt area which completely surrounds the northern portion of the FM1203 hunt (**Figure 5**). Currently the Federal Unit 12 remainder and the Unit 12 FM1203 fall hunt end dates align.

If adopted, this proposal would also create parallel winter season end dates with the FC1202 caribou season, which could reduce user confusion and would allow Federally qualified subsistence users to harvest caribou and moose opportunistically. This would increase opportunities for users and decrease time and resources spent to harvest moose and caribou in the same season.

The average harvest by users using the FM1203 Federal registration permit since 2012, when the season was extended, is only three-and-a-half moose annually. Although community household surveys show that much of the harvest is unreported throughout the unit, harvest reporting during the FM1203 hunt should be more accurate due to the requirement of a Federal registration permit. Extending the season into spring when days are longer and temperatures are more moderate may result in increased user participation and harvest. With 2017 composition data showing a decline in the bull:cow ratio since 2012, any increased harvest of bulls may be unsustainable and lead to further population declines in the area.

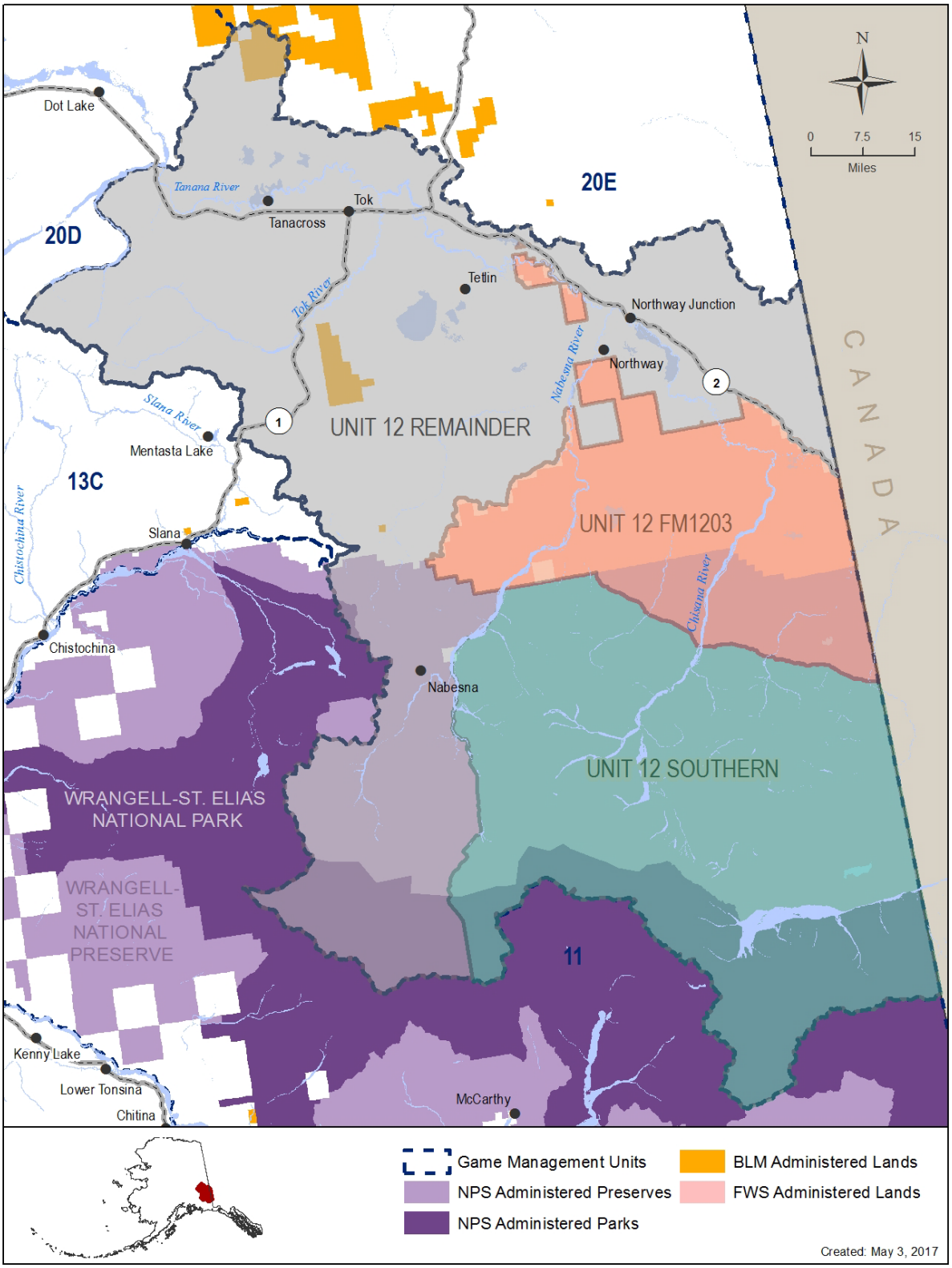


Figure 5. Federal hunt areas located in Unit 12.

OSM PRELIMINARY CONCLUSION

Support Proposal WP18-55.

Justification

This proposal is not likely to have a significant impact on the moose population. Few moose are harvested by Federally qualified subsistence users during this Federal registration hunt. Antlered bulls migrate to areas that provide limited accessibility to users during the harvest season. It is unlikely that harvest will increase dramatically by lengthening the harvest season as proposed.

By creating parallel winter season end dates with the FC1202 caribou season, user confusion may be reduced and Federally qualified subsistence users will be able to harvest caribou and moose at the same time. This would increase opportunities for users and decrease time and resources spent to harvest subsistence food sources.

ANALYSIS ADDENDUM

OSM CONCLUSION

Oppose Proposal WP18-55.

New data provided by ADF&G show the bull:cow ratio is declining in the area east of the Nabesna River. Although few moose are harvested by Federally qualified subsistence users during this Federal registration hunt and antlered bulls migrate to areas that provide limited accessibility to users during the harvest season, the low bull:cow ratio is below the State management goals and shows that an increase in harvest could have a negative impact to this already declining population.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Southcentral Alaska Subsistence Regional Advisory Council

Oppose WP18-55. The Council unanimously opposed the proposal after hearing from local community representatives who did not support the proposal. The Northway Tribal Council was concerned about increased competition for moose that are already in low densities in the area, hunted by nonlocal hunters with four wheelers and snow machines, and would get the moose that are easier to harvest, thus making it harder for locals without ATVs to get the remaining moose. In addition, concerns were expressed about the lack of consultation with local communities and representation at the Council meeting by Tetlin NWR staff.

Eastern Interior Alaska Subsistence Regional Advisory Council

Oppose WP18-55. The Council perceived a direct conservation concern since the moose population is low. The Council determined that local subsistence users will be affected most dramatically if this proposal is passed and believed that the needs of local subsistence users had to be given greater consideration than other subsistence users authorized under the C&T. The Council also expressed a concern regarding new technologies that allow much easier access to hunting areas for non-local users.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-55: This proposal, submitted by the Tetlin National Wildlife Refuge manager, lengthens the fall and winter moose seasons in a portion of Unit 12 from August 24-September 20 and November 1-February 28 to August 20-September 30 and November 1-April 30.

Introduction: Lengthening the fall and winter moose season in the portion of Unit 12 within Tetlin NWR and Wrangell-St. Elias National Preserve would align the fall season dates with the moose season in the southern hunt area of Unit 12 and Unit 20E, and it would align the winter season closing date with the caribou season closing date in Unit 12 remainder.

Impact on Subsistence Uses: This proposal would provide additional opportunity to federally qualified subsistence users.

Impact on Other Uses: Other nonfederally qualified users would not be affected directly.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for moose in Unit 12.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for moose in Unit 12 is 60-70 animals.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
Unit 12 remainder	One bull	August 24-28 (Harvest ticket)	
			September 8–17 (Harvest ticket)
	One bull with 50 inch antlers or antlers with 4 or more brow tines on at least 1 side.		September 8–17 (Harvest ticket)

Special instructions: None.

Conservation Issues: Potential biological concerns were identified with this proposed season. Bull:cow ratio estimates from fall 2017 moose surveys were below management objectives in portions of Unit 12, including a portion of the area that would be affected by this proposal. The Unit 12 minimum bull:cow ratio objective is 40 bulls:100 cows east of the Nabesna River and 25 bulls:100 cows in the remainder of the unit. The majority of the area that would be affected by this proposal lies east of the Nabesna River, and the estimated bull:cow ratio in this area was 28 bulls:100 cows in fall 2017. This is well below the 46

bulls:100 cows estimated within the same area in fall 2012, which was the most recent survey information available when this proposal was originally submitted. Even though this proposal would likely result in little additional harvest due to the difficult access to much of the hunt area and the antlered-bull bag limit for the winter hunt, liberalization of moose harvest is not warranted at this time. Additional moose surveys are planned within the same area in the near future, which will in part be used to further analyze the status of the bull:cow ratio in this area.

Enforcement Issues: The department does not foresee the creation of new enforcement issues if this proposal is passed.

Recommendation: ADF&G is **OPPOSED** to this proposal due to biological concerns for the moose population. The current estimated bull:cow ratio is below the management objective, and additional harvest is not warranted at this time.

WRITTEN PUBLIC COMMENTS

Ahtna Intertribal Resource Commission
dba/Copper River-Ahtna Inter-Tribal
Resource Conservation District
PO Box 613
Glennallen, Alaska 99588
907-822-8154
contact@ahtnatribal.org

July 26, 2017

Chairperson of Federal Subsistence
Board or his Designated Field Officer
Office of Subsistence Management
1011 E. Tudor Road, MS-121
Anchorage, Alaska 99503-6199

Dear Mr. Christensen or Designated Field Officer:

Enclosed are Ahtna Inter-Tribal Resource Commission's (AITRC) comments on 2018-2020 Federal Wildlife proposals. Please consider our viewpoint on wildlife proposals, when decsions are made on federal wildlife regulations.

Sincerely,

Shirley Smelcer, Chairperson of CRITR

Eastern Interor Subsistence Regional Advisory Council

WP18-50 Extend season [Unit 11 moose]

We do not support WP18-50, we support WP18-17. See comments under WP18-17.

WP18-51 Statewide – Modify baiting restrictions to align State regulations

We support WP18-51 to modify bait regulations to align with State regulations. Federal regulations are more restrictive than State regulations. Adding skinned carcasses of furbearers and fur animals, small game, with the exception of the meat of birds, to bait bear regulations will align State and Federal regulations, provide more opportunities for federal subsistence hunters who use bait stations to harvest bears.

Traditional use of grease, parts of wild game, and other methods of harvesting bears at bait stations would occur, hunters who use bait stations would have an imporoved chance of harvesting a bear with more options to choose from to use as bait.

WP18-54 – Increase harvest limit and Delegate Authority to set harvest limit for [Unit 12 caribou] to be announced winter season

We do not support WP18-54 to change Unit 12 Caribou regulations to "up to 3 caribou" may be taken with a federal registration permit. This will increase the take of caribou beyond sustainable limits and will stress the herd in its winter range. We have seen overharvest of caribou in the past with liberal bag limit that has taken decades to recover. This is not a wise proposal and we oppose it..

WP18-55 Extend Winter and fall season [Unit 12 moose]

Unit 12 Moose

That portion within Tetlin National Wildlife Refuge and those lands within the Wrangell-St. Elias National Preserve north and east of a line formed by the Pickeral Lake Winter Trail from the Canadian border to Pickerel Lake – 1 antlered bull by Federal registration permit (FM1203) Aug. ~~24~~ **20** - Sept. ~~20~~ **30**

Nov. 1 - ~~Feb. 28~~ **Apr. 30**

We are neutral on WP18-55 to extend Unit 12 Moose season to allow longer hunting opportunity.

AK Subsistence, FW7 <subsistence@fws.gov>

Proposal 18-55

1 message

Charlotte <cenorthway@yahoo.com> Fri, Aug 4, 2017 at 11:49 PM
To: subsistence@fws.gov

This comment is in regards to proposal 18-55 to expand the season two weeks for moose hunting to match unit 20. Please consider more important factors in your decision than matching seasons such as: 1) actual annual moose count trends, 2) ability of the Refuge to patrol, & 3) increased hunting by locals in the future due to Alaska's difficult economic conditions. These factors must be considered before a matching of seasons. Thank you.
Charlotte Brinkman
Northway/Scotty Creek/Tok

Sent from my iPhone

AK Subsistence, FW7 <subsistence@fws.gov>

Moose
1 message

esther frykman <wagon_girl@hotmail.com> Fri, Aug 4, 2017 at 11:52 PM
To: "subsistence@fws.gov" <subsistence@fws.gov>

This comment is in regards to proposal 18-55 to expand the moose hunting season within the Refuge in Unit 12 to match Unit 20. The expansion of a season should also consider actual annual moose counts, patrolling ability by the Refuge, and increasing hunting to moose numbers by local communities in the future due to economic conditions instead of matching seasons. Please consider these additional factors before expanding the season. Thank you.
Signed, Esther Frykman

Sent from my iPhone

WP18–01 Executive Summary	
General Description	Proposal WP18–01 requests that non-Federally qualified users be limited to the harvest of two deer from Federal public lands in Unit 2 and that the season for non-Federally qualified subsistence users be reduced by one week or more. *Submitted by: Southeast Alaska Subsistence Regional Advisory Council.*
Proposed Regulation	**Unit 2 - Deer** *5 deer; however, no more than one may be a female deer. Female deer may be taken only during the period Oct. 15–Jan. 31. Harvest ticket number five must be used when recording the harvest of a female deer, but may be used for recording the harvest of a male deer. Harvest tickets must be used in order except when recording a female deer on tag number five. Federal public lands on Prince of Wales Island, excluding the southeastern portion (lands south of the West Arm of Cholmondeley Sound draining into Cholmondeley Sound or draining eastward into Clarence Strait), are closed to hunting of deer from Aug. 1 to Aug. 15, except by Federally qualified subsistence users hunting under these regulations.* ***Unless otherwise restricted, non-Federally qualified users may only hunt on Federal Public Lands in Unit 2 from Aug. 1 – Dec. 24 and can only harvest up to 2 male deer.*** *July 24–Jan. 31*
OSM Conclusion	**Oppose**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	The Council split WP18-01 into two proposals: WP18-01a addressing the harvest limit and WP18-01b addressing the season date. The Council **supported** WP18-01a, but **opposed** WP18-01b**.**

WP18–01 Executive Summary	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	

WP18–01 Executive Summary	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Oppose**
Written Public Comments	**1 Oppose, 1 Support**

STAFF ANALYSIS
WP18-01

ISSUES

Proposal WP18-01, submitted by the Southeast Alaska Subsistence Regional Advisory Council (Council), requests that non-Federally qualified users be limited to the harvest of two deer from Federal public lands in Unit 2 and that the season for non-Federally qualified subsistence users be reduced by one week or more.

DISCUSSION

The Council submitted this proposal after hearing testimony during the winter 2017 meeting in Craig, where Federally qualified subsistence users testified that they had a harder time harvesting deer during the 2016 season. As a result, the Council drafted this proposal for consideration. The Council did not identify a specific closure date for non-Federally qualified users in their proposal. During clarification the Council chair suggested using one week from the end of the current State hunting season (December 24) as a starting point.

In regards to adjusting State seasons and harvest limits, Title VIII, Section 815.3 of the Alaska National Interest Lands Conservation Act (ANILCA) provides that Federal public lands can be closed to non-subsistence uses when it is necessary to restrict harvest in order to assure the continued viability of a fish or wildlife population or the continuation of subsistence uses of such population. It is the Board's view that because it has the authority to close non-subsistence uses under these circumstances, it would have the authority to take a lesser action, such as limiting the take of fish and wildlife for non-subsistence use. However, the Board has rarely exercised authority in this manner.

Existing Federal Regulation

Unit 2 - Deer

5 deer; however, no more than one may be a female deer. Female deer may be taken only during the period Oct. 15–Jan. 31. Harvest ticket number five must be used when recording the harvest of a female deer, but may be used for recording the harvest of a male deer. Harvest tickets must be used in order except when recording a female deer on tag number five. Federal public lands on Prince of Wales Island, excluding the southeastern portion (lands south of the West Arm of Cholmondeley Sound draining into Cholmondeley Sound or draining eastward into Clarence Strait), are closed to hunting of deer from Aug. 1 to Aug. 15, except by Federally qualified subsistence users hunting	*July 24–Jan. 31*

under these regulations.

Proposed Federal Regulation

Unit 2 - Deer

5 deer; however, no more than one may be a female deer. Female deer may be taken only during the period Oct. 15–Jan. 31. Harvest ticket number five must be used when recording the harvest of a female deer, but may be used for recording the harvest of a male deer. Harvest tickets must be used in order except when recording a female deer on tag number five. Federal public lands on Prince of Wales Island, excluding the southeastern portion (lands south of the West Arm of Cholmondeley Sound draining into Cholmondeley Sound or draining eastward into Clarence Strait), are closed to hunting of deer from Aug. 1 to Aug. 15, except by Federally qualified subsistence users hunting under these regulations. ***Unless otherwise restricted, non-Federally qualified users may only hunt on Federal Public Lands in Unit 2 from Aug. 1 – Dec. 24 and can only harvest up to 2 male deer.***	*July 24–Jan. 31*

Existing State Regulation

Unit 2 – Deer

Residents and non-residents: Four bucks	*Aug. 1 – Dec. 31*
Harvest tickets must be validated in sequential order, and unused tickets must be carried when you hunt.	

Extent of Federal Public Lands

Federal public lands comprise approximately 72% of Unit 2 and consist of 72% U.S. Forest Service (USFS) managed lands (see **Unit 2 Map).**

Customary and Traditional Use Determinations

Rural residents of Units 1A, 2, and 3 have a customary and traditional use determination to harvest deer in Unit 2.

Regulatory History

Hunting regulations have permitted the harvest of deer in Unit 2 since 1925 (**Table 1**). During this period, season closing dates have varied between November and December, with December 31 being the

common closing date since 1988. Seasons and harvest limits for subsistence users in Unit 2 are more liberal than they have been since 1925. Federal regulations have allowed the harvest of one female deer in Unit 2 since 1995, as well as the harvest of 5 deer beginning in 2006.

Following years of numerous Unit 2 related deer proposals (>30) submitted to the Federal Subsistence Board (Board), the Unit 2 Deer Planning Subcommittee (Subcommittee) was formed in 2004 to address contentious deer management issues in Unit 2. At the request of the Board, the Council established the 12-member Subcommittee to address concerns that Federally qualified subsistence users in Unit 2 were unable to harvest enough deer to meet their needs. The Subcommittee included residents of Craig, Hydaburg, Ketchikan, Petersburg, Point Baker and Wrangell, to reflect the range of users of Unit 2 deer, along with representatives from State and Federal wildlife management agencies.

Table 1. Regulatory history for Unit 2 deer.

Year	Type of Season	Season	Limit	Conditions and Limitations
1925	Open	Sep. 15–Dec. 16	3	Bucks, 3" antlers or longer
1925–1929	Open	Sep. 1–Nov. 30	3	Bucks, 3" antlers or longer
1930–1941	Open	Aug. 20–Nov. 15	2	Bucks, 3" antlers or longer
1942–1943	Resident	Sep. 16–Nov. 15	2	Bucks, 3" antlers or longer
1942–1943	Non-resident	Sep. 16–Nov. 15	1	Bucks, 3" antlers or longer
1944–1948	Resident	Sep. 1–Nov. 7	2	Bucks, 3" antlers or longer
1944–1948	Non-resident	Sep. 1–Nov. 7	1	Bucks, 3" antlers or longer
1949	Resident	Sep. 1–Nov. 15	2	Bucks, 3" antlers or longer
1949	Non-resident	Sep. 1–Nov. 15	1	Bucks, 3" antlers or longer
1950–1951	Resident	Aug. 20–Nov. 15	2	Bucks, 3" antlers or longer
1950–1951	Non-resident	Aug. 20–Nov. 15	1	Bucks, 3" antlers or longer
1952	Open	Aug. 20–Nov. 22	2	Bucks, 3" antlers or longer
1953–1954	Open	Aug. 20–Nov. 22	3	Bucks, 3" antlers or longer
1955	Open	Aug. 20–Nov. 22	3	3 bucks or 2 bucks and one antlerless, bucks 3" antlers or longer, antlerless may be taken Nov. 15–Nov. 22
1956	Open	Aug. 20–Nov. 26	4	3 bucks or 2 bucks and one antlerless, bucks 3" antlers or longer, antlerless may be taken Nov. 13–Nov. 26
1957–1959	Open	Aug. 20–Nov. 30	4	4 deer, does may be taken Oct. 15–Nov. 30
1960	Open	Aug. 20–Dec. 15	4	4 deer, does may be taken Oct. 1–Dec. 15
1961	Open	Aug. 1–Nov. 30	4	4 deer, antlerless deer may be taken Sep. 15–Nov. 30
1962	Open	Aug. 1–Dec. 15	4	4 deer, antlerless deer may be taken Sep. 15–Dec. 15
1963–1967	Open	Aug. 1–Dec. 31	4	4 deer, antlerless deer may be taken Sep. 15–Dec. 31
1968	Open	Aug. 1–Dec. 15	4	4 deer, antlerless deer may be taken Sep. 15–Dec. 15
1969–1971	Open	Aug. 1–Dec. 31	4	4 deer, antlerless deer may be taken Sep. 15–Dec. 31
1972	Open	Aug. 1–Dec. 31	3	3 deer, antlerless deer may be taken Nov. 1–Nov. 30
1973–1977	Open	Aug. 1–Nov. 30	3	1 antlerless deer may be taken Nov. 1–Nov. 30
1978–1984	Open	Aug. 1–Nov. 30	3	Antlered deer
1985–1986	State Subsistence/General	Aug. 1–Nov. 30	3	Antlered deer
1987	State Subsistence/General	Aug. 1–Nov. 30	3	1 antlerless deer may be taken Oct. 10–Oct. 31
1988–2013	State Subsistence/General	Aug. 1–Dec. 31	4	Antlered deer/bucks
1991–1994	Federal Subsistence	Aug. 1–Dec. 31	4	Antlered deer
1995–1997	Federal Subsistence	Aug. 1–Dec. 31	4	No more than one may be an antlerless deer, antlerless deer may be taken only during Oct. 15–Dec. 31
1998–2002	Federal Subsistence	Aug. 1–Dec. 31	4	No more than one may be an antlerless deer, antlerless deer may be taken Oct. 15–Dec. 31 by Federal registration permit only
2003–2005	Federal Subsistence	July 24–Dec. 31	4	No more than one may be an antlerless deer, antlerless deer may be taken Oct. 15–Dec. 31 by Federal registration permit only
2006–2009	Federal Subsistence	July 24–Dec. 31	5	No more than one may be an antlerless deer, antlerless deer may be taken Oct. 15–Dec. 31
2010–2014	Federal Subsistence	July 24–Dec. 31	5	No more than one may be a female deer, female deer may be taken Oct. 15–Dec. 31

The Subcommittee developed management recommendations at a series of five public meetings held in communities that depend upon Unit 2 deer. Both Federally and non-Federally qualified users participated at these meetings. The Subcommittee recommended that deer harvest management tools could be applied

in Unit 2 as deer population trends and hunting use patterns changed. The degree to which these tools would be employed would be decided through the established public regulatory processes (SEASRAC 2006).

In 2006, the Board implemented two major changes regarding the Unit 2 deer hunt by adopting Proposals WP06-08 and WP06-09 with modification. Adoption of WP06-08 as modified, reopened a portion of Federal public lands to non-Federally qualified users on the southeast side of Prince of Wales Island. Adoption of WP06-09 as modified, established the current 5 deer harvest limit for Federally qualified subsistence users (FSB 2006). Two other proposals, WP06-06 and WP06-10, related to the use of harvest tickets in Unit 2 were unanimously opposed by the Council and rejected by the Board (FSB 2006).

Three proposals related to Unit 2 deer were submitted from 2007-2012. Proposal WP07-07 requested the female deer season be closed, Proposal WP10-19 requested a change to the female deer season and Proposal WP10-20 requested the August closure to non-Federally qualified users be lifted. The Council opposed and the Board rejected these proposals (FSB 2007, 2010).

Two proposals were considered for Unit 2 in 2013. Proposal WP14-03 requested the female deer season be eliminated whereas Proposal WP14-04 asked for an earlier season to be established for Federally qualified subsistence users over the age of 60 or physically disabled. The Council unanimously opposed and the Board rejected these proposals (SEASRAC 2013; FSB 2014).

Three proposals were considered for Unit 2 in 2015. Proposal WP16-01 requested a harvest limit reduction for non-Federally qualified users as well as an extension of the Federal season through the month of January. This proposal was broken into two sub-proposals by the Council who opposed the harvest limit reduction but supported the season extension. The Board adopted the proposal as modified by the Council. Proposal WP16-05 requested removal of language regarding a harvest limit reduction during times of conservation because that authority is included by delegation to the Federal in-season manager and WP16-08 requested harvest ticket #5 be used out of sequence when harvesting a female deer. Both proposals were unanimously supported by the Council and adopted by the Board (SEASRAC 2015; FSB 2016).

Current Events

The Council has submitted Proposal WP18-02 requesting the customary and traditional use determination for deer in Units 1-5 be changed to all rural residents of Units 1-5. If this change was approved, the number of qualifying hunters for Unit 2 would increase dramatically, which may be contradictive to the intent of Proposal WP18-01.

Biological Background

Sitka black-tailed deer spend the winter and early spring at low elevation on steep slopes where there is less snow accumulation and old-growth forests provide increased intermixing of snow-intercept and foraging opportunities. Fawning occurs in late May and early June as vegetation greens-up, providing abundant forage to meet energetic needs of the lactating doe. Some deer migrate and follow the greening

vegetation up to alpine for the summer while others remain at lower elevations. The breeding season, or rut, generally occurs late October through late November (ADF&G 2009) generally peaking around mid-November. Wolves and black bears are the primary predators present in Unit 2 and may reduce deer populations or decrease recovery times after severe winters.

Deer populations in Southeast Alaska fluctuate and are primarily influenced by winter snow depths (Olson 1979). Deer in Southeast Alaska typically have trouble meeting their energy needs in winter (Hanley and McKendrick 1985, Parker et al. 1999) and winters with long periods of deep snow that restrict the availability of forage can result in deer depleting their energy reserves to the point of starvation (Olson 1979).

Summer nutrition is important for building body reserves to sustain deer through the winter (Stewart et al. 2005). Few studies have been conducted on summer habitat conditions because winter habitat carrying capacity is generally considered to be the limiting factor for deer in Southeast Alaska. However, deer populations at or above habitat carrying capacity are affected by intra-specific competition for food and may enter winter in reduced condition compared to deer populations below carrying capacity (Kie et al. 2003, Stewart et al. 2005). This can result in higher susceptibility to severe winters and lower productivity (Kie et al. 2003, Stewart et al. 2005). In addition, nutritionally stressed does produce smaller and fewer fawns (Olson 1979).

Habitat

Old-growth forests are considered primary deer winter range, in part because the complex canopy cover allows sufficient sunlight through for forage plants to grow and intercepts snow, making it easier for deer to move and forage during winters when deep snow hinders access to other habitats. Some areas of Unit 2 have been impacted by large scale changes in habitat due to timber harvest, while the habitat is largely intact in other areas. Young-growth forest treatments (e.g., thinning, small gap creation, branch pruning) can benefit deer forage development in previously harvested stands. Regardless, areas with substantial timber harvest are expected to have lower long-term carrying capacity compared to pre-harvest conditions.

Recent population indices

There are no methods to directly count deer in Southeast Alaska, so the Alaska Department of Fish and Game (ADF&G) conducts deer pellet surveys as an index to the relative abundance of the deer population. Relating pellet group data to population levels is difficult, however, because factors other than changes in deer population size can affect deer pellet-group density. Snowfall patterns influence the distribution and density of deer pellets from year to year, and snow persisting late into the spring at elevations below 1,500 feet limits the ability to consistently survey the same elevation zones among years. In mild winters, deer can access forage in a greater variety of habitats, not all of which are surveyed. Conversely, in severe winters deep snow concentrates deer (McCoy 2011). Brinkman et al. (2013) questioned the value of pellet-group surveys for monitoring population trends due to the variability in the data compared to DNA based pellet counts. Although pellet-group surveys remain the only widely available deer population data, the results should be interpreted with caution. In Unit 2,

pellet-group data suggests a generally increasing population trend since a low during the late 1990s and early 2000s (**Figure 1**). This contrasts with Brinkman et al. (2011) who used a DNA based technique and estimated a 30% population decrease from 2006–2008 which they attributed to three consecutive deep snow winters. Brinkman's study was limited to three watersheds and the population changes during the study varied by watershed. It appears that populations subsequently increased after those severe winters and Bethune (2011) felt that by 2010 the Unit 2 deer population was healthy, stable to increasing, and at a 12-15 year high. No pellet surveys were completed during 2013-2016.

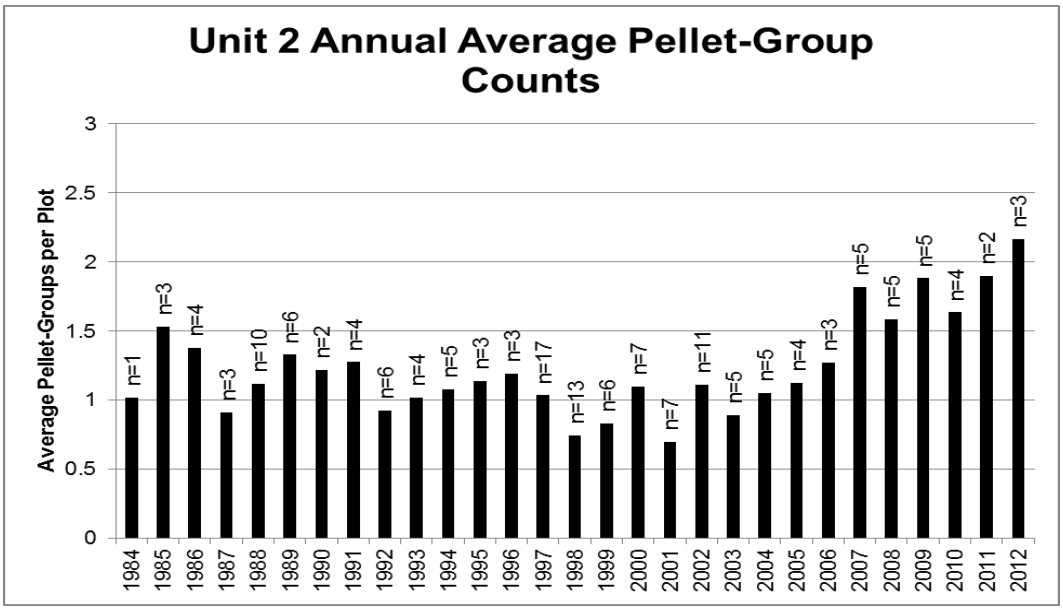


Figure 1. Average pellet-group counts for all of Unit 2 since transects began in 1984 (McCoy 2011). Data labels represent the number of watersheds surveyed that year.

Harvest History

Harvest data reported below are provided by ADF&G (Schumacher 2017, pers. comm.) and are gathered by several reporting systems including the Region 1 deer survey, Unit 2 deer harvest report, and the State-wide deer harvest report. The Region 1 deer survey is the most consistent report, covering the years 1997–2010 and is based on a sample of hunters. In general, 35% of hunters from each community were sampled annually and while response rates vary by community, the overall response rate across communities was approximately 60% each year. Harvest numbers were extrapolated using expansion factors that are calculated as the total number of harvest tickets issued to a community divided by the total number of survey responses for that community. If response was low from a community, an individual hunter may have a disproportionate effect on the data. As confidence intervals are not available for these data, harvest numbers should be considered estimates and used with caution. Trends, however, should be fairly accurate especially at larger scales. The Unit 2 deer report was in place from 2005–2010 and was instituted specifically for reporting deer harvest in Unit 2. In 2011, the statewide deer report replaced the other deer harvest reporting systems and requires reporting of harvest by all deer hunters. Different

expansion factors are used for the various data sets so that total harvest estimates between years are comparable (McCoy 2011).

Action taken by the Alaska Board of Game in fall 2000 established a harvest objective of 2,700 deer for Unit 2 as they identified the population as important for satisfying high levels of human consumptive use (Bethune 2013). Estimated deer harvest in Unit 2 from 2005–2015 can be found in **Figure 2**, with harvest by month being found in **Table 2**. The estimated total annual harvest has averaged 3,467 deer, with an average of 100 females during this period. Harvests have been at or above ADF&G's Unit 2 harvest objective since 2005 (Bethune 2011).

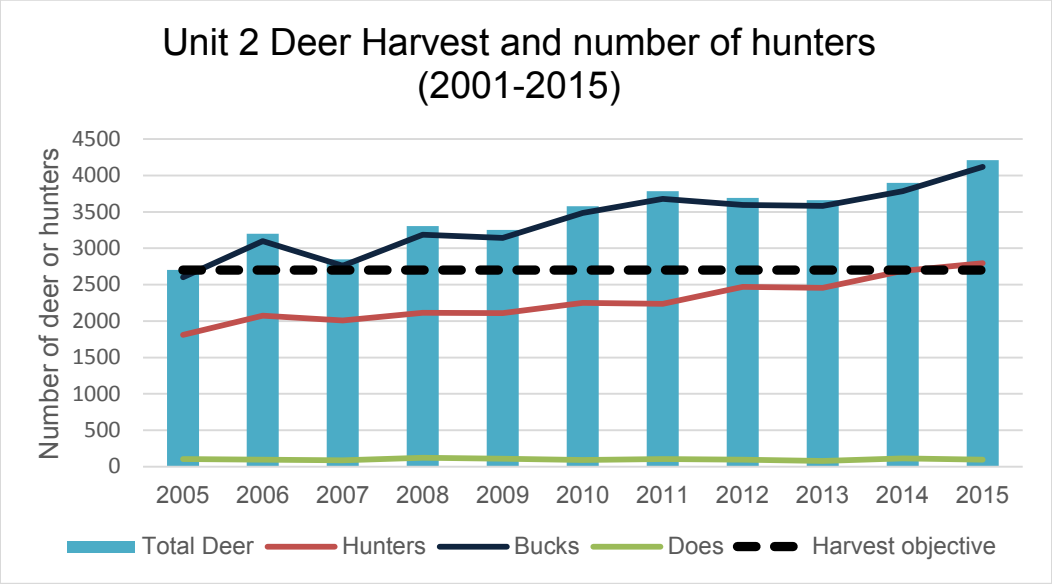


Figure 2. Estimated total deer harvest and number of hunters in Unit 2 from 2001-2015 (Schumacher 2017 pers. comm).

Federally qualified subsistence users tend to harvest the most deer in the unit (**Figure 3**) which has ranged from 55-72% of the total harvest during this period. This estimate may be significantly higher, as past testimony has suggested that some communities do not fully report harvests taken during the year (SEASRAC 2015; SEASRAC 2017). The average number of deer harvested per hunter has seemed to remain stable for Unit 2 residents since 2005 (**Figure 4**). The average number of days it takes to harvest a deer (**Figure 5**) also appears to be stable for Unit 2 residents and is currently half what it was during the late 1990s (Bethune 2013). Recent harvest data supports the past pellet-group data, suggesting the deer population in Unit 2 is healthy and stable to increasing.

Table 2. Deer harvest by month in Unit 2, 2005-2016 (Schumacher 2017, pers. comm.).

Reg. year	July	Aug	Sept	Oct	Nov	Dec	Jan	Totals
2005	210	485	393	503	895	76		2562
2006	192	501	459	541	1333	152		3178
2007	128	428	300	450	1217	121		2644
2008	116	494	362	522	1525	167		3186
2009	122	488	263	510	1655	183		3221
2010	156	471	281	595	1669	178		3350
2011	230	632	295	595	1932	197		3881
2012	143	460	302	556	1878	315		3654
2013	163	484	282	460	2105	174		3668
2014	159	590	281	562	2085	188		3865
2015	186	633	347	694	2107	212		4179
2016*	169	518	306	633	1573	161	32	3392

*2016 numbers are preliminary

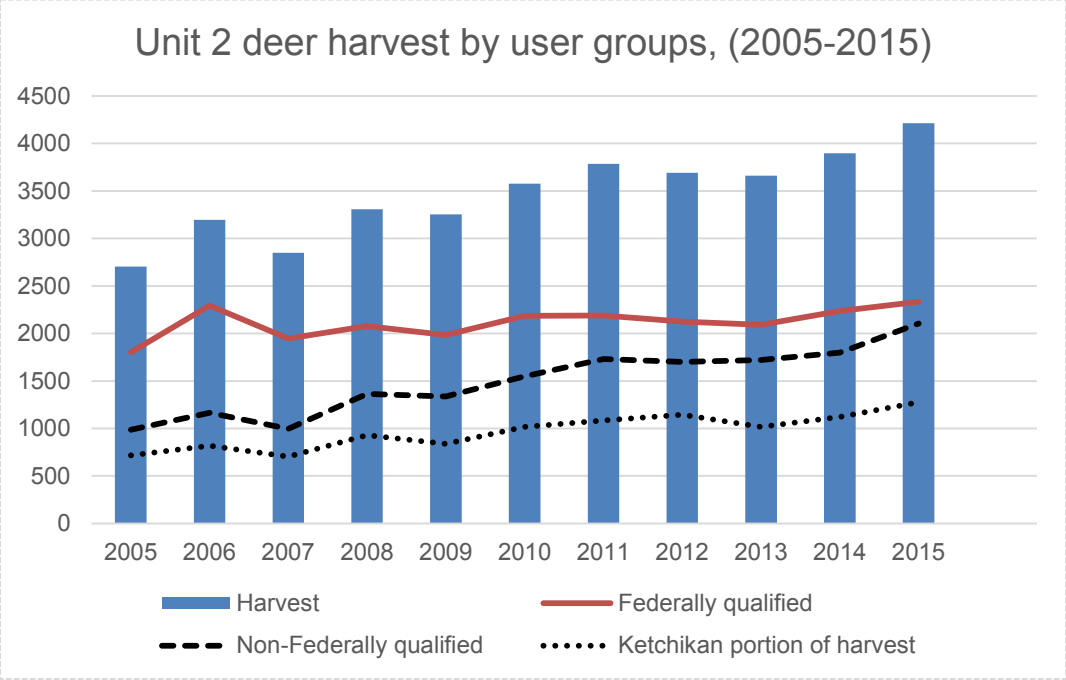


Figure 3. Estimated deer harvest by user type, 2005-2015 (Schumacher, 2017, pers. comm.).

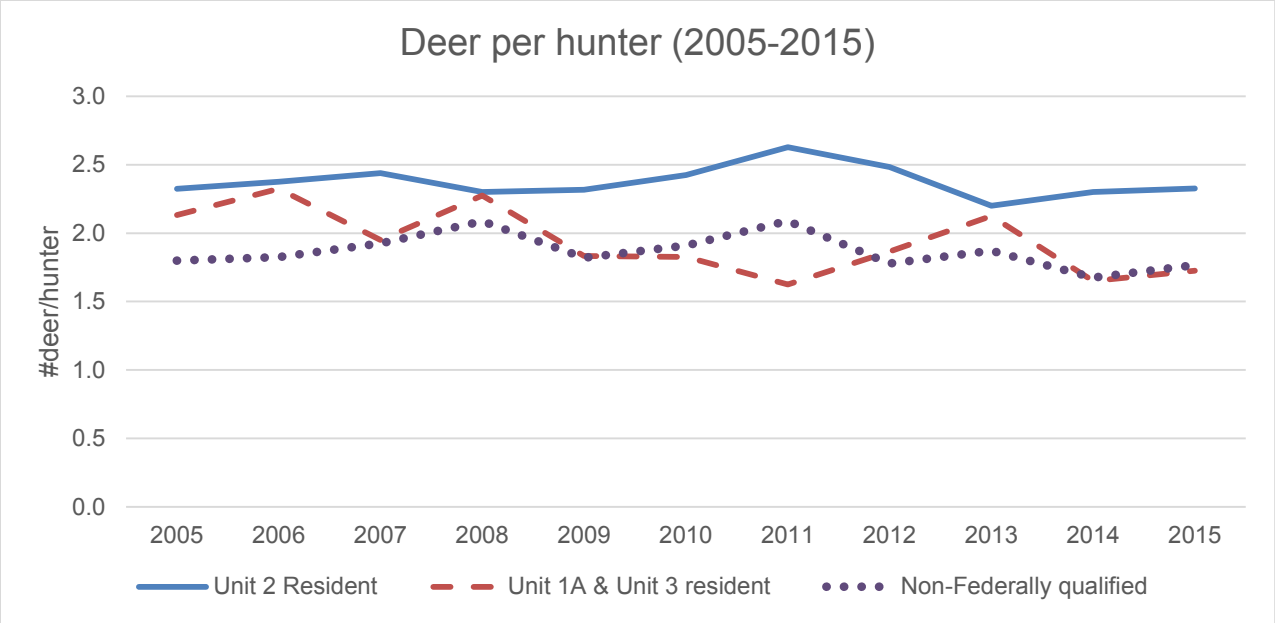


Figure 4. Deer per hunter by type of hunter, 2005-2015 (Shumacher, 2017, pers. comm.).

Hunters from Unit 2 had a higher success rate than other hunters with an average success rate of 83% during this period, with 73% of the successful hunters harvesting between one to three deer (**Table 3**). Hunters residing in Unit 1A averaged a 74% success rate during this same period and accounted for an average of 37.8% of the total Unit 2 harvest (**Figure 5**). Effort by those with other Alaskan residency (communities outside of Units 1A, 2 or 3) has occurred and increased from 119 hunters in 2005 to 430 during 2014, with effort typically occurring during the rut in November. It is unknown if this is related to more coverage of Unit 2 from outdoor publications, television shows and word-of-mouth or if it is related to the declines of deer in other areas of the state (Kodiak/Afognak/Raspberry Islands, Prince William Sound, northern Southeast Alaska). Non-resident activity in the unit has increased from 148 hunters in 2006 to 333 in 2015. This increase may be related to changes in black bear hunting opportunity in Unit 2. The Craig ADF&G office has noted an increase in non-resident inquiries related to deer hunting (Bethune 2013). It is unknown how the recent increases in license and tag fees established by the State Legislature passing House Bill 137 in October 2016 will affect non-resident effort.

Despite current abundant deer populations, historically high harvest, liberalized seasons and harvest limits, there are continued concerns from members of the subsistence community regarding their inability to meet their subsistence needs. The biggest concern is the perception of increased crowding and competition with non-Federally qualified users, which may partly be a result of the Access Travel Management Plan (ATM) enacted by the USDA Forest Service in 2009. The ATM reduced access for hunters by reducing miles of roads in Unit 2. The ATM may have increased numbers of hunters into smaller areas, affirming the perception of increasingly crowded hunting conditions. In addition, as clear-cuts advance past early seral stages, deer are less visible from the road which may also be leading to the misperception that fewer deer are available (Bethune 2013).

Table 3. Percentage of hunters by number of deer reported harvested (Schumacher 2017, pers. comm.).

	No deer	1 deer	2 deer	3 deer	4 deer	5 deer	>5 deer
Unit 2 Residents	13	32	24	17	11	3	0
Other Federally qualified	25	21	29	16	10	0	0
Non-Federally qualified	30	32	19	11	8	0	0

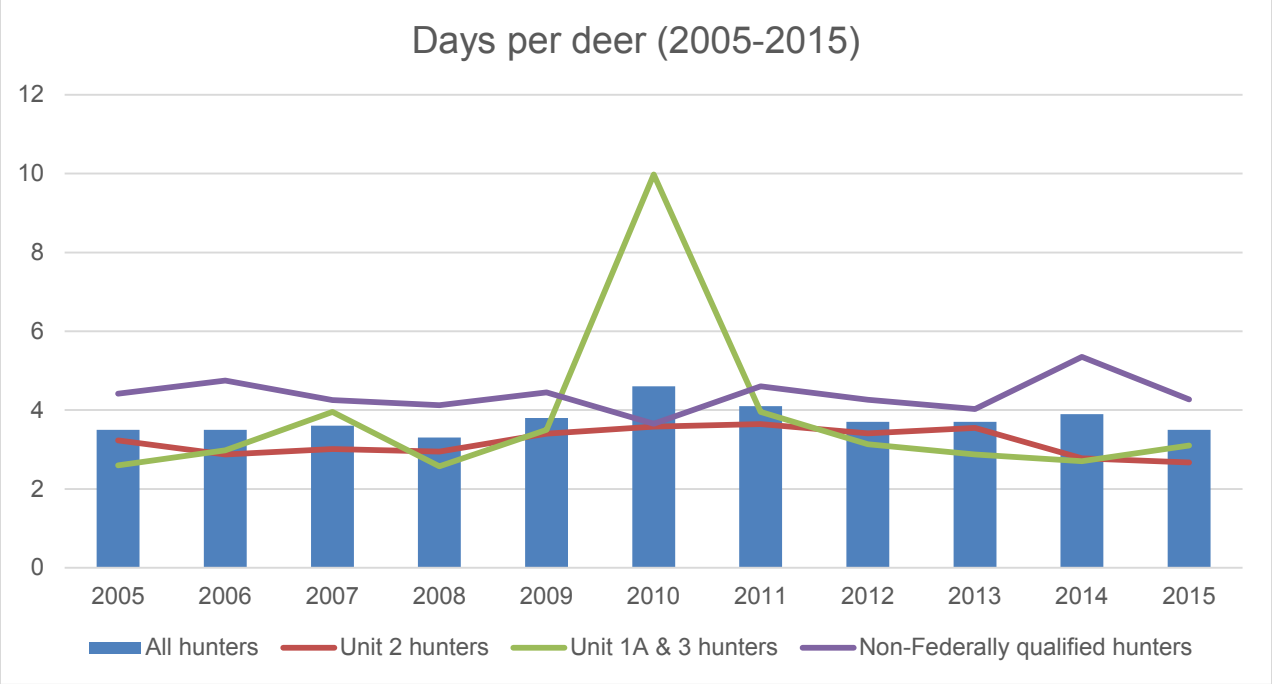


Figure 5. Days per deer for successful hunters to harvest a deer in Unit 2 by hunter residency, 2005-2015 (Shumacher, 2017).

Recent trends with milder weather patterns over the past several years may be affecting deer hunter success. With less snow at higher elevations later in the season, deer may not be concentrated in the lower elevation areas than they have in past years. Another possibility affecting hunter success during the 2016 season was what appeared to be an earlier rut in 2016, which peaked during the last week of October, about a week and a half earlier than the typical timing for the unit. While more effort may be needed to find deer in these situations, it may create the perception that deer populations are lower than they actually are.

Effects of the Proposal

If adopted, this proposal would reduce the harvest limit and the harvest season for non-Federally qualified users hunting deer on Federal public lands in Unit 2. The proposal would not change the harvest limit under State hunting regulation or affect harvests occurring on State and private lands.

If adopted, this proposal could increase harvest opportunity for Federally qualified users hunting deer on Federal public lands in Unit 2. While a reduction in the harvest limit for non-Federally qualified users may make more deer available to harvest, shortening the season in December may not benefit subsistence users as harvest data indicates very few deer are harvested during this time frame by both user groups.

If adopted, the proposal would not have any positive effects on deer populations in Unit 2, as deer populations are affected by available habitat and winter weather conditions.

OSM CONCLUSION

Oppose Proposal WP18-01.

Justification

Title VIII of ANILCA allows the Board to restrict non-Federally qualified user harvest limits on Federal public lands. Reducing the harvest limit for non-Federally qualified users in Unit 2 as allowed under §815 (3) of ANILCA is not necessary at this time for conservation or to meet subsistence needs. Deer harvest in Unit 2 has been on the increase with Federally qualified subsistence users harvesting the majority of the deer in Unit 2. Unit 2 hunters have averaged 2.3 deer per hunter, during the period of 2005-2015, which is higher than the 1.9 deer per hunter average for non-Federally qualified users. Harvest data also show a decrease in hunt days per deer for Federally qualified subsistence users, which is almost half of the time needed for non-Federally qualified users to harvest a deer. Hunt performance data, as well as deer pellet monitoring, anecdotal accounts and harvest data, suggest the deer population in Unit 2 is currently stable or growing. Harvest data for non-Federally qualified users suggest that the majority of this user group (81%) harvests two deer or less per hunter. The data do not support the perception that needs of Federally qualified subsistence users are not being met.

The Unit 2 Federal season currently provides Federally qualified subsistence users the following priorities: eight additional hunting days in July prior to the start of the State season, a closure to non-Federally qualified users for 15 days in August on the majority of the Federal public lands on Prince of Wales Island, a more liberal harvest limit of five deer, opportunity to harvest a female deer after October 15 and 31 additional days in January. Current harvest data suggest these priorities are benefitting Federally qualified subsistence users. A reduction to non-qualified subsistence users is not necessary at this time.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Southeast Alaska Subsistence Regional Advisory Council

The Council decided this proposal contained two unrelated provisions and wanted to consider each topic separately. To expedite that process, the Council divided the proposal into WP18-01a, reducing the non-Federally qualified annual harvest limit from 4 deer to 2 deer, and WP18-01b, changing the season ending date for non-Federally qualified hunters from December 31 to December 24.

Support WP18-01a. The Council felt that subsistence needs were not being met. The Council decided that this reduction would provide a rural resident priority, would not adversely affect nonsubsistence users as they already average two deer per hunter and reduction would not make a huge difference in their harvest overall. The Council voiced concerns that if the harvest objective continues to be exceeded, there could be an imminent conservation shortage if the Council does not take pre-emptive action now and provide for rural subsistence preference.

Oppose WP18-01b. The Council felt there would be no value in the reduction of hunting season as the reduction in harvest limit is sufficient to address subsistence user concerns and a time restriction would not be necessary.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-01: This proposal would reduce the non-federally qualified user bag limit for deer on federal lands in Unit 2 from 4 bucks to 2 bucks and shorten the season for non-federally qualified users on federal lands by one week or more.

Introduction: Proposal WP18-01 was submitted by the Southeast Regional Subsistence Advisory Council (RAC) after hearing testimony at their meeting in Craig, AK (March 2017) concerning the difficulty Unit 2 residents had harvesting sufficient deer to meet their 2016 subsistence needs. Several individuals testified that they believed a reduction in competition for deer between federally qualified and non-federally qualified hunters was needed.

Game Management Unit 2 encompasses Prince of Wales (POW) Island and the surrounding archipelago. Hunters residing in Unit 2 (POW), Unit 1A (excluding Ketchikan) and Unit 3 (Petersburg, Kake, Wrangell) are eligible to harvest deer in Unit 2 under federal subsistence regulations.

Due to concerns about availability of deer for subsistence users, in 2003 a collaborative planning effort, which included representatives from all involved state and federal agencies, subsistence users, community hunters, RAC members, and community associations, was initiated to evaluate the biological and social aspects of deer hunting in Unit 2 (SEASRAC 2006). During that process participants agreed that accurate deer harvest data is important to making informed decisions about deer harvest allocation, and a top recommendation of the committee was to collect more reliable deer harvest data. From 1997–2010 the Alaska Department of Fish and Game (ADF&G) collected deer harvest information by mailing surveys to 35% of hunters residing in each community who acquired harvest tickets. However, in some communities few hunters returned those surveys. To improve the reliability of deer harvest information, in 2010 the Alaska Board of Game adopted a regulation requiring anyone who acquired deer harvest tickets to submit a hunt report. That regulation went into effect during the RY2011 season.

That change increased the number of hunters who provided information to ADF&G, but the regulation lacked an enforcement mechanism and reporting rates in some smaller, rural communities remained low. However, data collected through harvest ticket reports are the best information currently available about deer hunting. Since RY2011, statewide deer hunter reporting rates have ranged from 60% to 74%. In RY2016 about 69% of hunters reported, but reporting rates for some communities were much lower. ADF&G estimates hunter effort and harvest for each community by expanding data from hunters who reported to account for other hunters from that community who acquired harvest tickets but did not submit reports. When only a few hunters from a community submit reports, estimated harvest information for that community is based on reports of only those hunters. If their experience was not representative of all hunters from that community, the expanded harvest data will not accurately reflect hunting effort and harvest for that community.

Deer pellet group data, hunter effort and harvest information, three successive mild winters, and anecdotal accounts all suggest the Unit 2 deer population is relatively high and stable, with record high harvests from RY2010–-RY2015. The number of non-federally qualified deer hunters in Unit 2 has trended upward since 2005, as have days of hunting effort and harvest by those hunters (figures 1–3). During RY2010–RY2015, the number of federally qualified deer hunters in Unit 2 also increased, but by a smaller amount. Although total effort by federally qualified hunters has declined from levels seen in the late 1990s, the number of deer harvested by those hunters has increased. The number of days of hunting effort required for a federally qualified hunter to harvest a deer has remained relatively low and stable over the last 10 years, and has generally been well below the number of days required for a non-federally qualified hunter to harvest a deer (Figure 4). From 1997–2016, hunting effort and harvest by federally qualified users in Unit 2 have remained stable or improved, despite increased hunting effort and harvest by non-federally qualified hunters.

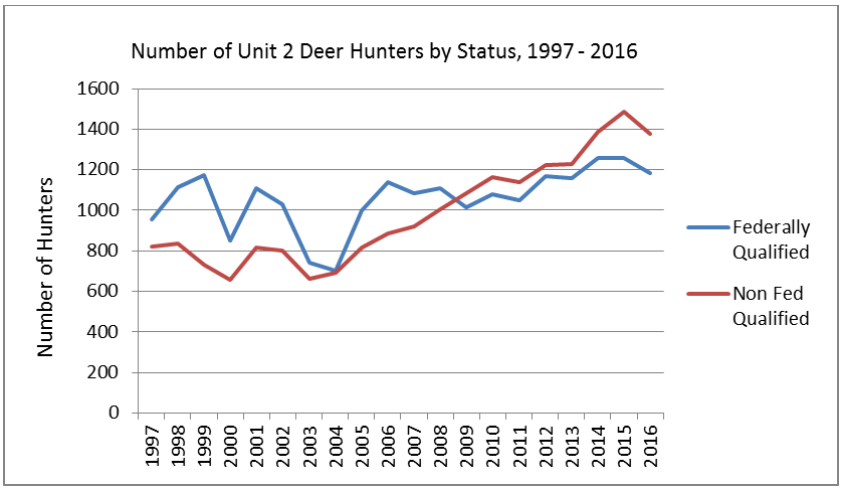


Figure 1. Number of federally qualified and non-federally qualified hunters hunting deer in Unit 2, RY1997 – RY2016.

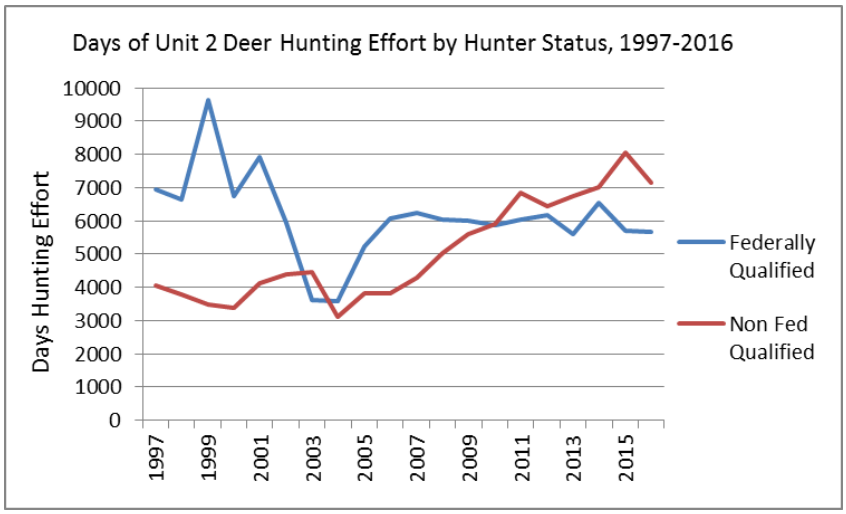


Figure 2. Days of hunting effort by federally qualified and non-federally qualified hunters hunting deer in Unit 2, RY1997–RY2016.

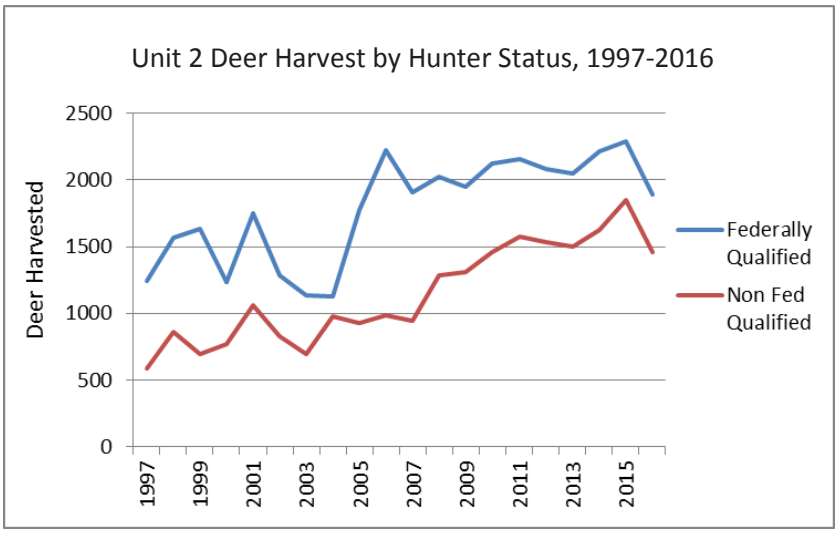


Figure 3. Deer harvested by federally qualified and non-federally qualified hunters in Unit 2, RY1997–RY2016.

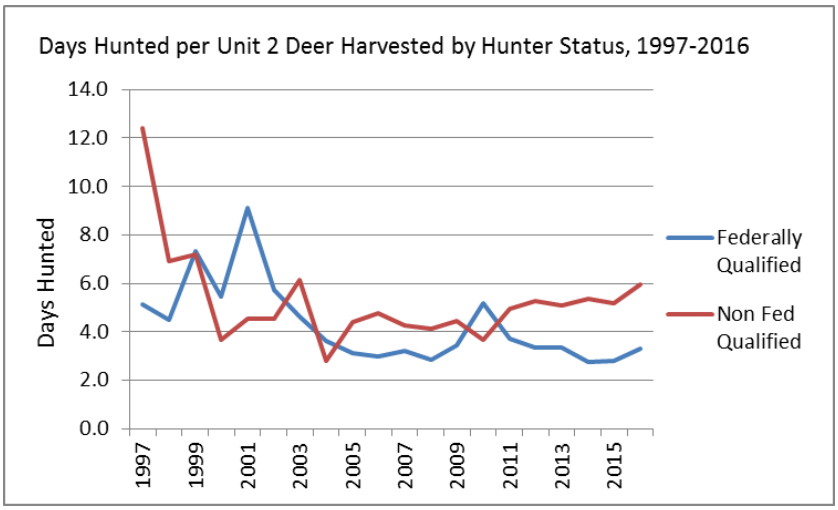


Figure 4. Average number of days hunted by federally qualified and non-federally qualified hunters per deer harvested in Unit 2, RY1997–RY2016.

Quantifying Need and Harvest

As noted above, deer pellet group data and hunter effort and harvest data indicate the Unit 2 deer population is high and stable. In the absence of a conservation concern, the guidance provided by ANILCA is to balance subsistence uses with other uses of fish and game. Adopting proposal WP18-01would substantially reduce harvest opportunity for non-federally qualified hunters, particularly hunters from Ketchikan, even though the amount necessary for subsistence (ANS) established by the Alaska Board of Game is being met (see below; ANS is 1,500–1,600 deer annually). The only quantitative

measure of subsistence use under federal regulations is obtained by monitoring changes in harvest by federally qualified users. Based on harvest ticket reports submitted to ADF&G from RY2011–RY2016, both total estimated harvest of Unit 2 deer and estimated harvest by federally qualified users have been high and consistent.

One way to gage the accuracy of harvest estimates calculated using mail-out deer hunter surveys or harvest ticket reports is to compare them with another source of harvest information. Such sources are rare, but in 1997 ADF&G conducted door to door subsistence surveys throughout Southeast Alaska (ADFG 1998). Those surveys asked about a variety of subsistence activities, including harvest and use of deer. The 1997 household subsistence survey coincided with the first year of ADF&G's mail-out deer hunter survey and offers a different view on the number of deer harvested in those communities.

The 1997 household subsistence survey was conducted with the cooperation of community members hired to visit other residents and help them answer survey questions in the comfort of their own homes. Surveys were completed at a representative sample of subsistence households in each community. The number of households surveyed in a community was based on population in the most recent census: Craig (1,764), Hydaburg (403), and Klawock (847). Percentages of households surveyed in Unit 2 ranged from 28% in Craig to 39% in Hydaburg. Table 1 summarizes the number of deer reported harvested in household surveys, total estimated harvest for each community based on household survey data, and total estimated harvest for the same year and community derived using data from ADF&G's mail-out deer hunter surveys.

Community	Number of Households Surveyed	Reported Deer Harvest by Surveyed Households	Estimated Total Deer Harvest for all Households	Estimated Total Deer Harvest From Hunter Survey
Hydaburg	51 (39%)	175	449	44
Craig	173 (28%)	963	2,889	243
Klawock	106 (35%)	503	1,437	220

Table 1. Reported and estimated Unit 2 deer harvest for three communities on Prince of Wales Island, 1997.

Although the household survey data in **Table 1** were collected twenty years ago, they are consistent with public testimony heard during the Unit 2 Deer Subcommittee meetings in 2003 and 2004. Household survey data and public testimony both suggest that deer harvest as estimated using ADF&G's mail-out hunter surveys and more recently, by harvest ticket reports, may greatly underestimate the actual number of deer harvested by residents of these communities.

Impact on Subsistence Uses: This proposal will reduce competition between federally qualified and non-federally qualified hunters for deer hunting and harvest opportunity on federal lands in Unit 2.

Impact on Other Uses: Opportunity for non-federally qualified hunters to harvest deer on federal public lands in Unit 2 would decrease. Bag limits for non-federally qualified hunters would be reduced from four bucks to two bucks and season length would be shortened by one week or longer.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for deer in Unit 2.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for deer in Unit 2 is 1,500–1,600 animals. The season and bag limit for GMU 2 is:

		Open Season	
Unit/Area	Bag Limit	Resident	Nonresident
2	4 bucks	August 1 – December 31 (Harvest ticket)	August 1 – December 31 (Harvest ticket)

Special instructions for the state hunt: Harvest tickets must be validated in sequential order, all unused harvest tickets must be carried when hunting, evidence of sex must remain attached to meat, and mandatory harvest ticket reports must be submitted within 30 days after the season closes.

Conservation Issues: Following several consecutive mild winters the deer population appears to be relatively high and stable.

Enforcement Issues: None.

Recommendation: ADF&G's recommendation is to **OPPOSE** this proposal because there is no evidence that hunting by non-federally qualified hunters has resulted in a biological concern for the deer population or affected harvest by federally-qualified hunters. Harvest reported by federally qualified subsistence us-

ers has increased over the last decade. Adopting this proposal would unnecessarily limit non-federally qualified users, particularly Ketchikan hunters, from deer hunting opportunity in Unit 2.

Current federal regulations provide substantially greater opportunity to federally qualified deer hunters in Unit 2 compared to non-federally qualified hunters, including 54 days when only federally qualified users are eligible to hunt on federal land, a higher bag limit, and a season that extends through January when deer are at low elevation or on the beach and more vulnerable to hunters. Federally qualified hunters have a bag limit of 5 deer, including one doe harvested after October 15 and may hunt on federal public land from July 24–January 31. In contrast, non-federally qualified deer hunters are required to hunt under state regulations with a bag limit of 4 buck deer and open season of August 1–December 31; however, most federal public lands are closed to hunting by non-federally qualified hunters from August 1–15.

As directed by Congress in Section 802 of ANILCA, subsistence uses of wildlife shall be the priority consumptive use on federal public lands "when it is necessary to restrict taking in order to assure the continued viability of a fish or wildlife population or the continuation of subsistence uses of such population." Section 815 of ANILCA provides that a restriction on taking wildlife for non-federally qualified hunters is only authorized if "necessary for the conservation of healthy populations of fish and wildlife, for the reasons in Section 816, to continue subsistence uses of such populations, or pursuant to other applicable law." None of those reasons apply. There is no conservation concern for the deer population, and no restrictions are needed to continue subsistence uses of deer. The deer population continues to be viable, as explained above. No other applicable laws support the proposed restrictions. There is no justification or legal authorization for adopting this proposal.

The Board should also consider the effect of proposal WP18-02 on the intended purpose of this proposal. Given the high numbers of deer and good hunter access to Prince of Wales Island, increasing the number of federally qualified users may contribute to the problem addressed by this proposal.

Literature Cited

ADF&G. 1998. Wild Resource Harvests in Three Prince of Wales Island Communities: Craig, Klawock and Hydaburg 1997. Alaska Department of Fish and Game, Division of Subsistence. 1998. 71p.

SEASRAC. 2006. Unit 2 Deer Management Final Report from the Unit 2 Deer Planning Subcommittee of the Southeast Subsistence Regional Advisory Council.

WRITTEN PUBLIC COMMENTS

RECEIVED
JUL 28 2017

PO Box 19233
Thorne Bay AK
July, 24, 2017

Dear Subsistence Board,

Please consider my comments to your proposed Regulations for hunting in Unit#2. I have hunted POW for over 35 years as a full time Resident and Retired 64 year old. The harvest needs to be Reduced as competition from outside hunters continues to be an issue - Also the doe season does not make sense for the health of our herd. Heres my views on the following proposals: There are 2 adults in my ~~house~~ household.

- WP18-01 - yes adoption
- WP18-02 - NO "
- WP18-07 - yes "
- WP18-08 - NO "

Thank you for your consideration of my comments Have a safe day!

Barnet Freedman
PID # P133161
LOT 481 Block 10
Thorne Bay Subdivision -

Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: WP18- 01 – WP18-13 pertain to Southeast Alaska

1 message

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 17, 2017 at 10:39 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, George Pappas <george_pappas@fws.gov>

---------- Forwarded message ----------
From: **Curtis Donald Thomas** <seafun@kpunet.net>
Date: Fri, Jul 14, 2017 at 8:01 AM
Subject: WP18- 01 – WP18-13 pertain to Southeast Alaska
To: subsistence@fws.gov

Dear sirs,

Please stop this craziness of creating new classes of citizens with special rights. I was born in Ketchikan and lived on Prince of Whales for 20 years. Someone in your organization is promoting restricting Sitka Black-tail harvest for some residents (only two deer instead of 4) and granting others more rights (5 deer, one doe, multiple permits, extended season, etc).

Recent action has already restricted access to our hunting grounds. Since I currently live in Ketchikan (a huge metropolis of 7,000 people), I cannot start hunting on POW until Aug 16th. The season starts August 1st and ends December 31st, unless you live on POW of course, then you can start in July and continue hunting into January (even people who just moved to the island from New York City).

Your continued segmentation our population is destructive. Please stop this nonsense. The constitution says we are **all equal under the law**. What gives you the right to change this and grant some Americans more rights than others.

Another crazy policy that your group implemented (maybe another group... there are so many Federal groups in Washing trying to determine what is best for us rural residents that one can not keep track). That policy is allowing someone who lives just down the road the ability to harvest 20 halibut per day. These fish average 30-40 pounds. That means some Alaskans can harvest over 500 pounds of halibut every day if they choose while others are limited to 2 fish (which is plenty). 20 fish per day is COMMERCIAL FISHING not sport or subsistence!!!!

I guess I will have to "Self Identify" as a POW resident... if it is good enough for sexual orientation in our military, it must be acceptable for residents that actually spent half of their life in the area you now say some relocated New Yorker has more rights to than I.

Crazy, Crazy, Crazy! You are attempting to fix a problem that does not exist. Please STOP this.

Curtis Thomas
8046 N. Tongass Hwy
Ketchikan, AK 99901

WP18–04 Executive Summary	
General Description	Proposal WP18–04 requests increasing the wolf harvest quota on Federal lands in Unit 2 from up to 20% to up to 30% of the most recent population estimate for the unit. *Submitted by: Southeast Alaska Subsistence Regional Advisory Council.*
Proposed Regulation	**Unit 2– Wolf (hunting)** *5 wolves.* ***The total annual harvest of wolves in Unit 2 should not exceed 30% of the most recent unit-wide, preseason population estimate.*** *Federal hunting and trapping season may be closed when the combined Federal-State harvest quota is reached. Any wolf taken in Unit 2 must be sealed within 14 days of harvest.* *Sept. 1– March 31* **Unit 2 – Wolf (trapping)** *No limit.* ***The total annual harvest of wolves in Unit 2 should not exceed 30% of the most recent unit-wide, preseason population estimate.*** *Federal hunting and trapping season may be closed when the combined Federal-State harvest quota is reached. Any wolf taken in Unit 2 must be sealed within 14 days of harvest.* *Nov. 15– March 31*
OSM Conclusion	**Oppose**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	**Support**

WP18–04 Executive Summary	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	

WP18–04 Executive Summary	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Oppose**
Written Public Comments	**6 Oppose**

STAFF ANALYSIS
WP18-04

ISSUES

Proposal WP18-04, submitted by Southeast Alaska Subsistence Regional Advisory Council (Council), requests increasing the wolf harvest quota on Federal lands in Unit 2 from up to 20% to up to 30% of the most recent population estimate for the unit.

DISCUSSION

The proponent seeks to increase the allowable take of wolves on Federal lands in Unit 2. The proponent is concerned that previous quotas implemented have been too conservative and that the reductions in those harvest quotas during the 2015-2016 and 2016-2017 hunting and trapping seasons were not reflective of the actual wolf population for Unit 2.

Existing Federal Regulation

Unit 2– Wolf (hunting)

5 wolves. Federal hunting and trapping season may be closed when the combined Federal-State harvest quota is reached. Any wolf taken in Unit 2 must be sealed within 14 days of harvest.	*Sept. 1 – March 31*

Unit 2 – Wolf (trapping)

No limit. Federal hunting and trapping season may be closed when the combined Federal-State harvest quota is reached. Any wolf taken in Unit 2 must be sealed within 14 days of harvest.	*Nov. 15 – March 31*

Proposed Federal Regulation

Unit 2– Wolf (hunting)

5 wolves. ***The total annual harvest of wolves in Unit 2 should not exceed 30% of the most recent unit-wide, preseason population estimate.*** *Federal hunting and trapping season may be closed when the combined Federal-State harvest quota is reached. Any wolf taken in Unit 2 must be sealed within 14 days of harvest.*	*Sept. 1 – March 31*

Unit 2 – Wolf (trapping)

No limit. ***The total annual harvest of wolves in Unit 2 should not exceed 30% of the most recent unit-wide, preseason population estimate.*** *Federal hunting and trapping season may be closed when the combined Federal-State harvest quota is reached. Any wolf taken in Unit 2 must be sealed within 14 days of harvest.*	*Nov. 15 – March 31*

Existing State Regulation

Unit 2 – Wolf (hunting)

5 wolves. Hides must be sealed within 30 days of harvest.	*Dec. 1-Mar. 31*

Unit 2 – Wolf (trapping)

No limit. Wolves taken in Unit 2 must be sealed on or before the 14th day after the day of taking.	*Dec. 1-Mar. 31*

5 AAC 92.008(1) the annual harvest of wolves in Unit 2 should not exceed 20 percent of the unit wide, preseason population as estimated by the department.

Extent of Federal Public Lands

Federal public lands comprise approximately 72% of Unit 2 and consist of 72% U.S. Forest Service (USFS) managed lands (see **Unit 2 Map).**

Customary and Traditional Use Determinations

The Federal Subsistence Board (Board) has not made a customary and traditional use determination for wolves in Unit 2. Therefore, all Federally qualified subsistence users may harvest this species in this unit.

Regulatory History

From 1915 through the early 1970s, a cash bounty was paid for wolves in Southeast Alaska (ADF&G 1997). Biological and harvest information has been collected on harvested wolves since the early 1960s. Harvest records from 1961–62 and from 1970–71 are derived from bounty payments. A mandatory sealing program under State regulation has been in effect since that time (ADF&G 1989). In 1996, the Alaska Board of Game adopted a harvest cap of 25 percent of the estimated fall Unit 2 wolf population which became effective during the 1997-1998 hunting and trapping season (Porter 2000). In fall 2000, in order to provide more hunting and trapping opportunity and to avoid future emergency order closures while improving harvest reporting, the Alaska Board of Game increased the harvest cap from 25 to 30 percent of the fall population estimate (Porter 2003).

In 1997, when the joint State/Federal harvest quota was implemented, the Board adopted Proposal WP97-08 requiring that all wolves taken in Unit 2 be sealed within 30 days of harvest. In November 2010, the Alaska Board of Game (BOG) adopted a regulation modifying the sealing time for wolves taken in Unit 2 under trapping regulations from 30 days to 14 days. As a result, the Board adopted Proposal WP12-19 which changed Federal sealing requirements for both hunting and trapping to align with the State's sealing requirement.

Over the years, several changes to wolf seasons have occurred. In 2001, the Board adopted WP01-05 requesting the Federal trapping and hunting season start dates be changed from Dec. 1 to Nov. 15 and shortening the seasons from Mar. 31 to Mar. 15. In 2003, the Board adopted WP03-10 with modification changing the Federal hunting season start date from Nov. 15 to Sept. 1, but not extending the season end date from Mar. 15 to Mar. 31. In 2007, the Board adopted WP07-15 with modification changing the Federal trapping season closing date from Mar. 15 to Mar. 31.

In March 2014, joint State and Federal in-season actions closed hunting and trapping for wolves in Unit 2 when the reported harvest approached the established quota for the 2013-2014 regulatory season. As a result of this harvest, as well as the pending petition to list the Alexander Archipelago wolf, the Alaska Department of Fish and Game (ADF&G) held public meetings in several Unit 2 communities before determining the 2014-2015 quota. As a result of these meetings, ADF&G and Unit 2 users agreed on a conservative management strategy to reduce the harvest quota from 30% to 20% of the fall population estimate. Following another consecutive mild winter, the reduced quota was reached by February 2015 and State and Federal managers closed their respective hunting and trapping seasons.

In January 2015, the Alaska Board of Game (BOG) adopted a regulation reducing the harvest guideline level for Unit 2 wolves from up to 30% to up to 20% of the unit-wide, preseason population as estimated by ADF&G. At that time the population was low and the goal of this change was to increase the population while still allowing meaningful harvest opportunity. Although the same proposal requested wounded or unrecovered wolves count against a hunter's harvest limit for the regulatory year, the BOG chose not to support that provision. Voluntary reporting of wounding loss is encouraged, and if ADF&G determines that any wolf was mortally wounded by a human induced cause, they would count it against the harvest quota (Scott 2015, pers. comm.).

In addition to the reduced harvest guideline level, during regulatory years 2015 and 2016 state and federal managers reduced the maximum allowable harvest quota for Unit 2 wolves by 50% as an additional conservation measure to account for unreported human-caused mortality. Unreported mortality, including wounding loss, escapes from traps, vehicle collisions, and illegal killing, has been identified as a potentially substantial cause of mortality among Unit 2 wolves (Person 2008, Roffler et. al. 2016). The goal of this management strategy was to increase the wolf population so it could support a greater harvest. Currently there is no population goal for Unit 2 wolves (Schumacher 2017, pers.comm).

Wildlife Special Action WSA15-13 requested pre-season closure of wolf harvest by Federally qualified subsistence users and non-Federally qualified users on Federal public lands in Unit 2. WSA15-13 was rejected by the Board, as ADF&G and USFS established a conservative harvest quota of 9 wolves for the

2015-2016 regulatory season after consultation with the four local Federally-recognized Alaska Native tribes, as well as several other users with local knowledge of Unit 2 wolf populations. The Board felt closure to subsistence and non-subsistence uses was not necessary in Unit 2 as the conservative harvest quota would result in a sustainable harvest and the Federal in-season manager has the delegated authority to close the harvest on Federal public land when the quota is reached.

The Alexander Archipelago wolf has been identified as a distinct subspecies of the gray wolf. In 1987, in preparation for the revision of the Tongass National Forest Land Management Plan (Forest Plan), the USFS convened an interagency task group to identify Management Indicator Species. The wolf was identified because it was wide ranging, uses a variety of habitats and monitoring predator/prey interactions was deemed important for analyzing the effects of timber management on deer (USDA Forest Service 1987). In 1993, a petition was received requesting that the Alexander Archipelago wolves of Southeast Alaska be listed as a threatened subspecies pursuant to the Endangered Species Act (ESA) of 1973 as amended. In 1997, the USFWS determined that a listing was not warranted at the time. USFWS's decision to not list the wolf was based on species-specific conservation strategies placed in the Forest Plan revision (USDA Forest Service 1997a). The Forest Plan revision identified three strategies to address wolf viability concerns: 1) long-term deer habitat capability, 2) habitat reserves, and 3) management of human-caused wolf mortality through the administration of road access and regulation of hunting and trapping (USDA Forest Service 1997b).

A Wolf Risk Assessment panel was convened in 1995 and 1997 to assess the three strategies. The panel found that the 1997 decision for the Forest Plan Revision would result in a high likelihood of sustaining viable wolf populations in Southeast Alaska (USDA 1997a). The 2008 Forest Plan increased the acreage of small Old-growth Reserves and changed management from "open road density" to "total road density" in the wolf standards and guidelines to account for foot access by trappers and hunters. The 2008 Forest Plan Amendment measures aimed to ensure adequate protection to sustain viable populations of wolves (USDA Forest Service 2008; Cole 2015).

In 2011, Greenpeace and the Center for Biological Diversity (CBD) submitted a joint petition to the USFWS to list the Alexander Archipelago wolf under the ESA. In 2014, the USFWS made a positive initial 90-day finding that listing the species as threatened or endangered "may be warranted," and a formal status review would be prepared. Following a lawsuit filed against the USFWS by Greenpeace and CBD that claimed the timing of the 12- month status review would be exceeded, the USFWS settled on a decision date of December 2015 for this finding. In January 2016, the USFWS published its finding that listing was not warranted.

In March 2016, an inter-agency technical committee with representatives from the USFS, USFWS and ADF&G was formed to identify wolf habitat management issues in Unit 2. The goal of the committee was to create a Wolf Habitat Management Program for Unit 2, owing to mandatory Forest Plan standards and identified wolf population concerns in Unit 2. The committee produced a document providing science-based recommendations for wolf habitat management in Unit 2, including aspects of deer habitat management, road management, wolf management and mortality, den management, and human dimensions to secure a sustainable wolf population in Unit 2 that is resilient to variation in prey

abundance, harvest, and land management practices. Recommendations from the document are intended to be useful in developing project measures and alternatives using public input through National Environmental Policy Act processes as well as in developing future State and Federal regulations (Wolf Technical Committee 2017).

Biological Background

Wolves likely moved into Southeast Alaska following the postglacial northward expansion and establishment of deer populations (Person et al. 1996). Wolves occur throughout the Southeast Alaska mainland and on all of the major islands except Admiralty, Baranof and Chichagof Islands in Unit 4. Wolves are well adapted to the island and mainland environment of Southeast Alaska, although densities on the mainland are generally lower than on maritime-influence islands. Wolves are proficient swimmers and regularly travel between adjacent nearby islands in search of prey (Porter 2006). Deer are the primary food source of wolves in Southeast Alaska (Lowell 2006), with wolf predation studies estimating that one wolf would take an average of 26 deer per year in an environment with no other food sources (Person et al. 1996). Other prey species include mountain goat, moose, small mammals, beaver, salmon and waterfowl (Szepanski et al. 1999).

Wolves are highly social animals and usually live in packs that include parents and pups of the year, some yearlings and often other adults. Pack sizes usually range from 6-12 animals, although packs of up to 30 individuals have occurred. Packs tend to remain within a home range used almost exclusively by fellow pack members with occasional overlap in the ranges of neighboring packs (Stephenson 1984).

Wolves generally breed in February and March with a female's first breeding occurring at age two to four (Mech et al. 1998). Litters averaging about four pups are born in dens during the last week of April through the second week of May (Person and Russell 2009). Adult wolves center their activities near dens while traveling as much as 20 miles away in search of food, which is brought back to the den. Wolf pups are weaned gradually during the summer. Wolves abandon the den after about eight weeks and live at sites above ground until early autumn when the entire pack roams a large territory for the rest of the fall and winter. By early winter the pups are capable of traveling and hunting with the adult pack members (Stephenson 1984).

Wolves live at low densities in structured populations of territorial packs (Mech and Boitani 2003). Meier et al. (2006) reported that 28% of wolves will leave their packs each year, and that most offspring eventually leave the pack. Dispersing wolves form new packs when they locate dispersers of the opposite sex from another pack and a vacant area to establish a territory (Rothman and Mech 1979). Porter (2006) reported that one radio collared wolf from Kupreanof Island was observed moving more than 120 miles overland and making several saltwater crossings. Person et al (1996) documented two different Unit 2 wolves travelling over 100 miles from Kosciusko Island where they were collared to southern Dall Island and southern Prince of Wales Island.

Wolf pack territories can overlap one another and change over time (Meier et al. 2006). As a pack makes its way around its territory, it may encounter and engage with other wolves at any time. A fight to the death can occur during such encounters. With high reproductive capacity, good survival of young, and

high dispersal rates, wolf populations are able to quickly respond to changes in prey abundance.

Home range estimates for wolves on Prince of Wales Island and adjacent islands in Unit 2 were derived from radio-telemetry data. Home ranges for packs averaged 97.3 mi^2 across all seasons and 39.2 mi^2 during the pup-rearing season (Person 2001). Home range size generally increases somewhat as prey abundance decreases, and vice versa. Wolves that disperse from their natal home range generally do so at between 1 and 3 years of age. Minimum dispersal distances in Unit 2 range between 4.4 and 156.4 miles and dispersal may involve crossing areas of saltwater (Person 2001). In wolf populations where mortality is high, lone wolves may be more successful in finding vacant territories in which to settle or in being accepted into an established pack (Ballard et a1. 1987).

Habitat

In parts of Unit 2, where road access is extensive, it is conceivable that a large increase in hunting and trapping could affect wolf numbers. Although not all of Unit 2 has road access, there may be some areas in Unit 2 where wolves experience heavier hunting and trapping pressure and as well as less deer for prey because of roads and prior logging in Unit 2 (ADF&G 1989). While an expanding road system and increasing human population have the most direct impact on wolves through increased hunting and trapping, the logging of old growth forest also reduces the carrying capacity of the area for deer, particularly during more severe winters.

The maintenance of large roadless and unfragmented areas, to function as old-growth reserves, and distribution of old-growth forest to maintain connectivity between them was one of the approaches, now known as the Tongass Conservation Strategy, undertaken early on during the Forest Plan revision to ensure long-term viability of wolves and other old-growth associated species in Southeast Alaska. Person et al. (1996) suggested that this maintenance of large, unfragmented and unroaded blocks of habitat within biogeographic areas where extensive timber harvest was planned would help mitigate the loss of deer habitat and the associated expected reductions in numbers of wolves. The reserves should be large enough to encompass core activity areas of at least one wolf pack (ADF&G 1997). These reserve components of the Tongass Conservation Strategy were rated highly by the Wolf Risk Assessment Panel (Iverson, 1997). The Tongass Conservation Strategy and the Wolf Risk Assessment Panel were reviewed for the 2008 Forest Plan Amendment (USDA Forest Service 2008, Cole 2015).

The influence of road access largely influences the human-caused mortality of wolves. Although Person (2001) believes the density of roads has the most influence on wolf harvest in Unit 2, the current total road density in Unit 2 is at 0.9 mi/mi^2 which is within the road density range identified for wolf (0.7 to 1.0 mi/mi^2) in the standards and guidelines for wolves in the Forest Plan (USDA Forest Service 2016). The road density is currently at 0.4 mi/mi^2 for Unit 2 and there have been measures taken to identify and reduce the current amount of open roads (closures identified through the Access & Travel Management process as well as the Big Thorne Environmental Impact Statement) (Bethune 2012).

Population indices

In the late 1960s to early 1970s there was believed to be more than one wolf for every 10 mi^2 (26 km^2) in Unit 2 based on sealing data and limited flight survey data (ADF&G 1989). Wolf populations on Prince

of Wales Island were thought to have remained high until the early 1970s when extreme winters decimated deer populations. During the years of low deer numbers, density estimates for Revillagigedo Island (east of Prince of Wales Island across Clarence Strait) showed a wolf density between 1 every 22 mi^2 (57 km^2) to 1 every 44 mi^2 (114 km^2) based on research conducted in the mid-1980s (ADF&G 1989). Wolf densities in Unit 2 were believed to be similar (ADF&G 1989). Wolf and deer numbers were thought to have remained at low levels in Unit 2 until the early 1980s when the deer population rebounded (ADF&G 1989).

Wolf populations are difficult to assess in Southeast Alaska due to the dense forest cover and because of their mobility. However, radio-telemetry studies have allowed for estimates to be made for a small road accessible portion of their range and extrapolated across the rest of Unit 2, with appropriate corrections made for differences in prey populations and habitat. For over two decades, ADF&G and the USFS have cooperated on wolf research in Unit 2. This research has enabled the collection of data concerning wolf distribution, movement and abundance within Unit 2 (ADF&G 2014).

As a result of the initial research during the 1990s, Person et al (1996) estimated the 1994 fall wolf population density representative of his study area (6,808 km^2 in one the most extensively roaded and logged areas of Unit 2) at 39 wolves/1000 km^2 reflecting a population estimate of 356 wolves with a 95% Confidence Interval (CI) of 148-564 wolves (USFWS 2015). This estimate, along with other findings related to natural mortality, led to the BOG establishing a harvest rate of up to 25% of the fall population estimate in 1997. When new findings suggested the natural mortality in Unit 2 was lower than initially thought, the BOG adopted an increased harvest rate of 30% in 2000 (ADF&G 2014).

During the early to mid-2000s, ADF&G made an effort to obtain an updated wolf population estimate and determined that the wolf population was approximately 326 animals which was similar to the estimate from 1994. State and Federal staff continued to use this population estimate to establish annual harvest levels of 90 wolves per season through 2010 (ADF&G 2014).

In 2010, both State and Federal managers, as well as some members of the public, believed the Unit 2 population had dropped from previous estimates. In response, ADF&G worked with the Southeast Alaska Subsistence Regional Advisory Council to lower the annual harvest quota from 90 to 60 wolves. This harvest quota remained in effect through the 2013 season (ADF&G 2014).

From 2012 to present, research was initiated to develop a more efficient and cost effective technique to estimate wolf numbers. The new research methods (hereon referred to as hair-board methods) included implementing hair-snare traps to collect wolf hair samples for DNA fingerprinting. The DNA collection has enabled the researchers to identify individual wolves via genotyping and allowed wolf population estimation in the project area using a state of the art mark-recapture technique (ADF&G 2014; Roffler et al. 2016). This hair-board method was done simultaneously with a traditional assessment using radio collared wolves for comparison (Roffler et al. 2016). The hair-board method and the concurrent traditional assessment data were additionally reported using the same area of projection and the same area plus the same methods of estimation, respectively, as used with the Person et al. (1996) estimate for comparison (Roffler et al. 2016).

Data collected during 2012 proved insufficient to allow development of a population estimate from the hair-board technique because there were not enough "recaptures," though a 2012 estimate was feasible and reported using the traditional radio collar methods (Roffler et al. 2016). Based on the same methods and smaller projection area used by Person et al. (1996), the population estimate for 2012 was 106 wolves.

Data collected in 2013 were sufficient enough for a population estimate to be generated for the defined study area within the central portion of Prince of Wales Island. Based on the hair-board methods for the Unit 2 project area, when compared to those estimated in 1994, the estimate declined by about 15 wolves per 1000 km^2 from 39.5 wolves/1000 km^2 to 24.5 ±6.8 wolves/1000 km^2 (ADF&G 2014; Roffler et al. 2016). This decline reflects a Unit 2 population estimate decline from 356 wolves (95% CI = 148-564) in 1994 to 221 wolves (95% CI = 130-378) in 2013.

Using the hair-board method again in 2014, the Unit 2 density estimate declined to 9.9±3.0 wolves/1000 km^2 reflecting a population estimate of 89 wolves (95% CI = 50-159) which suggests a 75% (standard error of 15%) decline in the population since 1994. The 2014 estimate was also calculated using the same area of extrapolation used by Person et al. (1996) for comparative value, resulting in an estimate of 67 wolves (95% CI= 38-120) for the smaller 1996 study area in 2014 (Roffler et al. 2016)

There are various potential reasons for the lower wolf estimate of 89 for the study area in 2014, including an increased take of wolves from the study area prior to the 2014 population estimate, decreases in deer abundance, availability of non-ungulate prey, increases in disease in wolves, increases in unreported wolf take and the possibility of a decrease in the vulnerability of deer to wolf predation during mild winters (ADF&G 2015) causing subsequent decreases in recruitment and survival of wolves. Though a number of these may contribute, the most likely cause is harvest rates combined with high rates of documented unreported human caused mortality (47% Person and Russell 2008; 38% Roffler et al. 2016; USFWS 2015) leading to unsustainable mortality in this population.

The decline in the population density estimate within the study area was anticipated based on harvest reports and observations by staff and the public. Based on these observations, at least one wolf pack, previously known to be in the study area, is believed to no longer be present. This assertion was corroborated by harvest records documenting 6 wolves taken from wildlife analysis areas within this pack's home range during the 2013-2014 regulatory year and one radio-collared wolf taken during autumn 2014. ADF&G believes that as long as harvest remains low and other factors like prey availability and habitat suitability remain unchanged, wolves will recolonize the vacant pack territory within the study area and future density estimates will be higher (ADF&G 2015).

Roffler's (2016) most current wolf density estimate of 12 wolves/1000km^2 is lower than other wolf densities in other parts of North America where deer are the primary prey species (range=28-70 wolves/1000km^2 as summarized in Person et al. 1996). Recent population declines identified for wolves in Unit 2 as well as concerns about future viability of this population (USFWS 2015) suggest conservative management as prudent. Several Unit 2 residents have expressed satisfaction with current wolf levels, with correspondingly higher deer encounters and deer harvest opportunities than were

experienced when wolf numbers were higher (ADF&G 2014).

Harvest History

Unlike the remainder of Alaska, Unit 2 wolf harvest is managed under a harvest quota by regulation. A Harvest Guideline Level (HGL) for Unit 2 wolves was set initially by the BOG in 1997 at 25% of the most recent population estimate. In 2000, it was raised to 30% following an analysis indicating lower levels of natural mortality in Unit 2 wolves than in wolf populations elsewhere. The proposal to reduce the HGL from 30% to 20% during the January 2015 BOG meeting came from ADF&G. After an apparent population decline, as well as ADF&G identifying that unreported take was a substantial factor in a study area within the road accessible portion of Unit 2, a HGL of 20% was proposed to the BOG to ensure conservative harvest management of wolves while still allowing for meaningful harvest opportunity (Schumacher 2017, pers. comm.).

Wolves can be harvested either with a firearm under hunting regulations or by trap, snare or firearm under trapping regulations (**Table 1**) with 93% of the harvest (2004-2013) taken by Federally qualified users (Scott 2015, pers. comm.). Wolf harvest is affected by local weather conditions and wolf abundance. Persistent freezing results in icing of traps and snares which can make them inoperative, and deep snow can bury snares and trail sets rendering them useless. Deep and persistent snow can also block vehicle access to many of the logging roads. Typically, the reported wolf harvest in Unit 2 has been highest from December through February (Bethune 2012).

Table 1. Unit 2 wolf harvest by method, 2006-2016 (Schumacher 2017, pers. comm.).

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
Firearm	14	18	7	3	4	6	11	11	3	3	8
Snare	5	12	7	7	4	1	13	11	4	4	12
Trap	19	6	10	13	12	21	28	35	22		9
Other											1
Totals	38	36	24	23	20	28	52	57	30	7	30

*2016 data is preliminary

Since 1985, most wolves (59%) have been harvested by hunters and trappers working from boats (Person and Russell 2008; Person & Logan 2012) with harvest typically occurring on State managed tidelands (below mean high tide line). Harvests by month (ranging from 0-27 wolves depending on the year and month) can be found in **Table 2** and by method of transportation used in **Table 3**.

Table 2. Unit 2 wolf harvest by month, 2006-2016 (Schumacher 2017, pers. comm.).

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
Sept	2					1					1
Oct		4		1					1	1	
Nov	1	4					3			2	6
Dec	2	7	2	5	2	8	8	6	1	4	23
Jan	4	13	2	7	10	4	12	27	8		
Feb	16	7	9	5	2	7	16	18	19		
Mar	13	1	11	4	6	8	13	6			
Apr				1		1					
Unknown									1		
Totals	38	36	24	23	20	28	52	57	30	7	30

*2016 data is preliminary

Table 3. Transportation used to harvest Unit 2 wolf, 2006-2016 (Schumacher 2017, pers. comm.).

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
Vehicle	14	16	18	5	6	9	29	28	6	5	10
Boat	14	19	6	6	5	17	23	29	22	2	18
4 wheeler	6	1		4	7				1		
Other ATV				8	1						
Snowmobile	2										
Foot						1					2
Airplane					1						
Other	2					1			1		
Totals	38	36	24	23	20	28	52	57	30	7	30

*2016 data is preliminary

Person and Russell (2008) identified illegal harvest of collared wolves, with the data suggesting an average of less than two study wolves per year were taken illegally during the study period (1993-1995 and 1999-2004) of an average of less than 4 study wolves that were killed by humans per year during that period. As a result, 47% of study wolf mortality due to human causes was categorized as illegal harvest. Roffler et al. (2016) determined that 38 percent of the wolves that died from human causes were unreported.

Effects of the Proposal

If adopted, this proposal would increase the harvest quota on Federal public lands in Unit 2 which would increase harvest opportunity for Federally qualified subsistence users. The proposal does not increase the number of wolves available to be taken from non-Federal lands under State regulations. The proposal would create divergence between State and Federal regulations, and would pose extreme difficulty for State and Federal managers that would be required to manage for two separate quotas in the unit. Based on the past population decline resulting from a similar harvest quota, the proposed harvest quota would likely lead to unsustainable harvests.

OSM CONCLUSION

Oppose Proposal WP18-04.

Justification

Since the proposal only increases available harvest on Federal lands, management of separate harvest quotas between State, private and Federal lands will be difficult for State and Federal managers as well as confusing for hunters and trappers.

Although recent action by the BOG reduced the quota to 20%, lower wolf population estimates prior to the past couple of seasons have resulted in further reductions to the quota to allow for sustainable harvest opportunity of wolves in the unit while rebuilding the population. Increasing the harvest quota back to 30% is likely to create conservation concerns for wolves. As such, adopting the proposal could violate established principles of wildlife management being contrary to the conservation mandates of Title VIII of ANILCA.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Southeast Alaska Subsistence Regional Advisory Council

Support WP18-04. The council deliberated long and hard on this proposal and carefully considered, in addition to the staff analysis, local knowledge of council members concerning wolves in Unit 2, public testimony heard at the Winter 2017 Craig council meeting, strong reasoned support from the four tribal governments on Prince of Wales Island, and excellent population and scientific information provided by Department of Fish and Game staff. Because of the importance of wolves for subsistence, past controversy over wolf management in Unit 2, and the delegation authority needed to implement the SERAC recommendation, the council's rationale and intent covers a number of points, including 'subsistence opportunity, management situation, delegation of authority, scientific rationale, setting a harvest guideline level, long term management of Unit 2 wolf, and the need for action.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-04: This proposal, submitted by the Southeast Alaska Subsistence Regional Advisory Council, would establish a federal Guideline Harvest Level for wolves in Unit 2 of up to 30% of the most recent population estimate, thus increasing the total allowable annual harvest of wolves on federal lands in Unit 2 by federally qualified users.

Introduction: Since the mid-1950s hundreds of thousands of acres of productive old-growth forest have been clearcut on federal, state, and private lands and over 2,500 miles of roads have been built in support of the timber industry in Unit 2. Clearcutting reduces the winter carrying capacity for deer, which are the primary prey of wolves, and road construction greatly increases access for hunting and trapping.

Following several years of record high harvests of Unit 2 wolves, which peaked at 131 wolves in 1996, the Alaska Board of Game adopted a Guideline Harvest Level (GHL) for this population in 1997, which was initially set at 25% of the preseason population estimate (5 AAC 92.008). Based on an analysis by ADF&G indicating natural mortality for Unit 2 wolves was lower than in other populations, in 2000 the Board of Game raised the GHL to 30%. After years of generally declining harvest, quantitative surveys in 2013 and 2014, and anecdotal accounts that wolves were less abundant than in the past, in 2015 the Board of Game reduced the GHL to 20% of the preseason population estimate.

The goal of reducing the GHL was to offer some harvest opportunity while allowing the population to rebuild to where it could support a greater harvest. Additionally, ADF&G also wanted to establish that

existing regulations were sufficient to sustainably manage the population and that over-exploitation by humans, including unreported human-caused mortality, were not threats to persistence in light of a second petition to protect the population under the ESA. This management strategy was successful. From a low estimated at 89 wolves in fall 2014 the population rebounded to an estimated 231 wolves by the fall of 2016.

To date harvest of Unit 2 wolves has been managed under state and federal trapping regulations with a joint harvest quota derived using the state GHL. The federal wolf hunting season opens on September 1 and federal trapping season opens on November 15. State hunting and trapping seasons both open on December 1. Historically, little harvest occurs before trapping season opens, with the majority of harvest in January, February, and March. In years when reported harvest has approached the joint harvest quota (GHL x population estimate), state and federal managers have used their in-season management authority to simultaneously close hunting and trapping seasons. Emergency orders closing the seasons early were issued in regulatory years 1999 and 2013–2016.

Adopting this proposal would alter management by creating a separate higher harvest quota for federally qualified users trapping on federal lands than for anyone trapping on state and private lands. As a result, harvest quotas would be reached and hunting and trapping seasons would be closed on state and private lands earlier than on federal land. However, that closure would have little effect on regulating harvest because federal and non-federal lands are interspersed throughout Unit 2 and it is likely that virtually all Unit 2 wolves are vulnerable to trapping on federal land. This proposal would diminish the state's ability to manage harvest of Unit 2 wolves on non-federal lands.

Impact on Subsistence Uses: This proposal would increase the number of wolves that can be harvested in Unit 2 and allocate more opportunity to federally qualified subsistence users.

Impact on Other Uses: By allocating greater harvest opportunity to federally qualified users, this proposal is expected to reduce the opportunity of non-federally qualified users, which will be regulated by a lower harvest quota.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for wolves in all of Unit 2.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal con-

ditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

For wolves in all Southeast Alaska units with a harvestable portion, the ANS is 90% of the harvestable surplus.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
2	Hunting - 5	December 1 – March 31	December 1 – March 31
	Trapping- None	December 1 – March 31	December 1 – March 31

Special instructions: Wolves taken under a hunting license must be sealed within 30 days of kill. Wolves taken under a trapping license must be sealed within 14 days of kill.

Conservation Issues: For the purpose of managing harvest, Unit 2 wolves are considered an insular population with less immigration than non-insular populations. Over the last 30 years 67 wolves have been radio collared in Unit 2, and their movements monitored. No collared wolves have emigrated from Unit 2, and genetic studies suggest low rates of immigration (Weckworth et al. 2010, Weckworth et al. 2015, Cronin et al. 2015). Nonetheless, collared wolves travelled extensively throughout the unit, regularly swimming among islands, which supports managing Unit 2 wolves as a single population.

Unit 2 wolves have been petitioned for listing under the Endangered Species Act (ESA) twice. Although both petitions were found to be unwarranted by USFWS, the concerns cited in those petitions remain, including a high rate of human-caused mortality, greatly increased access for hunting and trapping, and declining habitat capability for deer. ADF&G believes future petitions to list Unit 2 wolves are likely.

To successfully and sustainably manage wolves in Unit 2 with broad public support, reliable population estimates, reasonably complete and timely accounting of human-caused mortality, and widely accepted population and harvest goals are needed. Because the area is heavily forested, accurate estimates of wolf numbers are impossible to obtain from standard aerial surveys, and the number of wolves in the population must be estimated. Person et al. (1996) estimated Unit 2 wolf abundance based on movements, home range size, and aerial counts of packs with at least one collared member. More recently Roffler et al. (2016) estimated abundance of Unit 2 wolves using a non-invasive DNA-based mark-recapture technique and compared estimates acquired using that technique with those of Person et al. (1996). She found the DNA-based technique to be more quantitatively robust, precise, and repeatable than the "collar and count" method. The DNA-based mark-recapture technique is currently the most unbiased and accurate method available for quantifying wolf abundance in Unit 2.

Historically a high proportion of Unit 2 wolf mortality has resulted from human causes, primarily trapping. Current state and federal regulations require that all wolves trapped in Unit 2 be sealed within 14

days of the kill. Person and Russel (2008) and Roffler et al. (2016) both identified unreported human-caused mortality (wolves that were shot or escaped from traps and not recovered that later died from their injuries, vehicle collisions, and unlawful hunting or trapping) as an additional and significant source of mortality: 47% and 38% of human-caused mortality, respectively.

Documenting unreported mortality usually requires having a substantial number of radiocollared wolves in a population in order to document mortalities and aid in locating carcasses so cause of death can be determined. Currently there are too few wolves collared in Unit 2 to estimate unreported mortality. Decisions by state and federal managers to withhold 50% of the GHL during RY2015 and RY2016 to account for unreported mortality reflects a conservative approach to management following low population estimates in fall 2014 and fall 2015 and a known inability to detect unreported mortality. With evidence of a growing wolf population and greater cooperation from trappers, in RY2017 state and federal managers set the harvest quota at the full 20% GHL.

Unlike deer and black bears, there are no population or harvest objectives for Unit 2 wolves. However, the abundance and appropriate management of wolves in Unit 2 have been key points of contention among hunters, trappers, and conservation groups for decades. Deer are prized by hunters from around the region and are an important subsistence food for local residents. Wolves are believed to influence the abundance of deer, and many deer hunters view wolves as competitors for deer. Consequently deer hunters argue for a management strategy that keeps wolf numbers low. Unit 2 wolves have been petitioned for listing under the ESA twice, so conservationists within and outside Alaska take a keen interest in ensuring the Unit 2 wolf population remains robust and sustainably managed. State and federal laws include mandates to manage for sustainable and harvestable populations, but without broadly accepted numerical thresholds for managing the population, managers lack the guidance needed to craft a management strategy that satisfies public desires.

A management plan developed through a stakeholder process involving management agencies and boards, local governments, and a wide spectrum of the public would provide direction for the management of Unit 2 wolves. A successful management strategy should include science-based numerical thresholds for the population, agreement on how the population will be estimated, and a list of management options for when the population is within, above, or below the population objective. Such a plan would provide all stakeholders with predictability and a common understanding of wolf management in Unit 2. Creating a separate federal GHL without first establishing a management strategy for this population will only complicate management. During 2018 ADF&G plans to develop a management plan with input from the US Forest Service and local Unit 2 stakeholders, including the RAC. That plan will be submitted to the Alaska Board of Game during its January 2019 meeting with the goal of implementing the plan prior to the 2019 hunting and trapping seasons.

Enforcement Issues: Adopting this proposal would result in different state and federal harvest quotas, and therefore season lengths, for users trapping on state and private lands, compared to federally qualified users trapping on federal lands. Unreported harvest, including unlawful trapping, has been identified as a management concern for wolves in Unit 2.

Previously two Alaska Wildlife Troopers and one US Forest Service enforcement officer were stationed in Unit 2, but currently one Alaska Wildlife Trooper is the only enforcement officer for the entire unit. With diminished enforcement capability it is unlikely that an early closure of hunting and trapping on state and private lands, which are dispersed throughout federal lands, could be effectively enforced if the federal season remains open due to a higher GHL.

Recommendation: ADF&G's recommendation is to **OPPOSE** this proposal because establishing a more liberal GHL on federal lands effectively raises the annual harvest quota for the entire Unit 2 population and the resulting harvest is expected to exceed the state GHL in most years. ADF&G believes that additional time is needed to establish a management strategy that is sustainable and satisfies public needs before considering liberalizing the GHL.

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WRITTEN PUBLIC COMMENTS

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Comments on Proposal WP 18-04

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:52 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Larry Edwards** <Larry@ltedwards.com>
Date: Thu, Aug 3, 2017 at 8:54 PM
Subject: Comments on Proposal WP 18-04
To: subsistence@fws.gov

Dear Mr. Matuskowitz & FSB members

Please consider my attached comments on Proposal WP 18-04 ("Wolves Increase annual harvest quota").

Thank you,
-- Larry

Larry Edwards
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Larry Edwards

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August 3, 2017

(Attn: Theo Matuskowitz)
Federal Subsistence Board
Office of Subsistence Management
Anchorage, Alaska
via e-mail: subsistence@fws.gov

Subj: Comments on Proposal WP 18-04 (re: changing the cap on wolf take in GMU2)

Dear Mr. Matuskowitz and FSB members;

These are timely comments on Proposal WP 18-04, which is proposed by the Southeast RAC and is now before the Federal Subsistence Board for consideration. The proposal, which was issued by the Southeast RAC at its March meeting, would raise the allowable annual harvest of wolves in Unit 2 to 30% of the most recent unitwide, preseason population estimate. This cap is presently 20%.

I urge the Board to deny the proposal, for the following reasons: (1) since at least 2010 management of the wolf hunting/trapping seasons in GMU2 has proven to be highly problematic for conservation of the population, and a solution has not yet been found to the problems involved; (2) despite the very low population of GMU2 wolves in recent years (with small recovery indicated in the fall 2015 estimate), deliberate conduct by trappers in the 2016/2017 season caused the reported take to exceed the season quota by a factor of 2.5; (3) there is an identified conservation concern for GMU2 wolves, notwithstanding the Southeast RAC's statement in its WP 18-04 that it "anticipates no conservation concern";[1] and (4) the motive for the RAC's Proposal is largely that resident subsistence deer hunters on Prince of Wales Island desire greater success; however, the RAC focused only on predation by wolves in disregard of several other important factors of hunting success.

Details for these reasons follow, numbered as above.

1. GMU2 wolf management is highly problematic and as yet unresolved.

Two very substantial problems confront management of the wolf hunting/trapping seasons in GMU2. Under both the present and proposed regulations, the management cap is based on "the preseason population estimate." However, for technical reasons this population estimate is for the number of wolves that existed one year prior. During that one-year delay the most recent hunting/trapping season and one winter occur. Lacking an estimate that is fresh, a management decision adverse to conservation of the population is quite possible. Especially with a low wolf population as at present (and additionally with the potential for a sex-ratio imbalance with a low number of females as occurred in the estimate for fall 2014), the management instrument is blunt and dangerous.

Secondly, according to first-person testimony by Mike Douville[2] at the Southeast RAC's March 2017 meeting, several GMU2 trappers intentionally "gamed the system" during the 2016/2017 season, for the purpose of exceeding the quota of 11 wolves before an emergency closure could be issued. [SE RAC meeting transcript at 190-197]. To accomplish this:

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[1] See the RAC's statement in the last sentence of its WP 18-04.

[2] Testimony, as a private citizen from the witness table, by Southeast RAC member Mike Douville.

> "we weren't turning in any wolves until the 14 days were up, so they had no idea of what we were doing. And we purposely did that ... to get the quota,[3] which was what we wanted to do." [Id. at 193].

By "quota" he meant the 20% in the regulation (which is, "the annual harvest of wolves in Unit 2 should not exceed 20 percent of the unitwide, preseason population") without any deduction for unreported wolf take. For the estimated population of 108 wolves the 20% *regulatory cap*[4] resulted in a *gross quota* (from human-caused losses of all kinds) of 22 wolves. An *reported-harvest quota* was then set at 11 wolves, by deducting a 50% buffer for unreported take (e.g. wounding loss, vehicle strikes on roads, and illegal take). This amounted to being an *reported-harvest cap* of 10%. The trappers "gamed the system" to try to double that, aiming for a reported harvest of 20%.

The result of the trappers' subterfuge was a total reported take (sealed skins) of 28 wolves, or 26% of the (year old) population estimate (28/108). This greatly exceeds the 20% *regulatory cap*, and nearly exceeds ADF&G's assumed safe level of take from all human-caused mortality, which is 28% (i.e. the *overall cap*). ADF&G's 2015 Board of Game Proposal 14 said this to justify changing "the harvest guideline level" (or *regulatory cap*) from 30% to 20%:

> In studies of numerous wolf populations, human-caused mortality of approximately 28% has been shown to be sustainable. On Prince of Wales, it has been suggested that unreported harvest may be substantial.

The result of trappers "gaming the system" is that <u>just the reported harvest alone</u> accounted for nearly all of the entire assumed-safe 28% *overall cap*. This left grossly insufficient margin for unreported take. A 2017 interagency report on GMU2 wolves notes that Person & Russell (2008) estimated unreported human-caused mortality at 50% of the total human take in GMU2, and that "more recent data suggest that 40%-50% of GMU 2 wolf mortality still results from unreported human causes." [Wolf Habitat Management Program: GMU 2 Recommendations, March 2017, at 23]. ADF&G has found similar rates of unreported take of deer and black bear in GMU2,[5,6] which supports that conclusion.

Further, Douville's testimony included threats for continuing subterfuge by himself and other GMU2 trappers:

> ... unless some of this gets corrected, it's going to get worse down the road ... so we need to correct the 20 percent part. [SE RAC transcript at 193].

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[3] The actual quota (a number of animals) was for a harvest of 11 wolves.

[4] Terms of art in *italics* are provided to distinguish the various quantities involved. The existing regulatory terminology lacks necessary distinction and has led to regulatory mistakes in the past.

[5] ADF&G has found a similar rate of illegal take for Prince of Wales black bears: "Other factors that managers must consider are wounding loss and illegal kills. <u>Fifty percent additional mortality</u> in 2005 (<u>which the department suspects may be reasonable on POW based on radio collared bears</u>) ...". [Chapter 5: Black Bear Management Report from: 1 July 2010 to 30 June 2013, for Prince of Wales and adjacent islands, at 5-9. http://www.adfg.alaska.gov/index.cfm?adfg=wildliferesearch.smr20145]

[6] ADF&G has found a similar rate of illegal take for GMU2 deer: "We believe that Unit 2 has one of the highest illegal and unreported harvest rates in the region, estimated to be equal to the legal harvest (Table 5). That estimate is based on anecdotal reports, interviews with law enforcement personnel, and fates of radio-collared deer. If that estimate is correct, over 4% of the estimated 75,000 deer in Unit 2 may be illegally harvested each year. This high illegal take is likely due in large part to the extensive and remote road system and few law enforcement personnel patrolling the unit." (ADF&G 2015. "ADF&G_2015__Deer Management Report of Survey-Inventory Activities, 1 July 2012–30 June 2014", at 4-5. http://www.adfg.alaska.gov/static-f/research/wildlife/speciesmanagementreports/pdfs/deer_smr_2015_full_report.pdf)."

> ... you will have a certain amount of civil disobedience and they will take matters into their own hands. And, you know, I don't care what kind of regulations you can make. We'll make our own, you know, that sort of thing. [Id. at 194].

Conclusions: The management situation demands a conservative regulatory limit because of the one-year delay in producing a wolf population estimate, because of 14-day reporting deadline which allows "gaming the system", and because subterfuge and threats are dangerous to wolf conservation and otherwise should not be rewarded. WP 18-04 is not a solution to these problems, and would encode management that would be contrary to conservation of the GMU2 wolf population.

2. The GMU2 wolf population remains low, and the harvest quota was exceeded by a factor of 2.5 in the 2016/2017 season

Details for reason no. 2 have largely been covered above already.

3. A conservation concern has been identified for GMU2 wolves, notwithstanding that the Southeast RAC "anticipates no conservation concern

The concluding statement in the US Fish & Wildlife Service's 2015 Status Review for the Alexander Archipelago wolf is, "[T]he persistence of the GMU 2 population is desired and requires careful management actions and decisions to ensure its future health."

The Service also pointed out in its 2016 comments on the Tongass Land Management Plan Amendment DEIS that, "Implementation of existing standards and guidelines intended to protect wolves from unsustainable harvest and habitat loss appears to be inadequate for the wolves on Prince of Wales, given the population's documented decline." Cited were problems in the wolf standards and guidelines regarding road density and deer habitat capability in GMU2 and the lack of a wolf habitat management program. No changes to the standards and guidelines were made in the TLMP Amendment, adopted later in 2016. Although a wolf habitat management for GMU2 has since been convened, its considerations and recommendations are thus far incomplete.

The identified need for "careful management and decisions" for the GMU2 wolf population and the above continuing problems with habitat management place all the more importance on the need for conservative management of wolf hunting and trapping in the unit, especially in view of present low population.

4. The proposal is motivated by desire for higher deer hunter success; however, wolf predation became the RAC's focus, while ignoring other factors of importance

An important consideration is why the trappers pushed the reported take of wolves into a factor-of-2.5 exceedance of the season's quota. From Mr. Douville's testimony to the RAC this March, it is apparent that the trappers' action and this Proposal are directly about deer and only indirectly about wolves. He worries that while POW residents depend on deer [SE RAC 3/15/17 transcript at 193], the deer harvest and number of off-road hunters are increasing [Id. at 191] and that deer numbers are going down [Id. at 195]. He suggests a need to limit hunters from off-island to provide more deer for island residents. [Id. at 192]. While he is concerned about establishing a different balance been deer and wolf numbers [Id. at 191, 193, 194 & 197], it seems that he and other trappers have overlooked other factors as either a cause of insufficient subsistence hunter success or the subject of a solution.

The following relevant quotes concern those other factors, and are from the latest ADF&G deer management report for GMU2 (issued in 2015 for July 2012 through June 2014):[7]

> Despite abundant deer, historically high harvests, and liberal seasons and bag limits, hunters from rural communities continue to complain about their inability to meet their subsistence needs. In some cases data from hunter reports substantiate those concerns. Among rural residents there is a perception of increased hunting pressure. The number of hunters for this reporting period (2,468 and 2,459 in RY12 and RY13, respectively), are the highest in the last 10 years (RY02–RY11), and 22% higher than the 10-year average (Table 1). … Road closures may direct the same number of hunters into smaller areas, affirming the perception of increasingly crowded hunting conditions. … In addition, as clear-cuts regenerate, deer become less visible, fueling speculation that fewer deer are available for harvest. [Id. at 4-4].
>
> As black bear hunting opportunities diminish on POW many lodges, outfitters and guides may be shifting focus to deer hunting. Over the past 5 years the ADF&G office in Craig has noted an increase in nonresident inquiries about deer hunting in Unit 2, particularly from hunters interested in taking a Sitka black-tailed deer as part of their North American "deer slam." [Id. at 4-3, 4].
>
> [A]necdotal evidence and testimony from local residents suggests that the doe harvest by federal subsistence hunters is likely substantially under-reported. [Id. at 4-4]. For both sexes, "[w]e believe that Unit 2 has one of the highest illegal and unreported harvest rates in the region, estimated to be equal to the legal harvest. [Id. at 4-5]. Flynn and Suring (1989) reported that actual mortality from legal hunting could be 38% greater than the estimated harvest because of unknown or unreported crippling loss. Field observations and voluntary reports of wounding loss suggest that this estimate might be conservative. [Id.].
>
> Conclusions & Recommendations. According to estimates based on harvest ticket reports, the Unit 2 harvest objective of 2,700 deer per year was exceeded during both years of this reporting period. In fact, anecdotal accounts from hunters and public testimony during a multi-agency Unit 2 deer planning effort in 2005 (Unit 2 Deer Planning Subcommittee 2005) suggested that we probably continue to significantly underestimate the total number of deer harvested because illegal and unreported harvest appear to be substantial. If that is the case, actual harvest may be more than double the harvest objective. [Id. at 4-6].

In addition, the loss of deer to black bear predation is likely much greater than the loss to wolves, especially for the last several years when wolf numbers have been quite low. In a recent study involving radio-collared deer:

> The largest source of mortality … was from hunting, followed by malnutrition … and black bear predation … . Wolf mortality was not recorded for adult deer monitored during this study, despite wolf predation acting as a major source of mortality for deer monitored in the same study area 10 years previously (Person et al. 2009). [Gilbert, S. 2015, PhD. dissertation at pdf-74].

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[7] http://www.adfg.alaska.gov/static-f/research/wildlife/speciesmanagementreports/pdfs/deer_smr_2015_3_chapter_4_unit_2.pdf

> Summer fawn survival was the lowest survival rate, with more than half of all fawns dying before three months of age on average (Table 3.1), primarily from bear predation. [Id. at pdf-78].
>
> I focus on Sitka black-tailed deer (Odocoileus hemionus sitkensis) in Southeast Alaska, where adult female deer face predation by both wolves (Canis lupus) and black bears (Ursus americanus), whereas fawns face predation primarily by black bears. Wolves are relatively rare and highly cursorial, whereas black bears are more common and are mostly ambush predators. Prey animals can be more sensitive to predation risk from ambush rather than cursorial predators (Preisser et al. 2007; Schmitz 2008); Nevertheless, the abundance (Alaska Department of Fish and Game 2011) and omnivorous diet of bears likely make them difficult to avoid, particularly before the arrival of salmon in late summer (Campbell et al. 2012). [Id. at pdf-101].

In summary, the number of hunters is high and increasing, with many coming from off-island. Road closures are concentrating hunters, increasing competition. At the same time, in many places, regenerating clearcuts now make deer less visible, making it seem there are fewer deer than previously. Wounding loss and poaching of deer are high in GMU2, and humans are the greatest cause of deer mortality. Additional deer mortality from bears exceeds mortality from wolves. These other factors need to be considered with respect to subsistence needs, instead of jumping to a liberalization the existing wolf harvest regulation.

Conclusion

WP 18-04 should be denied. The GMU2 wolf population remains at a low number, and management of the hunting/trapping season is greatly frustrated by the one-year technical delay in estimating the population and the 14-day allowance for reporting take. The 14-day allowance allows trappers to greatly exceed an established season quota, by a multiple margin. The trappers have threatened, through their representative, to continue to their subterfuge of the regulation if it is not changed, and such threats should not be rewarded.

A conservation concern for the GMU2 wolf population has been identified by government agencies. Unreported takes of wolves, deer and bear are all very high in GMU2, unreported take of wolves must be fully account for, and with ADF&G's assumed safe level of total human take (28% of the population) must be effectively maintained. There is no need to liberalize the wolf regulation, because the main motive for doing so is to provide more deer for subsistence hunters. Other more important factors concerning competition between resident and off-island deer hunters and non-wolf causes of deer mortality need to be considered first. See also Brinkman et al. 2007.[8]

Please vote No on WP 18-04

Sincerely,



Larry Edwards

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[8] Brinkman et al. (2007), "Influence of hunter adaptability on resilience of subsistence hunting systems", specific to Prince of Wales Island.
http://scholarcommons.usf.edu/cgi/viewcontent.cgi?article=1039&context=jea

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: comments on proposal WP 18-51, 18-03,18-04, 18-05, 18-24

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 1:55 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Sharon Alden** <fwxsca@yahoo.com>
Date: Fri, Aug 4, 2017 at 1:52 PM
Subject: comments on proposal WP 18-51, 18-03,18-04, 18-05, 18-24
To: "subsistence@fws.gov" <subsistence@fws.gov>

To: Office of Subsistence Management
Attention: Theo Matuskowitz
From: Sean McGuire
Re: comments on proposal WP 18-51, 18-03, 18-4, 18-5, 18-24

I am opposing proposal WP 18-51 There should be no human food or any human substance to bait any animals. This is so basic. The last thing we want is to habituate bears or any wild animal to human food. This is an ethical as well as a safety issue. The last thing we want to see is the federal baiting regulations aligned with the state of Alaska's. The State baiting regulations are painfully out dated and present a glaring safety issue.

I am opposing proposal WP 18-03 the extended hunting and trapping season in game unit one. Over kill.

I am really opposed to proposal WP 18-04. Why in the world would you want to put more pressure on a wolf population that's already in trouble this appears to be contrary to the basic concept of wildlife management?

I am also opposing proposal WP 18-05 relates to my opposition to WP18-04.

I am also opposing in the strongest possible terms proposal WP 18-24
To heard wildlife with snow machines is one of the most unethical things I can imagine and the backlash would be harsh.

Thank you for your attention
Sean McGuire
159 Kniffen Rd
Fairbanks, Ak.
ph 907-888-0124
email fwxsca@yahoo.com

August 1, 2017

TO: Federal Subsistence Board 4 pages
Attention Theo Matuskowitz
FR: Alaskans FOR Wildlife, Jim Kowalsky, Chair
RE: Comments of proposals 18-03; 18-04; 18-05
4 pages

Alaskans for Wildlife is a statewide member Alaska organization promoting naturally occurring wildlife through education and advocacy and is headquartered in Fairbanks.
We wish to offer comments on proposals 18-03; 18-04; 18-05 and 18-14.

18-04 - to increase the wolf quota take from 20% to 30% of the estimated population in GMU 2.
We ask that this change be rejected. The population of wolves is very low and efforts to enforce past quotas have been very poorly managed. An article detailing a management failure for this population of wolves in the March 14, 2017 of the Ketchikan Daily News reveals 26 wolves were harvested VS. the quota of 11, exceeding 2.6 times the quota. The quota has also been exceeded prior years. In 2016 an ADFG decision to close was made on 12/16 through a press release announcing an Emergency Closure issued 3 days later, giving trappers another 14 days to retrieve traps and have hides sealed.

The final take is 28 plus illegal and unreported beyond that. Illegal past takes are reported to be as high as half of legal take. ADFG Regional Supervisor Ryan Scott is quoted in the article thus: "There's delay in reporting…it's part of the process…it's a difficult process." We note the ADFG responsibility of the management of this hunt is essentially out of control and an abject failure. This hunt should in fact be closed completely given the admitted inability to manage it and the need for this population to recover to a normal historic level.

18-03 To extend the wolf season in Units 1A and 1B. We note the inability to manage as a matter of record outlined in the above explanation as a principle violated that very likely extends to these units and should not be repeated here made worse by poor management. We urge this proposal to extend the season be denied.

18-05 No limit for trapping wolves GMU 1. This is excessive and also is subjected to noted generally failed management as a matter of record and should be denied.

18-24 Use of snowmachines to "position" wolverines, wolves and caribou is vigorously opposed. The proposal would allow, nay, encourage, chasing ...not "positioning"....wildlife to exhaustion and amounts to nothing more than extreme gross harassment. That can not be identified as a tradition. To permit what's proposed here will earn subsistence a deserved very poor reputation in very high negatives and quickly. It must not be enacted. It is a virtual kiss-of-death for subsistence proposal.

In closing we have a word of advice. Upon reading the 125 or so pages of the transcript of the March 2017 Southeast Regional Council meeting, it is especially disturbing that no recognition or even a hint of acknowledgement of the fact that these are public lands belonging to all Americans was anywhere to be found. As you deliberate these proposals, we, Alaskans FOR Wildlife , wish to emphasize that there is a very broad interest in Alaska's federal public lands and its wildlife. Do not treat wildlife on these lands as a sole possession.

Not even a hint of the broader pubic interest and values is present in the regional council discussion including by state ADFG and federal agency personnel participating. Wr see none in the proposal justifications either. We have real fear that this insular attitude prevails throughout, and if we are correct, this is wrong and eventually will cause troublew for the subsistence populations involved, promise.

We urge all involved including agency managers and regional council leadership and members that you all please must consider the big picture if you are to survive and flourish in the public eye. Be assured that the proposed actions and implementation and failures are being carefully watched. Social media for one will capture yoiur actions and make life very difficult over a short time. Please act with wisdom and a genuine recognition that, federal subsistence law notwithstanding, you are all obligated to share public lands and the riches that dwell there.

Thank you for considering our participation.

Jim Kowalsky
Chair
Alaskans FOR Wildlife
PO Box 81957
Fairbanks, AK 99708
907 488 2434

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Comments on Proposals to the Federal Subsistence Board Attn. Theo Matuskowitz

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:51 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Francis Mauer** <fmauer@mosquitonet.com>
Date: Thu, Aug 3, 2017 at 9:02 PM
Subject: Comments on Proposals to the Federal Subsistence Board Attn. Theo Matuskowitz
To: subsistence@fws.gov

Comments Regarding Federal Subsistence Proposals: WP 18-03, 18-04, 1805, 18-24, and 18-51

Submitted to the Federal Subsistence Board by Fran Mauer, P.O. Box 80464, Fairbanks, AK 99708. August 3, 2017.

WP 18-03 I am opposed to extending the wolf hunting and trapping seasons in Unit 1. Wolves are highly vulnerable to harvest as it is, further extending of seasons is not justified, and would likely lead to excessive harvest of wolves as occurred on Prince of Wales Island last year which was supposed to be regulated by a quota, but even with quota rules in place the actual harvest exceeded the quota by 2.6 times. This proposal should be denied.

WP 18-04 This proposal would allow 30% of the wolf population on Prince of Wales Island to be harvested when existing harvest is 20%. As noted above, wolves are highly vulnerable to harvest, and last year's harvest exceeded the quota by 2.6 times! The extensive network of roads and trails on Prince of Wales render wolves exceptionally vulnerable. Expanding the harvest to 30% of the population following excessive harvest last year can not be justified given the failed management of this quota system last year. This proposal would lead to excessive harvest of an already depleted population and should be denied to conserve wolves on the Island.

WP 18-24 This proposal will open the door to harassment of wildlife by snow machines and violate a basic premise of hunting: respect for animals and fair chase principles. It would also result in excessive impacts to other animals that are not harvested due to disturbance associated with this "practice." Furthermore, it will exacerbate difficulty in enforcement of harassment rules. Approval of this proposal would give a black eye to subsistence in general, and certainly the Federal Subsistence Board, specifically for condoning such an inappropriate practice on the Federal public lands of Alaska. Deny this proposal.

WP 18-51 This proposal would lower Federal standards for baiting to the lowest common denominator: State requirements. By allowing the use of human food items such as syrup, old dough nuts and other human refuse will habituate bears to humans and contribute to human – bear conflicts, and expose innocent people to risks from bears that no longer fear humans. Every spring the Alaska Dept of Fish and Game sponsors public service announcements advising folks to keep their garbage and bird feeder refuse secure from bears, clearly stating the danger to humans from habituated bears. There is absolutely no justification to also allow the use of human foods and scent to bait bears. I urge the Board to reject this proposal (18-51).

Thank you for the opportunity to comment.

Fran Mauer

American Society of Mammalogists

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Theo Matuskowitz
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Office of Subsistence Management
1011 E. Tudor Rd. M/S 121
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2 August 2017

Dear Mr. Matuskowitz:

On behalf of the American Society of Mammalogists (ASM), the world's oldest and largest professional society devoted to the scientific study of wild mammals, I am sending you a position letter to be included among comments to **WP18-04** (2018-2020 Wildlife Proposals, page 5 - https://www.doi.gov/subsistence/proposal/current), a wildlife proposal to increase harvest limits on wolves in Unit 2, Southeast Federal Subsistence Resource Region. We strongly support the conservation and responsible use of wild mammals based on current, sound, and accurate scientific knowledge. The Society has a long history of reviewing issues related to mammalian conservation, and where appropriate, adopting positions on issues concerning the conservation and responsible management of mammals and their habitats based upon our scientific expertise.

The ASM is concerned about the conservation of the Alexander Archipelago wolf (*Canis lupus ligoni*), a taxon of concern in southeastern Alaska since the 1980s (Person et al. 1996, USFS 1997, 2008; USFWS 1997; USFWS 2014). This endemic subspecies is geographically, morphologically, and genetically distinct from other gray wolves (*C. lupus*), is unique to the North Pacific Coast (Cook et al. 2006, MacDonald and Cook 2007, Cook and MacDonald 2013), and constitutes a significant portion of the genetic diversity of *C. lupus* in North America (Goldman 1937, 1944; Person et al. 1996; Weckworth et al. 2005, 2010, 2011, 2015; Munoz-Fuentes et al. 2009; Cronin et al. 2015). The Alexander Archipelago wolf (*Canis lupus ligoni*) was recently considered by the U.S. Fish & Wildlife Service (USFWS) for protection under the Endangered Species Act (ESA) as a threatened or endangered species, with a positive 90-day finding that listing "may be warranted" (USFWS 2014). Although a final finding of "not warranted" was issued in 2015 (USFWS 2015a), the Final Status Assessment concluded that "Nonetheless, the persistence of the GMU2 population is desired and requires careful

management actions and decisions to ensure its future health" (USFWS 2015b). One of the areas of greatest conservation concern for *C. l. ligoni* is the population located on Prince of Wales Island. This particular population is geographically and genetically isolated from other populations of *C. l. ligoni* (Weckworth et al. 2005), and is one of the most threatened of any wolf population.

Specifically, the ASM is concerned about the Southeast Alaska Regional Advisory Council's proposal to increase the annual harvest rate to "30% of the most recent unitwide, preseason population estimate" because, unlike the Council (response to question 4, What impact will this change have on wildlife populations?), we already suspect conservation concern is justified for the following reasons. Based on radio-telemetry (Person et al. 1996), the Prince of Wales Archipelago (POWA) wolf population was estimated to be 250–350 in the mid-1990s; however, a decline in this population was noted beginning around 2008 (Person 2010). In 2010, the Alaska Dept. of Fish & Game (ADFG) resumed fieldwork that included radio-telemetry and other census methods in central POWA, and over the next few years documented few wolves and little wolf sign (Person 2010). In 2013, ADFG documented 80% mortality within their central POWA study area (Person and Larsen 2013). Since that time, even with reduced harvest quotas to 20%, midrange population estimates of POWA of 89 individuals for fall 2014 (ADFG 2015b) and 108 individual for fall 2015 (ADFG 2016) are very low. Arguably, increasing the harvest rate to 30% would facilitate further declines and increase risk of extirpation.

Telemetry studies have shown the impact of illegal harvest on this population to be substantial, representing as much as 37% of the total known mortality between 2012 and 2015 (Roffler et al. 2016: Table 4). Moreover, the existing regulation of allowing hunters/trappers 2 weeks to report legal wolf harvests can be ineffective in curtailing legal overharvests and thus significantly contribute to unexpected annual mortality. Indeed, because of the delay that can occur between documenting total legal harvest and subsequent emergency closure, 29 wolves were "legally" harvested in 2016 (ADF&G, personal communication) when the legal harvest quota had been established at 11 (ADF&G-Tongass National Forest News Release, 25 August 2016). The additive impact of illegal and legal overharvests, and the failure to account adequately for those effects in establishing harvest quotas is likely responsible for recent population declines.

Human access provided by the high density of approximately 4,500 km of logging roads in POWA is directly related to high wolf mortality in the area and particularly the illegal take of wolves (Person and Russell 2008; Person 2013, 2014; Wolf Technical Committee 2017). The primary prey of wolves is Sitka black-tailed deer, and the perceived competition between hunters and wolves for deer is one cause for the unsustainable human take of wolves on POWA (Farmer and Person 2000; Brinkman 2009, Brinkman et al. 2009; Person and Russell 2008; Person 2013, 2014). Whereas this competition already is a mortality factor for wolves, deer numbers are expected to plummet as a result of the "succession debt" from past, current, and planned logging, with former old-growth forest winter deer habitat becoming essentially of no value to deer at least 30 years after logging (Person and Brinkman 2013) and possibly for as long as 150 years after logging (Hanley et al. 1984). This decline in prey, regardless of wolf harvest, will itself pose a significant threat to POWA wolf persistence.

Despite this evidence, the U.S. Forest Service (USFS) claims that further increases in the density of logging roads and further losses of the old-growth habitat preferred by deer to contemporary logging are not problematic for *C. l. ligoni*. This USFS perspective is exemplified by the 2016 revision of the Tongass Forest Plan, which promotes additional harvest of old-growth forests with construction and renovation of logging roads. Indeed, the Big Thorne timber project in central Prince of Wales Island, the agency's largest timber sale on the island in over 20 years, will take 148.9 million board feet of timber from 8,500 acres of logging units in old-growth forest (USFS 2013). ASM strongly disagrees with this claim and with the renewed policy of old-growth logging and expansion of logging roads (see ASM 2015, USFS 2016, Wolf Technical Committee 2017). Moreover, in July 2017 the USFS issued for public comment a proposed action for a multi-faceted project on Prince of Wales Island (the POW LLA Project) that includes an additional 200 million board feet of logging of oldgrowth forest (USFS 2017).

In addition, the interagency report "Wolf habitat management program: GMU2 recommendations" released in March 2017 has several problems including that old-growth forests receive minor attention, but instead there is an emphasis on "restoration" of young growth forests for deer habitat. Sections of this document on wolf mortality, road management and den management should be improved. For example, road management is focused primarily on closures rather than emphasizing the need to not add new roads to the already high density of roads in GMU2.

In response, the American Society of Mammalogists calls upon (1) the Federal Subsistence Board to reject the proposed increase in annual harvest rate threshold to 30%; (2) The Alaska Department of Fish & Game to issue an emergency order (EO) closing Game Management Unit 2 (GMU2) to the hunting, trapping, or other take of wolves until the wolf population there can be verified to exceed 200 animals on the low end of the estimate range; and (3) the U.S. Forest Service to cease the construction of new roads and clearing of old growth forests on its lands within GMU2, including those of the Big Thorne project.

In summary, we believe that the circumstances as outlined above require immediate action on the part of the Federal Subsistence Board, ADFG, and USFS to conserve this unique subspecies of the gray wolf, including the wolves on Prince of Wales Island. The ASM greatly appreciates your close consideration of our comments and suggestions on this very important issue and stands ready to lend our collective expertise to help you resolve this issue.

Sincerely yours,



Robert Sikes, Ph.D.
President,
American Society of Mammalogists

Cc: Beth Pendleton, Regional Forester
Alaska Region, U.S. Forest Service
P.O. Box 21628
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Sam Cotten, Commissioner
Alaska Department of Fish and Game
1255 W 8th St,
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Steve Brockmann, Southeast Alaska Coordinator
Juneau Fish & Wildlife Field Office,
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Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: WP18- 01 – WP18-13 pertain to Southeast Alaska

1 message

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 17, 2017 at 10:39 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, George Pappas <george_pappas@fws.gov>

---------- Forwarded message ----------
From: **Curtis Donald Thomas** <seafun@kpunet.net>
Date: Fri, Jul 14, 2017 at 8:01 AM
Subject: WP18- 01 – WP18-13 pertain to Southeast Alaska
To: subsistence@fws.gov

Dear sirs,

Please stop this craziness of creating new classes of citizens with special rights. I was born in Ketchikan and lived on Prince of Whales for 20 years. Someone in your organization is promoting restricting Sitka Black-tail harvest for some residents (only two deer instead of 4) and granting others more rights (5 deer, one doe, multiple permits, extended season, etc).

Recent action has already restricted access to our hunting grounds. Since I currently live in Ketchikan (a huge metropolis of 7,000 people), I cannot start hunting on POW until Aug 16th. The season starts August 1st and ends December 31st, unless you live on POW of course, then you can start in July and continue hunting into January (even people who just moved to the island from New York City).

Your continued segmentation our population is destructive. Please stop this nonsense. The constitution says we are **all equal under the law**. What gives you the right to change this and grant some Americans more rights than others.

Another crazy policy that your group implemented (maybe another group... there are so many Federal groups in Washing trying to determine what is best for us rural residents that one can not keep track). That policy is allowing someone who lives just down the road the ability to harvest 20 halibut per day. These fish average 30-40 pounds. That means some Alaskans can harvest over 500 pounds of halibut every day if they choose while others are limited to 2 fish (which is plenty). 20 fish per day is COMMERCIAL FISHING not sport or subsistence!!!!

I guess I will have to "Self Identify" as a POW resident... if it is good enough for sexual orientation in our military, it must be acceptable for residents that actually spent half of their life in the area you now say some relocated New Yorker has more rights to than I.

Crazy, Crazy, Crazy! You are attempting to fix a problem that does not exist. Please STOP this.

Curtis Thomas
8046 N. Tongass Hwy
Ketchikan, AK 99901

WP18–11 Executive Summary	
General Description	Proposal WP18–11 requests that the Federal Subsistence Board (Board) provide a Federal priority for moose in Unit 1C Berners Bay for rural residents, or close Federal lands to the harvest of moose in 1C Berners Bay to all users, or clearly state on the record why a priority for moose should not be provided to rural residents on the Federal public lands of Berners Bay. *Submitted by: Calvin Casipit of Gustavus*
Proposed Regulation	**Unit 1C - Moose** *Unit 1C — Berners Bay drainages* ***— 1 bull by Federal drawing permit*** ***Sept. 15–Oct. 15*** ~~***No Federal open season***~~ *Unit 1C — Berners Bay drainages* ***— 1 antlerless moose by Federal drawing permit.*** ***Sept. 15–Oct. 15***
OSM Conclusion	**Support** Proposal WP18-11 **with modification.** The modification establishes a may-be-announced cow season and closes Federal public lands to all but Federally qualified subsistence users. The modified regulation should read: **Unit 1C - Moose** *Unit 1C — Berners Bay drainages* ***— 1 bull by Federal drawing permit*** ***Sept. 15-Oct. 15*** ~~***No Federal open season***~~ *Unit 1C — Berners Bay drainages* ***— 1 antlerless moose by Federal drawing permit.*** ***May be announced Sept. 15–Oct. 15*** ***Federal public lands are closed to the harvest of moose except by Federally qualified subsistence users.***

WP18–11 Executive Summary	
Southeast Alaska Subsistence Regional Advisory Council Recommendation	**Oppose**
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	

WP18–11 Executive Summary	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Oppose**
Written Public Comments	**3 Oppose**

STAFF ANALYSIS
WP18-11

ISSUES

Proposal WP18-11, submitted by Calvin Casipit of Gustavus, requests establishment of a Federal season and harvest limit for moose in the Berners Bay drainages.

DISCUSSION

The proponent requests that the Federal Subsistence Board (Board) provide a Federal priority for moose in Unit 1C Berners Bay for rural residents, or close Federal lands to the harvest of moose in 1C Berners Bay to all users, or clearly state on the record why a priority for moose should not be provided to rural residents on the Federal public lands of Berners Bay.

Existing Federal Regulation

Unit 1C - Moose

Unit 1C - Berners Bay drainages.	*No Federal open season*

Proposed Federal Regulation

Unit 1C - Moose

Unit 1C — Berners Bay drainages ***— 1 bull by Federal drawing permit***	***Sept. 15-Oct. 15*** ~~*No Federal open season*~~
Unit 1C — Berners Bay drainages ***— 1 antlerless moose by Federal drawing permit.***	***Sept. 15–Oct. 15***

Existing State Regulation

Unit 1C - Moose

Unit 1C Berners Bay drainages only – One bull by permit DM041	*Sept 15 – Oct 15*

Extent of Federal Public Lands

Federal public lands comprise approximately 95% of Unit 1C and consist of 62% U.S. Forest Service (USFS) managed lands and 33% National Park Service (NPS) managed lands (**see Unit 1C Map**). Federal public lands comprise approximately 97% of Berners Bay drainages and consists of 97% USFS managed lands.

Customary and Traditional Use Determination

Rural residents of Units 1, 2, 3, 4 and 5 have a customary and traditional use determination for moose in the Berners Bay drainages.

Regulatory History

Harvest regulations for moose in Unit 1C, Berners Bay are summarized in **Table 1**. The State has managed the hunt under a draw permit system since 1978, with the exception of 1985, when it was a Tier II hunt due to a change in State law. No permits were issued for the 2007-2013 seasons due to conservation concerns. The Alaska Department of Fish and Game (ADF&G) began issuing draw permits again in 2014 when five bull permits were issued. Five permits were issued for bulls again in 2015 and 2016.

Table 1. State of Alaska and Federal moose hunting regulations for Unit 1C, Berners Bay drainages, since 1959. (Updated from Schroeder 2005, pers. comm.; Sell 2017, pers. comm.).

Year	Season	Season	Limit	Conditions and Limitations
1959	Open	Sept 15-Oct 15	One	One bull, except Berners Bay drainages (closed)
1960-1961	Open	Sept 15-Oct 15	One	One bull, except Berners Bay drainages (closed)
1962	Open	Sept 15-Oct 15	One	One bull S. of Endicott-Sherman line; except Berners Bay drainages (closed)
1963-1964	Open	Sept 1-Oct 15	One	One bull, North of the latitude of the Endicott
1965-1967	Open	Sept 1-Oct 15	One	One moose, antlerless moose from 10/14 to 10/15 only
1968	Open	Sept 1-Oct 15	One	One moose
1969-1970	Open	Sept 1-Oct 15	One	One moose, closed after 50 antlerless moose are taken
1971-1973	Open	Sept 15-Oct 15	One	Berners Bay drainages, one moose by permit only, up to 40 permits issued
1974	Open	Sept 15-Oct 15	One	Berners Bay drainages, 50 moose by permit only
1975-1977		No open season		Berners Bay drainages only
1978-1979	Open	Sept 15-Oct 15	One	Berners Bay drainages, one bull by drawing permit, up to 20 permits issued
1980-1982	Open	Sept 15-Oct 15	One	Berners Bay drainages, one bull by drawing permit, up to 25 permits issued
1983-1984	Open	Sept 15-Oct 15	One	Berners Bay drainages, one antlerless moose by drawing permit, up to 15 permits issued
1985	General	No open season		Berners Bay drainages
1985	State Subsistence	Sept 15-Oct 15	One	Berners Bay drainages, one moose by Tier II permit, up to 15 permits may be issued

Year	Season	Season	Limit	Conditions and Limitations
1986	General	Sept 15-Oct 15	One	Berners Bay drainages, one moose by drawing permit, up to 7 permits issued
1987-1990	General	Sept 15-Oct 15	One	Berners Bay drainages, one moose by drawing permit, up to 5 permits issued
1991-1992	General	Sept 15-Oct 15	One	Berners Bay drainages, one moose by drawing permit, up to 10 permits issued
1993-2000	General	Sept 15-Oct 15	One	Berners Bay drainages, one moose by drawing permit, up to 20 permits issued
2001-2007	General	Sept 15-Oct 15	One	Berners Bay drainages, one moose by drawing permit, up to 30 drawing permits issued
2008-2013	General	No open season	-	Berners Bay drainages
2014-2016	General	Sept 15-Oct 15	One	Berners Bay drainages, one moose by drawing permit, up to 5 drawing permits issued
1991-2016	Federal Subsistence	No open season	-	Berners Bay drainages

Prior to 2010 no customary and traditional use determination had been made for moose in the Berners Bay drainages. The Board adopted Proposal WP10-11 submitted by the Southeast Alaska Subsistence Regional Advisory Council (Council), which requested recognition of customary and traditional uses of moose in Unit 1C, including Berners Bay, by residents of Units 1-5.

There has never been a Federal season for moose in Berners Bay as the State season was never adopted at the beginning of the Federal Subsistence Management Program. When the Alaska Board of Game considered making a customary and traditional use determination for moose in the Berners Bay drainages, it concluded that there was no customary and traditional use of the introduced moose population. Proposal WP02-14 requested establishment of a Federal season but was deferred because no customary and traditional use determination had been made. Proposal WP08-06b requested establishment of a Federal season but the proposal was deferred because of conservation concerns with the population at the time. The deferred proposal (Proposal WP10-18b) was rejected during the 2010 cycle also due to conservation concerns. These previous proposals requested a Federal season through a registration hunt.

Biological Background

Berners Bay moose are an introduced population in a small, geographically isolated location. Fifteen moose calves from the Matanuska and Susitna Valleys were released in Berners Bay in 1958, and a supplemental release of six more calves occurred in 1960. This introduction was a cooperative effort by ADF&G, USFWS and Territorial Sportsmen, while the U.S. Air Force and Air National Guard provided transportation (Paul 2009).

Habitat

The majority of the Berners Bay drainages (including the most important moose habitats) are managed by the USFS in an undeveloped condition. Radio-collared moose in the Berners Bay area primarily use lowland areas close to the major rivers and do not utilize alpine areas (White and Barten 2009, White et. al. 2012). The geography of the area allows for minimal migration, and has limited habitat. Because of this, ADF&G has used a variety of harvest management strategies, changing the harvest from bulls only to bulls and cows, in an attempt to balance the sex ratio and to keep the population size within the carrying capacity of the habitat. The use of a habitat capability model and moose browse surveys in the early 1980s helped develop the present management strategy of maintaining a post hunting survey count of 80-90 moose and a bull:cow ratio of 25:100 (Barton 2008, Sell 2014).

Population Information

In 2006, the Berners Bay moose population appeared to be near the estimated carrying capacity of between 100 and 150 animals (Barten 2008). Subsequent surveys by White and Barten (2009) **(Table 2)** indicated that the population has declined approximately 30% since 2006, which they attributed to harsh winter conditions resulting in poor spring body condition and moderate-low adult survival and pregnancy rates. Low calf survival rates (including summer predation mortality) were another factor in the population decline (White and Barten 2009). Moose in Berners Bay are subject to predation by wolves, brown bears, and black bears, but the amount has not been quantified. ADF&G did not issue any harvest permits for this hunt from 2007-2013 due to conservation concerns about the population. Population estimates are not available for surveys prior to 2006 because there were no collared moose to develop sightability correction factors, which are used to estimate the total population when not all animals can confidently be counted. Prior to 2006, ADF&G assumed that 80-90 moose observed equated to a population within the estimated carrying capacity (Barten 2008). Survey results from 1990-2016 are included in **Table 3.** ADF&G uses the aerial survey results to determine the number of bull and cow moose draw permits to issue. The low numbers of moose observed in 2006-2011 led to the season closures of 2007-2013. Surveys since 2013 indicate the population had recovered to harvestable levels.

Table 2. Population estimates for Berners Bay moose 2006-2016 (White and Barten 2009, Sell 2017, pers. comm.).

Survey Year	Survey Date	Total Moose Seen	Total Marked Moose	Marked Moose Seen	Proportion Moose Observed	Population Estimate
2006	11/25/2006	85	31	22	0.71	119 + 22
2006	1/11/2007	76	31	20	0.65	116 + 25
2006	1/26/2007	69	31	16	0.52	131 + 36
2006	2/13/2007	78	30	19	0.63	121 + 27
2007	12/19/2007	59	30	17	0.57	102 + 25
2007	1/7/2008	62	30	18	0.6	102 + 23
2007	2/18/2008	41	28	13	0.46	86 + 26
2007	2/23/2008	34	28	11	0.39	84 + 29
2008	12/16/2008	33	32	12	0.38	85 + 28
2008	2/17/2009	55	32	21	0.66	83 + 15
2009	12/15/2009	51	33	22	0.65	78 + 18
2010	12/3/2010	73	34	28	0.82	88 + 10
2011	11/19/2011	73	27	18	0.67	108 + 23
2012	12/7/2012	102	30	27	0.9	113 + 11
2013	12/3/2013	73	27	21	0.78	93 + 15
2014	12/4/2014	105	30	29	0.967	109 + 6
2015	no survey					
2016	12/11/2016	115	21	17	0.81	141 + 25

Table 3. Survey data for the Berners Bay moose herd 1990-2016 (White and Barten 2009; Sell 2017, pers. comm.).

Survey Year	Survey Date	Bulls	Cows	Calves	Unknown	Total moose	Count time (hrs)	Bulls per 100F	Calves per 100F	Calves % in herd	Moose per hour
1990	11/25/1990	14	53	18	0	85	2.6	26	34	21	33
1991	1/27/1992	---	---	11	50	61	1.2	---	---	18	50
1992	1/5/1993	14	61	8	0	83	2.8	23	13	10	29
1993	1/21/1994	---	---	12	45	67	2.8	---	---	18	24
1994	11/16/1994	17	45	13	0	75	2	38	29	17	38
1995						No Survey					
1996						No Survey					
1997	1/7/1998	6	11	12	31	60	2.1	---	---	20	29
1998	12/19/1998	14	9	10	37	70	2.6	---	---	14	27
1999	11/29/1999	14	11	13	70	108	2.4	17	16	12	45
2000	2/15/2001	---	10	12	57	79	2.4	---	---	15	33

Survey Year	Survey Date	Bulls	Cows	Calves	Unknown	Total moose	Count time (hrs)	Bulls per 100F	Calves per 100F	Calves % in herd	Moose per hour
2001	2/2/2002	---	10	10	46	66	2	---	---	15	33
2002	2/28/2003	---	4	4	50	58	2.2	---	---	7	26
2002	3/16/2003	---	7	7	28	42	2.7	---	---	17	22
2003	11/19/2003	18	11	13	39	81	2.6	36	26	16	31
2004	11/3/2004	7	12	12	55	86	---	10	18	14	26
2005	12/6/2005	15	12	13	60	100	---	21	18	13	40
2006	11/11/2006	10	56	9	0	75	---	18	16	12	21
2006	11/25/2006	10	60	12	3	85	---	17	20	14	---
2006	1/11/2007	3	9	11	53	76	---	---	---	14	---
2006	1/26/2007	1	6	7	55	69	---	---	---	10	---
2006	2/13/2007	0	6	8	64	78	---	---	---	10	---
2007	12/19/2007	10	44	5	0	59	---	23	11	8	---
2007	1/7/2008	5	5	5	47	62	---	---	---	8	---
2007	2/18/2008	0	5	5	36	46	---	---	---	12	---
2007	2/23/2008	0	0	2	32	34	---	---	---	5	---
2008	12/16/2008	3	22	3	5	33	---	11	14	9	---
2008	2/17/2009	---	8	8	41	57	---	---	---	14	---
2009	12/15/2009	12	20	4	15	51	3	34	11	8	17
2010	12/3/2010	18	45	10	0	73	4.3	40	22	14	17
2011	11/19/2011	22	41	10	0	73	---	54	24	14	---
2012	11/27/2012	23	53	9	0	85	2.3	43	17	11	37
2012	12/7/2012	21	67	14	0	102	4	31	21	14	26
2013	12/3/2013	18	47	8	0	73	---	38	17	11	---
2014	12/4/2014	22	52	24	7	105	4.6	37	41	23	23
2015	No Survey										
2016	12/11/2016	18	31	27	39	115	3.83	26	39	23	30

Harvest History

The first limited moose hunting season in Berners Bay was held in 1963, when 4 bulls were harvested. Since that time, the annual harvest ranged from 0 to 23 animals (Sell 2014). **Table 4** shows the numbers of draw permits issued and moose harvested from 1983 through 2016. The number of permits issued remained steady between 2003 and 2006. However, this was down from the previous ten years when between 15 and 20 permits were issued each year. Hunters that receive permits have a high success rate, ranging from 60% to 100% in any given year. The success rate is high because the narrow valley bottoms contain good moose habitat, which concentrates moose along river corridors that provide hunter access. However, accessing many of the drainages in Berners Bay is difficult because of tidal influence and river gradient. Jet boats and air boats are the preferred means of access. The season was closed between 2007 and 2013 due to conservation concerns resulting from mortality during harsh winters. Four bulls were harvested in 2014, 2015 and 2016.

Table 4. Number of permits issued and moose harvested in Unit 1C, Berners Bay 1983 through 2016 (ADF&G 2017a, 2017b; Sell 2017 pers. comm.).

Year	Permits			Harvest			
	Bulls	Cows	Total	Bulls	Cows	Unknown	Total
1983	---	---	---	---	8	1	9
1984	---	---	---	1	13	0	14
1985	---	---	---	8	5	0	13
1986	---	---	---	5	0	0	5
1987	---	---	---	5	0	0	5
1988	---	---	---	4	0	0	4
1989	---	---	---	5	0	0	5
1990	---	---	5	5	0	0	5
1991	---	---	10	5	5	0	10
1992	---	---	10	5	4	0	9
1993	8	7	15	7	7	0	14
1994	8	7	15	8	6	0	14
1995	8	7	15	11	2	0	13
1996	9	8	17	7	7	0	14
1997	8	7	15	8	7	0	15
1998	8	7	15	8	7	0	15
1999	10	8	18	10	5	0	15
2000	10	10	20	8	7	0	15
2001	10	10	20	7	6	0	13
2002	8	7	15	5	4	0	9
2003	9	0	9	8	0	0	8
2004	8	0	8	6	0	0	6
2005	8	0	8	5	0	0	5

Year	Permits			Harvest			
	Bulls	Cows	Total	Bulls	Cows	Unknown	Total
2006	6	2	8	5	2	0	7
2007	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0
2014	5	0	5	4	0	0	4
2015	5	0	5	4	0	0	4
2016	5	0	5	4	0	0	4

Table 5 shows the Berners Bay moose harvest by community of residence for 1990 through 2016. **Tables 6 and 7** show the community of residence of applicants for the Berners Bay bull (hunt DM041) and antlerless (hunt DM042) harvest permits from 1993 through 2016. It is likely that many of the applicants for the bull hunt also apply for the antlerless hunt. By far, the majority of applicants come from the Juneau area. Haines shows a consistent number of applicants that exceeds the number of permits issued on an annual basis. Gustavus and Skagway show fairly consistent low numbers of applicants. The demand for Berners Bay moose from rural communities appears to be greater than the number of permits available annually.

Table 5. Residency of successful hunters in the Berners Bay portion of Unit 1C (State hunts DM041and DM042), from 1990 through 2016 available annually (ADF&G 2017c).

Year	Residency											Total
	Anchorage	Angoon	Auke Bay	Douglas	Fairbanks	Haines	Juneau	Nome	Petersburg	Sitka	Non-resident	
1990							5					5
1991						1	9					10
1992							9					9
1993						1	13					14
1994						1	13					14
1995	1						11	1				13
1996							14					14
1997							13			1	1	15
1998			2	1		1	9		1	1		15
1999			2	2		1	10					15
2000			2	1	1		10		1			15
2001	1		3	1			7		1			13
2002				2		1	6					9
2003		1	1	1			5					8
2004				1			5					6
2005							5					5
2006			1				6					7
2007												0
2008-2013	Hunt Closed											
2014			1				3					4
2015				2			2					4
2016							4					4
Total	**2**	**1**	**12**	**11**	**1**	**6**	**159**	**1**	**3**	**2**	**1**	**199**

Table 6. Residency of applicants for the Unit 1C, Berners Bay, bull moose hunt (State hunt DM041) for the 1993/94 through 2016/17 regulatory years (Sell 2017, pers. comm.). Only communities proposed for a positive customary and traditional use determination are individually labeled.

Year	Community							
	Excursion Inlet	Gustavus	Haines	Klukwan	Skagway	Other	Unknown	Percent Federally qualified applicants
1993			6			595	55	1%
1994		1	14			648	88	2%
1995			28			748	68	4%
1996			22		2	746	56	3%
1997			19		5	586	30	4%
1998			31		1	596	60	5%
1999		1	38		4	864		5%
2000		1	31		2	882		4%
2001		1	32			800		4%
2002		1	28		2	795		4%
2003		5	19		3	746		3%
2004		2	16			720		2%
2005			12			597		2%
2006			15		2	507		3%
2007			7			458		2%
2008	Hunt closed							
2009	Hunt closed							
2010	Hunt closed							
2011	Hunt closed							
2012	Hunt closed							
2013	Hunt closed							
2014			13		3	492	4	3%
2015		1	3			584		1%
2016			4		2	711		1%

Table 7. Residency of applicants for the Unit 1C, Berners Bay, antlerless moose hunt (State hunt DM042) for the 1993/94 through 2016/17 regulatory years (Sell 2017, pers. comm). Only communities proposed for a positive customary and traditional use determination are individually labeled.

Year	Community							
	Excursion Inlet	Gustavus	Haines	Klukwan	Skagway	Other	Unknown	Percent Federally qualified applicants
1993			5			559	55	1%
1994		1	13			608	90	2%
1995			26			712	66	4%
1996			19		1	669	53	3%
1997			20		6	535	25	5%
1998			20		1	539	55	4%
1999		1	23	1		762		3%
2000		1	27		3	827		4%
2001		1	33			745		4%
2002		2	28		2	750		4%
2003						6		0%
2004	No antlerless quota							
2005	No antlerless quota							
2006		1	11		1	342		4%
2007	No antlerless quota							
2008	No antlerless quota							
2009	No antlerless quota							
2010	No antlerless quota							
2011	No antlerless quota							
2012	No antlerless quota							
2013	No antlerless quota							
2014	No antlerless quota							
2015	No antlerless quota							
2016	No antlerless quota							

Other Alternative(s) Considered

Instead of a draw hunt, an allocation based on an analysis pursuant to Section 804 of the Alaska National Interest Lands Conservation Act (ANILCA) could be determined to limit the number of eligible Federally qualified subsistence users. However, this option may not result in a reduced pool of eligible hunters since the eligible rural communities are similarly situated.

Establishing a may-be-announced draw hunt for cow moose would provide managers flexibility to manage for the desired bull:cow ratio. A cow moose hunt would only be initiated at appropriate population levels and sex ratios.

Effects of the Proposal

Establishing a Federal season for moose in Berners Bay drainages in Unit 1C would provide additional opportunity for Federally qualified subsistence users to harvest animals on Federal public lands. However, the demand for Berners Bay moose by Federally qualified subsistence users consistently outweighs the harvestable supply. The moose population in this area is small and vulnerable, even at optimal population levels, and the harvest of even a few extra moose could result in a conservation concern.

Residents of Juneau have been the primary harvesters of Berners Bay moose since the inception of a hunting season. Allocating all available moose to Federally qualified subsistence users would have a negative effect on non-Federally qualified users.

OSM CONCLUSION

Support Proposal WP18-11 **with modification** to close Federal public lands in Unit 1C Berners Bay drainages to all but Federally qualified subsistence users and establish a may-be-announced antlerless season.

The modified regulation should read:

Unit 1C - Moose

Unit 1C — Berners Bay drainages ***— 1 bull by Federal drawing permit***	***Sept. 15-Oct. 15*** ~~*No Federal open season*~~
Unit 1C — Berners Bay drainages ***— 1 antlerless moose by Federal drawing permit.***	***May be announced Sept. 15–Oct. 15***

Federal public lands are closed to the harvest of moose except by Federally qualified subsistence users.

Justification

Section 802 of ANILCA requires the conservation of healthy wildlife populations, meaning that wildlife are managed in a way that "minimizes the likelihood of irreversible or long-term adverse effects upon such populations and species." 50 CFR 100.4; 36 CFR 242.4. Section 802 also requires that subsistence uses by rural residents of Alaska shall be "the priority consumptive uses of all such resources on the public lands of Alaska." Further, Section 804 provides a preference for subsistence uses, specifically "…the taking on public lands of fish and wildlife for nonwasteful subsistence uses shall be accorded priority over the taking on such lands of fish and wildlife for other purposes". Section 815 provides that the Board may restrict nonsubsistence uses on Federal public lands if "necessary for the conservation of healthy populations of fish and wildlife" or "to continue subsistence uses of such populations."

Establishing a Federal season in Berners Bay drainages in Unit 1C would provide additional opportunity for Federally qualified subsistence users to harvest moose on Federal public lands. Providing this opportunity for subsistence harvest of moose is consistent with Section 802 of ANILCA Title VIII. Despite that mandate in Section 802, the Federally qualified subsistence users residing in Units 1-5 have not been provided a Federal opportunity to hunt moose in Berners Bay during a period of over 30 years where it has been authorized under State regulations. The demand for Berners Bay moose from all eligible hunters under State and Federal regulations is greater than the harvestable surplus as shown by the harvest history, population data and applicant data. Due to the small size of the population and habitat limitations in the Berners Bay drainages it is not likely that the population could support additional harvest that may result from adding a Federal season. Thus, in order to meet the mandates of Section 802 – providing subsistence opportunity while managing for a healthy moose population – a closure is required.

Demand for moose in Berners Bay drainages from Federally qualified subsistence users alone is consistently greater than the harvestable surplus. An 804 analysis is not likely to result in a reduced pool of eligible hunters since the nearby rural communities are similarly situated. If an 804 analysis limited the pool of Federally qualified hunters even to a few nearby communities, the demand would still likely outweigh the supply. Establishing a Federal draw hunt would prevent overharvest while giving preference to Federally qualified subsistence users. Establishing a may-be-announced draw hunt for cow moose would provide managers flexibility to manage for the desired bull:cow ratio.

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White, K.S., Gregovich, D.P., Barten N.L and R. Scott. 2012. Moose population ecology and habitat use along the Juneau Access Road corridor, Alaska. Wildlife research annual progress report. ADF&G, Douglas, AK. 36 pages.

SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Southeast Alaska Subsistence Regional Advisory Council

Oppose WP18-11. The Council decided that there needs to be a way to address the proponent's concerns (to provide a federal subsistence priority) but that this proposal could not be implemented while also maintaining a management system on this limited population of moose. The Council felt that they could not support this proposal based on the information and analysis given (including how a federal draw might work with a state draw), and without certain specific analyses, this proposal could create a conservation concern because the moose population is so small. The Council stated that it would like to continue discussion in order to solve this problem in the future, including entertaining a future proposal, after learning how best to do this and implement same without creating a conservation concern.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-11: This proposal, submitted by Calvin Casipit, requests to either establish a federal season and harvest limit for Unit 1C moose in the Berners Bay drainages, or close federal lands in Berners Bay to the harvest of moose by all users, or clearly on the record state why a priority for moose should not be provided to rural residents on the federal public lands of Berners Bay.

Introduction: The Berners Bay moose population is located within the state Juneau Nonsubsistence Area of Unit 1C. The population originated from transplants in 1958 and 1960, which were composed of a total of 21 moose calves. The transplants were successful and a limited hunting season for bull moose was established in 1963. Since that time, the annual harvest has ranged from 0–23 animals. Managing the Berners Bay moose herd has been a challenging task for ADF&G. The geography of the area allows for little to no immigration or emigration to the area, resulting in a closed population with limited available habitat. Because of this, ADF&G uses a variety of harvest strategies to manage the population, alternating from bulls-only hunts to bull and cow hunts in an attempt to balance the herd's sex ratio and keep the population size within the carrying capacity of the range. The use of a habitat capability model as well as moose browse surveys in the early 1980s shaped the management strategy of preventing the population from exceeding 90 moose observed during post-hunt aerial surveys to assure the herd does not exceed a level the habitat can support. However, recently acquired body condition and productivity data for moose in Berners Bay indicates moose are in good physical condition. Body condition is an indication of habitat quality and suggests the habitat may be able to support a greater number of moose.

ADF&G conducts annual aerial surveys of the population when conditions permit. Radio collars are also deployed to estimate moose sightability during surveys, which improves the resulting estimate of population size by including a measure of precision using a modified mark-resight technique. Population estimation models are also developed and updated annually using the vital statistics collected. In addition, information about habitat use, behavior, and local climate is collected for each radio-collared animal during survey efforts.

The Berners Bay population was closed to all harvest in 2008 after a series of severe winters with heavy snowfall during 2006–2007 which caused the population to decline. The number of moose observed during aerial surveys decreased from 100 total moose in 2005 to 77, 50, and 45 total moose in 2006, 2007, and 2008 respectively. The herd gradually began to recover, and when bull:cow ratios exceeded the management objective of 25 bulls:100 cows, the state authorized a limited drawing hunt for bull moose in 2013 with an open season between November 1–December 15. Initially, the state issued 5 permits annually, and the harvest averaged 4 moose each year. During the RY2016 season the number of permits issued was increased from 5 to 7 to allow more harvest opportunity after a survey estimated a population size of 141 ± 25 total moose and good recruitment to fall was observed (39calves:100cows).

Impact on Subsistence Uses: If adopted, this proposal would provide federally qualified subsistence users exclusive opportunity to hunt moose in Berners Bay. Federally qualified users also have an opportunity to hunt moose from the Gustavus, Chilkat Range, Taku River, and Berners Bay populations under state regulations.

Impact on Other Uses: Allocating any portion of the allowable harvest from the Berners Bay moose population under federal regulation would effectively eliminate the harvest opportunity provided under state regulation for other users.

Opportunity Provided by State:

State customary and traditional use findings: Berners Bay is located within the state Juneau Nonsubsistence Area.

Amounts Reasonably Necessary for Subsistence (ANS): Because the Berners Bay moose population is within the state's Juneau Nonsubsistence Area, no ANS can be established.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
Unit 1C	1 Bull	September 15- October 15 (DM041)	September 15- October 15 (DM041)

Special instructions: Successful hunters must report in person or by mail with required specimens (lower front teeth on 5-inch section of jaw) to the Douglas ADF&G office within 10 days of kill. A portion of the

sex organ must remain naturally attached to the meat until the moose is transported to the hunter's residence.

Conservation Issues: Moose habitat in Unit 1C is limited and often occurs in isolated pockets. The Berners Bay moose herd is a small introduced population that is isolated by mountains, an icefield, and other unsuitable moose habitat. The population is closely monitored by biologists to determine when the herd can sustain a harvest. Berners Bay is colder than the Juneau area, and has much heavier accumulations of snow. During winters with deep snow the moose population is susceptible to substantial declines. For example, following the severe winter of 2006–2007 department biologists only observed 33 total moose with composition ratios of 11bulls:100cows and 14calves:100cows, and the hunt was closed. The population took years to recover, and the hunt was not reopened until RY2014.

The Berners Bay moose population is managed at a very fine scale because it is isolated from immigration, subject to high winter mortality, and constrained by the amount of available habitat. Nonetheless, most current management objectives (1990 Moose Management Plan for Berners Bay, Unit 1C) are being met with the exception of the harvest objective. The harvest objective (8 moose) has not been met for several years because management decisions limited permit availability in an effort to rebuild the population. In RY2017, seven drawing permits are available for Berners Bay moose; it is highly probable that all seven permit holders will hunt and be successful.

Enforcement Issues: None.

Recommendation: ADF&G is **OPPOSED** to establishing a federal season for moose in Berners Bay. The State Board of Game recognizes this as a nonsubsistence area. Establishing a federal priority could compromise the ability of the state to provide hunting opportunity for other uses because of the limited harvest opportunity available. Establishing a federal season that matches state opportunity would have little practical effect if hunters are required to use state permits.

Literature Cited

ADF&G 1990. Strategic plan for management of moose in Region I, Southeast Alaska 1990–1994.

WRITTEN PUBLIC COMMENTS

TERRITORIAL SPORTSMEN, INC.
P. O. BOX 32712
JUNEAU, AK 99803

Federal Subsistence Board
Office of Subsistence Management
Attn: Theo Matuskowitz
1011 E. Tudor Rd., MS-121
Anchorage, AK 99503-6199

July 18, 2017

Re: Comments by Territorial Sportsmen, Inc. on Federal Regulatory proposal WP18-11

Dear Mr. Matuskowitz and members of the Federal Subsistence Board:

The proponent of proposal WP18-11 asks that one of three options be adopted for subsistence taking of moose in Berners Bay, within Unit 1C: (1) provide a federal priority to rural residents to harvest moose in Berners Bay; (2) close federal lands to moose harvesting in Berners Bay; or (3) clearly state on the record why a priority for moose should not be provided to rural residents on the federal public lands of Berners Bay.

Of these 3 options, the Territorial Sportsmen, Inc. (TSI) supports the proponent's third option, and offers rationale for why a priority for moose should not be provided to rural residents on federal public lands of Berners Bay.

TSI was founded in 1946 and has remained active in fish and wildlife conservation since that time. Among its activities, TSI actively promotes access to public lands, builds cabins on state and federal lands for all members of the public to use and enjoy, and provides scholarships to high school graduates pursuing college educations. Moreover, in 1958 TSI worked cooperatively with the Alaska Department of Fish and Game, the U.S. Fish and Wildlife Service, and the military to capture and transport moose calves to Juneau for release in Berners Bay (Nelson 1959). An Air Force helicopter was used to capture calves in the Susitna and Matanuska valleys in May 1958.

Seventeen calves were transported to Juneau in an Air National Guard DC-3 to be reared for 2 ½ months at the Minfield Childrens' Home at Lena Point (Paul 2009). The rearing process was successful and 16 of the original 17 calves (5 males and 11 females) were released at Berners

Bay on 15 August 1958. The calves were transported to Berners Bay in a landing craft. One calf subsequently died (The Daily Alaska Empire 1958).

In 1960, 11 additional moose calves were captured and shipped by the Alaska Department of Fish and Game to Juneau for subsequent release at Berners Bay (Merriam 1960). The rearing process was not as successful as in 1958 and only 6 calves survived to be released on 24 August.

Three cows with calves observed in June 1960 demonstrated the early reproductive success achieved by the animals transplanted in 1958 to Berners Bay (Merriam 1960). Because of the excellent initial reproduction, a limited open season on bull moose was established in 1963, just 5 years after the transplant. The first two years, 10 bulls were harvested and for the next decade yearly harvests ranged from 5 to 23 animals. Either sex hunts were initiated in 1971 to help maintain a balanced sex ratio in the herd. In 1971, 50 permit holders harvested 23 moose at Berners Bay and in 1972 the same number of permittees harvested 22 moose. Drawing permits were implemented in 1978. Twelve bulls were taken that year and in that year's aerial surveys, a record 120 moose were counted. After that, the number of permits issued annually ranged from as many as 20 in the late 1970s and early 1980s to as few as 5 bulls per year during 1987-1990. In recent years, 5 drawing permits have been issued for bull harvests.

The Berners Bay transplant was quite successful. It established a moose population in an area that, because of its geographic isolation, may not have been colonized by moose naturally for many years, if ever. That introduced population, aided by attentive management, has provided an extremely popular hunt for over 50 years to all Alaskans as well as hunters from other states.

Given the fact that there was not a historical moose population in Berners Bay, with no accompanying customary and traditional uses of moose, and given further that the existing moose population at Berners Bay is the result of government and private efforts, TSI believes the herd should remain available to all hunters. This belief is further supported by the fact that Pittman-Robertson (P-R) funds and state hunting license fees were used to pay for the transplant. P-R funds come from an 11% excise tax on all firearms and ammunition purchased in the United States. State hunting license fees are generated from all who purchase a hunting license in Alaska, residents and nonresidents, alike.

Sincerely,

Jerry Burnett
President, Territorial Sportsmen, Inc.

cc: TSI Board of Directors

References Cited

Merriam, H. R. 1960. Moose investigations, Southeast Alaska. Alaska Dept. of Fish and Game, Federal Aid in Wildlife Restoration Progress Report. Project W-6-R-1, Juneau, AK.

Nelson, U. C. 1959. Completion report-development. Federal Aid in Wildlife Restoration. Project W-4-D-9. Vol. IX, No. 1-4.

Paul, T. W. 2009. Game Transplants in Alaska. Technical Bull. #4. Alaska Department of Fish and Game. 150pp.

The Daily Alaska Empire. 1958. "16 moose calves released on Berners Bay as forerunner of future herds." 20 August 1958, Juneau, AK.

Fwd: WP18-11 Comment

---------- Forwarded message ---------- Wed, Aug 2, 2017 at 7:56 AM
From: **Nicholas Orr**
Date: Wed, Aug 2, 2017 at 7:43 AM
Subject: WP18-11 Comment
To: "subsistence@fws.gov" <subsistence@fws.gov>

There should be no federal subsistence preference for moose in Berners Bay.
(1) The population is quite small and sustains only a limited harvest via a state tag drawing system. It is a tag in very high demand and removing this population from state management would deprive the state of thousands of dollars on an annual basis from lost drawing tag revenue.
(2) It is not located near any rural communities; rather it is much more accessible to Juneau residents.
(3) The moose population there was transplanted for increased recreational opportunities; there is a long tradition of recreational hunting. That tradition should continue and the original intent of the transplant should be honored.

Thanks
Nicholas Orr

Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: WP18- 01 – WP18-13 pertain to Southeast Alaska

1 message

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 17, 2017 at 10:39 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, George Pappas <george_pappas@fws.gov>

---------- Forwarded message ----------
From: **Curtis Donald Thomas** <seafun@kpunet.net>
Date: Fri, Jul 14, 2017 at 8:01 AM
Subject: WP18- 01 – WP18-13 pertain to Southeast Alaska
To: subsistence@fws.gov

Dear sirs,

Please stop this craziness of creating new classes of citizens with special rights. I was born in Ketchikan and lived on Prince of Whales for 20 years. Someone in your organization is promoting restricting Sitka Black-tail harvest for some residents (only two deer instead of 4) and granting others more rights (5 deer, one doe, multiple permits, extended season, etc).

Recent action has already restricted access to our hunting grounds. Since I currently live in Ketchikan (a huge metropolis of 7,000 people), I cannot start hunting on POW until Aug 16th. The season starts August 1st and ends December 31st, unless you live on POW of course, then you can start in July and continue hunting into January (even people who just moved to the island from New York City).

Your continued segmentation our population is destructive. Please stop this nonsense. The constitution says we are **all equal under the law**. What gives you the right to change this and grant some Americans more rights than others.

Another crazy policy that your group implemented (maybe another group... there are so many Federal groups in Washing trying to determine what is best for us rural residents that one can not keep track). That policy is allowing someone who lives just down the road the ability to harvest 20 halibut per day. These fish average 30-40 pounds. That means some Alaskans can harvest over 500 pounds of halibut every day if they choose while others are limited to 2 fish (which is plenty). 20 fish per day is COMMERCIAL FISHING not sport or subsistence!!!!

I guess I will have to "Self Identify" as a POW resident... if it is good enough for sexual orientation in our military, it must be acceptable for residents that actually spent half of their life in the area you now say some relocated New Yorker has more rights to than I.

Crazy, Crazy, Crazy! You are attempting to fix a problem that does not exist. Please STOP this.

Curtis Thomas
8046 N. Tongass Hwy
Ketchikan, AK 99901

WP18–18 Executive Summary	
General Description	Proposal WP18–18 requests that the moose season on Federal public lands in Unit 13E and Unit 13-remainder be changed from Aug. 1-Sept. 20 to Aug. 1-Mar. 31. In addition AITRC requests authorization to distribute (FM1301) permits to Federally qualified tribal members only. Bureau of Land Management (BLM) and Denali National Park and Preserve (DENA) will distribute (FM1301) permits to other Federally qualified subsistence hunters. *Submitted by: Ahtna Intertribal Resource Commission.*
Proposed Regulation	**Unit 13—Moose** *Unit 13E—1 antlered bull moose by Federal registration permit only; only 1 permit per household.* — *Aug. 1~~–Sept. 20~~* ***Mar. 31*** *Unit 13, remainder —1 antlered bull moose by Federal registration permit only.* — *Aug. 1~~–Sept. 20~~* ***Mar. 31*** ***Ahtna Inter-Tribal Resource Commission will distribute (FM1301) permits to federally qualified tribal members only. Bureau of Land Management and Denali National Park & Preserve Office will distribute (FM1301) permits to other federally qualified subsistence hunters.***
OSM Preliminary Conclusion	**Support** Proposal WP18–18 **with modification** to create a split season. The modified proposal should read: **Unit 13—Moose** *Unit 13E—1 antlered bull moose by Federal registration permit only; only one permit per household.* — *Aug. 1–Sept. 20* *Nov.1-* ***Mar. 31*** *Unit 13, remainder —1antlered bull moose by Federal registration permit only.* — *Aug. 1–Sept. 20* ***Nov. 1-Mar. 31***
OSM Conclusion	**Support** WP18-18 **with modification** to establish a winter moose season from Dec.1 to Dec. 31 in Unit 13. The BLM Glennallen Field Office Manager would be given authority to set the harvest quota, and set opening and closing dates for the proposed winter season (Dec. 1-Dec. 31) on Federal

WP18–18 Executive Summary	
	public lands in Unit 13 via a delegation of authority letter only (**Appendix 1**). The modified regulation should read: **Unit 13—Moose** *Unit 13E—1 antlered bull moose by Federal registration permit only; only one permit per household.* — *Aug. 1–Sept. 20* ~~*Nov. 1-Mar. 31*~~ ***Dec. 1-Dec. 31*** *Unit 13, remainder —1antlered bull moose by Federal registration permit only.* — *Aug. 1–Sept. 20* ~~***Nov. 1-Mar. 31***~~ ***Dec.1-Dec. 31***
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	**Take No Action** on the permit portion of the WP18-18 and **Support** WP18-18 **with modification** to have a winter hunt for antlered bulls Dec. 1 – Dec.31. The modified regulation should read: **Unit 13—Moose** *Unit 13E—1 antlered bull moose by Federal registration permit only; only one permit per household.* — *Aug. 1–Sept. 20* ~~*Nov. 1-Mar. 31*~~ ***Dec. 1-Dec. 31*** *Unit 13, remainder —1antlered bull moose by Federal registration permit only.* — *Aug. 1–Sept. 20* ~~***Nov. 1-Mar. 31***~~ ***Dec.1-Dec. 31***
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	

WP18–18 Executive Summary	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	**Take No Action**
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee (ISC) found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

WP18–18 Executive Summary	
	The ISC recommends **deferral** of WP18-18 until there is an outline of a management plan that provides direction on how a new federal winter moose season would be implemented. A plan would need to address Unit 13 management objectives for moose, federal and State harvest quotas, allocation issues and, if necessary, an allocation and man-agement framework for a community harvest system that could be imple-mented by AITRC for a possible federal winter moose season. WP18-18 seeks to establish an 8 month moose season in Unit 13 and Unit 13 remainder that would accommodate federally qualified subsistence users. AITRC is interested in establishing more robust moose hunting opportunities in their traditional harvest areas for tribal members. Ideally, they would like to be able to harvest antlered moose opportunistically without the crowding and competition associated with the current short fall hunting season of 2 months. An underlying theme of proposals submitted by AITRC is a wish for their tribal constituents to be able to return to more traditional harvesting practices and customs in their traditional area. The federal program is limited in how it can uniquely accommodate similarly eligible rural subsistence users and, as a result, regulatory proposals submitted to benefit the region's tribal members may still disproportionately provide benefits to non-tribal sub-sistence users. However, a significantly lengthened season will undoubtedly result in an increased moose harvest by federally qualified users, including tribal members. To minimize unintended cow harvests and avoid the rut, a modified WP18-18 recommends establishment of a winter season for antlered moose in Units 13 and 13 remainder, from December 1 to December 31, by federal registration permit. Unit 13 moose harvest objectives and quotas are estab-lished by ADF&G for individual subunits. A federal hunt, concentrated on the limited federal lands available in Unit 13, could result in localized de-pletions of moose on federal and adjacent state managed lands and in bull:cow ratios falling below state management objectives in these same areas. Following the State and federal fall hunts, for BLM to responsibly authorize a winter season and establish a federal harvest quota will require up-to-date moose population, harvest, and distribution information. ADF&G, BLM, NPS and potentially AITRC will therefore need to work cooperatively to gather and share timely information. Absent reliable population data, only a conservative winter harvest quota would be authorized and would be un-likely to meet the stated needs of the proponent. If necessary, an allocation

WP18–18 Executive Summary	
	and management framework should be in place prior to a winter hunt being established so that setting a winter moose quota is not an arbitrary decision or one that potentially creates conservation concerns.
ADF&G Comments	**Oppose**
Written Public Comments	**1 Support**

STAFF ANALYSIS
WP18–18

ISSUES

Proposal WP18–18, submitted by the Ahtna Intertribal Resource Commission (AITRC), requests that the moose season on Federal public lands in Unit 13E and Unit 13-remainder be changed from Aug. 1-Sept. 20 to Aug. 1-Mar. 31. In addition AITRC requests authorization to distribute (FM1301) permits to Federally qualified tribal members only. Bureau of Land Management (BLM) and Denali National Park and Preserve (DENA) will distribute (FM1301) permits to other Federally qualified subsistence hunters.

DISCUSSION

The proponent requests the extension of the moose season to provide more opportunity for Ahtna tribal members to harvest a moose during the fall and winter months according to customary and traditional practices. In explaining why the regulatory change should be made, the proponent states that per the Memorandum of Agreement between the United States Department of Interior and the AITRC, Federal wildlife proposals are to be written to accommodate Ahtna customary and traditional ways of harvesting large wild game.

The Office of Subsistence Management (OSM) is only evaluating the season extension aspects in this proposal. Discussion/evaluation of permit issuance is addressed in Proposal WP18-19.

Existing Federal Regulation

Unit 13—Moose

Unit 13E—1 antlered bull moose by Federal registration permit only; only 1 permit will be issued per household.	*Aug. 1–Sept. 20*
Unit 13, remainder —1 antlered bull moose by Federal registration permit only.	*Aug. 1–Sept. 20*

Proposed Federal Regulation

Unit 13—Moose

Unit 13E—1 antlered bull moose by Federal registration permit only; only 1 permit per household.	*Aug. 1~~–Sept. 20~~**Mar. 31***
Unit 13, remainder —1 antlered bull moose by Federal	*Aug. 1~~–Sept.~~*

registration permit only.			~~*20*~~***Mar. 31***

Existing State Regulation

Unit 13-Moose

Unit 13 *1 moose per regulatory year as follows:*	*Residents: 1 bull per harvest report by community harvest permit only; however, no more than 100 bulls that do not meet antler restrictions for other resident hunts in the same area may be taken by Tier II permit in the entire community harvest area during the Aug. 20-Sept. 20 season, up to 350 Tier II permits may be issued;*	*CM300*	*Aug. 20–Sept. 20* *Dec.1-Dec. 31 (Subsistence hunt only)*
	OR		
	Residents: 1 bull, with spike-fork antlers or 50-inch antlers or antlers with 4 or more brow tines on at least one side;	*HT*	*Sept.1–Sept. 20 (Subsistence hunt only)*
	OR		
	1 bull, by registration permit only;	*HT*	*Dec. 1-Dec. 31 (General hunt only)*
	OR		
	Residents: 1 antlerless moose by drawing permit only; up to 200 permits may be issued; a person may not take a calf or cow accompanied by a calf.	*DM325*	*Oct.1–Oct.31* *Mar. 1-Mar. 31 (General hunt only)*
	OR		
	Residents: 1 bull moose by drawing permit only; up to 5 permits may be issued;.	*DM324*	*Sept. 1-Sept. 20* *(General hunt only)*

Unit 13	*Nonresidents: 1 bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side by drawing permit only; up to 150 permits may be issued.*	*DM335-DM339*	*Sept. 1-Sept. 20*

Extent of Federal Public Lands

Federal public lands comprise approximately 12% of Unit 13 and consist of approximately 6% National Park Service (NPS) managed lands, 4% Bureau of Land Management (BLM) managed lands and 2% U.S. Forest Service (USFS) managed lands (See **Unit Map**). Federal public lands within DENA as it existed prior to the Alaska National Interest Lands Conservation Act (ANILCA) (December 1980) are closed to all hunting and trapping.

Lands customarily and traditionally used by the Ahtna people extend from the Canadian border in the east to Denali National Park in the west and encompass most of Units 11, 12, and 13 (**Map 1**).

Customary and Traditional Use Determinations

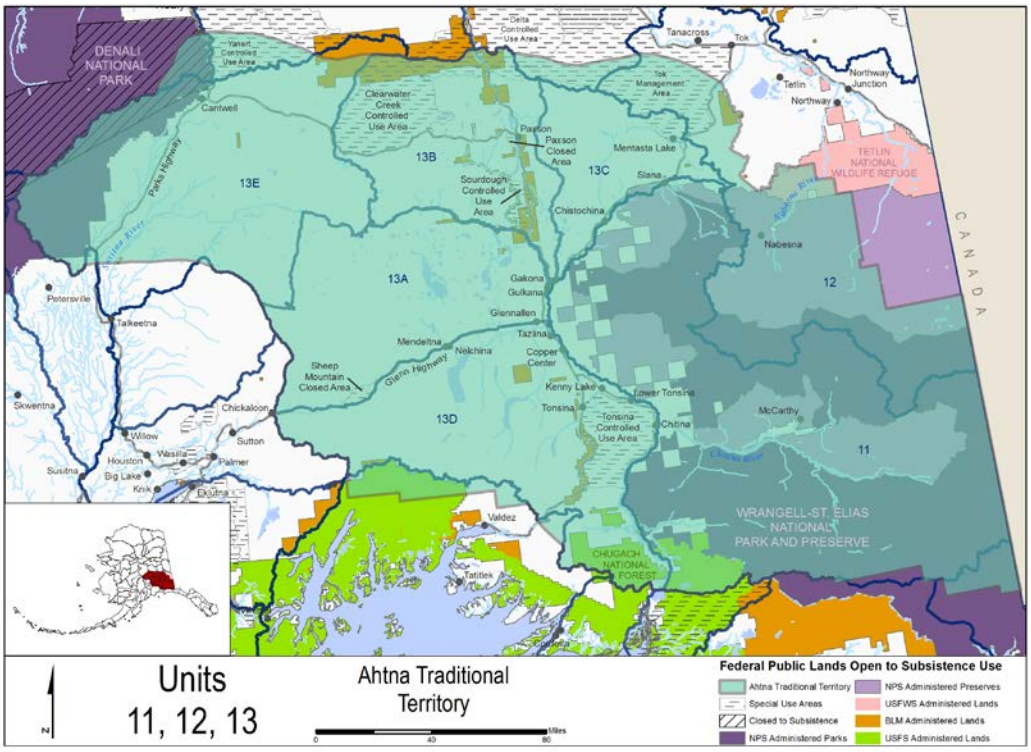
Residents of Unit 13, Chickaloon and Slana have a customary and traditional use determination for moose in Units 13A and 13D.

Residents of Units 13 and 20D (excluding residents of Fort Greely) and Chickaloon, and Slana have a customary and traditional use determination for moose in Unit 13B.

Residents of Units 12 and 13, Chickaloon, Healy Lake, Dot Lake, and Slana have a customary and traditional use determination for moose in Unit 13C.

Residents of Unit 13, Chickaloon, McKinley Village, Slana, and the area along the Parks Highway between mileposts 216 and 239 (excluding residents of Denali National Park headquarters) have a customary and traditional use determination for moose in Unit 13E.

Under the guidelines of ANILCA, National Park Service regulations identify qualified local rural subsistence users in National Parks and Monuments by: 1) identifying resident zone communities which include a significant concentration of people who have customarily and traditionally used subsistence resources on park lands; and 2) identifying and issuing subsistence use (13.440) permits to individuals residing outside of the resident zone communities who have a personal or family history of subsistence use. In order to engage in subsistence in the Denali National Park (DENA) ANILCA additions, the National Park Service requires that subsistence users either live within the park's resident zone (36 CFR 13.430, 36 CFR 13. 902) or have a subsistence permit (36 CFR 13.440) issued by the park superintendent.



Map 1. Location of areas customarily and traditionally used for subsistence by the Ahtna people.

Regulatory History

The existing Federal subsistence regulations, one antlered bull moose by Federal registration permit only, from Aug. 1 to Sept. 20 (OSM 1995), have been in place since 1995 when the season starting date was changed from Aug. 25 to Aug. 1 thus providing an additional 14 days for Federally qualified subsistence users to harvest moose without interference from State Tier II permit hunters.

In 2004, the Federal Subsistence Board (Board) considered Proposal WP04-27, which requested that the harvest season for moose be shortened by 14 days, and to require reporting of the permit number and exact location of the harvest, and require a 3-day vs 5-day harvest reporting period to BLM (OSM 2004). The Board rejected this proposal because it would have reduced the harvest opportunity by two weeks, and the permit requirements would have done little to curtail illegal harvest.

The State general harvest regulations for moose in Unit 13 were changed in 2000 when the designation of a legal bull went from 3 or more brow tines or 50-inch antler spread to a 4 or more brow tines or 50-inch antler spread and have been in effect ever since. The same year, non-resident general moose hunting was eliminated from Unit 13 in the State regulations due to low moose population numbers. In addition, the Alaska Department of Fish and Game (ADF&G) also managed a State Tier II hunt (TM300) for one bull moose by permit Aug. 15 – Aug. 31 between 1995 and 2008.

In 2008, the State Tier II hunt was changed by the Alaska State Board of Game (BOG) to add a community harvest (CM300) and the season was modified to Aug 10 – Sept 20 with an upper harvest limit of 10 any-bull moose for Unit 13 and an unlimited number of spike/fork, 50 inch, and 4 or more brow tine moose. For residents, drawing permit hunts (DM330-334) for one bull moose with a season of Sept. 1-Sept. 20 were added as a new harvest option in select areas where moose numbers had increased. For non-residents, drawing permit hunts (DM 335-339) were established to harvest one bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side from Sept. 1-Sept. 20. These three hunts were in addition to the State general harvest of one bull moose with spike-fork or 50-inch antlers or antlers with 4 or more brow tines on at least one side from Sept.1 to Sept. 20 for residents.

In March 2009, the BOG revised the amount reasonably necessary for subsistence (ANS) findings for moose and caribou in Unit 13 eliminated the Tier II hunts for both populations and created the Community Subsistence Hunts (CSH) Robbins 2017). The CSH included an allocation of 100 bulls that did not meet the antler restrictions. The BOG also created antlerless moose drawing hunts of residents and antlered bull moose hunts for nonresidents.

In 2011, the BOG adopted a new regulation for the Community Subsistence Hunt in 2011/12 which allowed any community or group of Alaska residents numbering 25 or more to apply for the hunt between Aug.10 and Sept. 20. Following this change, the number of participants in the CSH hunts increased substantially. The BOG decreased the number of bulls that do not meet the antler restrictions from 100 to 70.

In 2013, the BOG increased the number of bulls not required to meet the antler restrictions from 70 back to 100 in response to increased participation in the hunt. A winter registration hunt from Dec.1-Dec.31, which was effective in 2014, was also added to provide additional opportunity for bulls that do not meet the antler restrictions. The hunt was closed after one day due to very high levels of participation and was not resumed.

In 2015, the BOG required participants in the CSH to commit to participation for two consecutive years and provide an annual group report with the stipulation that if a report is not submitted the entire group would be ineligible for a permit hunt the next regulatory year. The BOG also created an any bull moose drawing for residents which was effective in 2016 and shortened the CSH season by 10 days from Aug. 10-Sept. 20 to Aug. 20-Sept. 20 for the 2016/17 regulatory year.

The Paxson Closed Area in Unit 13B (**Map 1**) was established by the State in 1958 to provide a viewing area adjacent to the junction of the Richardson and Denali Highways (ADF&G 2015). During 1991/1992 and 1992/1993 regulatory years, Federal public lands within the Paxson Closed Area were closed to the hunting of big game under the Special Provisions section for Unit 13 in the Federal Subsistence Management Regulations for Federal public lands in Alaska. However, the hunting for small game was still allowed in the Paxson Closed Area. In 1992, the Federal Subsistence Board (Board) closed the Paxson Closed Area in Unit 13B to the taking of big game. In June 2014, the Glennallen Field Office of BLM became aware of the unencumbered Federal public lands within the Paxson Closed Area and they were subsequently removed from State selection. As a result, Federal public lands in the Paxson Closed Area were determined to be opened (i.e. no longer State selected) to the taking of big game, which includes

moose, by Federally qualified subsistence users under Federal subsistence regulations. In 2016, the Board rejected Wildlife Proposal WP16-16 which requested that the Federal public lands within the Paxson Closed Area in Unit 13 be closed to Federally qualified subsistence users (OSM 2016).

To address concerns that the communal pattern of use was not providing reasonable opportunity in Unit 13, the BOG adopted amended Proposal 20 (RC25) at the special meeting in Glennallen in February 2017 to retain the CSH moose hunt for resident hunters for the fall (Aug. 20 – Sept. 20) and winter (Dec. 1 - Dec. 31; subsistence hunt only) hunts with the following restrictions: *One bull per by community harvest permit only; however, no more than 100 bulls that do not meet antler restrictions may be taken by Tier II permit during the August 20 – September 20 season, up to 350 Tier II permits may be issued, one Tier II permit per household.*

Biological Background

In the early 1900s, moose densities in Unit 13 were low but increased gradually until peaking in the mid-1960s. The population then declined due to a combination of factors including overhunting, severe winters, and predation, primarily by brown bears and wolves (Ballard et al. 1987, Schwanke 2012, Robbins 2014). The population reached a low in 1975 and then started to increase by 1978, reaching a second peak in 1987. Between 1988 and 1994, the moose population declined due to a combination of factors including hunting pressure, deep snow and increasing wolf predation (Robbins 2014). From 1987 to 2001 the moose population declined by an estimated 47% (Tobey and Schwanke 2008, 2010). The moose populations in Unit 13 have grown since 2000 due to a combination of mild winters, predator control, and more conservative hunting regulations (Schwanke 2012, Robbins 2014). In 2015 moose populations were stable or increasing slightly in all subunits within Unit 13 , except Unit 13D (DeFrate 2017).

State management objectives for moose populations and human use in Unit 13 are as follows (Robbins 2014):

Population Objectives

- Maintain a combined population of 17,600 to 21,900 moose in Unit 13:
    - 3,500-4,200 moose in Subunit 13A
    - 5,300-6,300 moose in Subunit 13B
    - 2,000-3,000 moose in Subunit 13C
    - 1,200-1,900 moose in Subunit 13D
    - 5,000-6,000 moose in Subunit 13E
- Maintain minimum fall composition ratios:
    - 25–30 calves:100 cows in Subunit 13A
    - 30 calves:100 cows in Subunits 13B, 13C, 13D, and 13E
    - 25 bulls:100 cows in all subunits
    - 10 yearling bulls:100 cows in all subunits

Human Use Objectives

- Maintain a combined annual harvest of 1,050–2,180 moose in Unit 13:

- 210-420 moose in Subunit 13A
- 310-620 moose in Subunit 13B
- 155-350 moose in Subunit 13C
- 75-190 moose in Subunit 13D
- 300-600 moose in Subunit 13E

ADF&G conducts fall counts to determine the sex and age composition and population trends in large count areas distributed throughout Unit 13. From 2001–2009 the number of moose observed in Unit 13 during the fall increased from 3,466 in 2001 to 5,604 in 2011 and then dropped slightly to 5,596 in 2015 (**Table 1**). Although the bull:cow and yearling bull:cow ratios increased in Unit 13, with the population increases between 2001–2012, calf:cow ratios remained below the minimum management objective of 25:100 cows (**Table 1**). In 2012 (Robbins 2014) and 2015 (DelFrate 2017) bull:cow ratios were within the State management objectives for all subunits. In 2012, the yearling bull:cow and calf:cow ratios were below the State management objectives of 10 yearling bulls:100 cows and 25 calves:100 cows in Unit 13A and 30 calves:100 cows in the remaining units (**Table 2**) (Robbins 2014). The bull: cow ratios were above State bull:cow objectives in all the subunits except 13A based on opportunistic composition surveys conducted by BLM and ADF&G during fall of 2016 (Hankins 2017a).

Moose are most abundant along the southern slopes of the Alaska Range in Units 13B (Alphabet Hills) and 13C and in the eastern Talkeetna Mountains in western Unit 13B. The lowest densities are found in the section of Denali National Park located in the western portion of Unit 13E, Lake Louise Flats in eastern portion of Unit 13A, and Unit 13D. Historically, moose numbers in the western portion of Unit 13A, Unit 13B, and Unit 13C tend to fluctuate more than in lower density areas (Tobey and Schwanke 2008, 2010, Robbins 2014).

Moose typically congregate in subalpine habitats during fall rutting and move down to lower elevations as the snow increases (Tobey and Schwanke 2010). Winter distribution depends mainly on snow depth and to a lesser extent wolf distribution (Tobey and Schwanke 2010). Known wintering areas include the southern Alphabet Hills, the upper Susitna River, Tolsona Creek burn, the eastern foothills of the Talkeetna Mountains, and the Copper River floodplain (Robbins 2014). Severe winters with deep snow are known to cause winter mortality by increasing nutritional stress through restriction of movements. Severe winters prevent access to adequate and/or quality food (Coady 1974, Testa 2004, Bubenik 2007, Innes 2010), and increases the risk of predation, primarily by wolves (Bishop and Rausch 1974, Peterson et al. 1984). Snow depths greater than 35 inches represent a critical depth for adults with calves (Coady 1974), older adults (≥8 yrs. old), and adult males which are more susceptible to nutritional stress and death (Coady 1982). In 2004–2005, despite the severe snowpack conditions compared to the previous 11 years (Testa 2004), moose numbers remained fairly stable in Unit 13B (Tobey and Schwanke 2008).

Fluctuations in moose populations in Denali National Park were shown to be linked to occasional severe winters. Hunting mortality combined with increased predation during severe winters can severely reduce moose populations (Walters et al. 1981). Prime breeding bulls and cows are particularly vulnerable during the rut which occurs primarily during the month of September in Denali National Park and Preserve (Miquelle 1991). Consequently, hunting seasons are often scheduled after the peak rut when bulls are

extremely wary and much less vulnerable, in order to leave more prime bulls in the population and ensure the successful breeding of cows. During early winter aggregations of bulls and cows, excessive harvests can also occur from hunters using snowmobiles and all-terrain vehicles (Timmerman and Buss 2007). For example in 2017, large aggregations of bull moose were still present in Unit 13 B from Nov. 22 – 27 during the fall moose composition surveys (Hankins 2017b, pers. comm.). Many subsistence users will avoid taking bull moose during the rut because of the poor quality of the meat.

Table 1. Unit 13 fall aerial moose composition counts in trend count areas 3, 5, 6, 10, 13, 14, 15, and 16 (Tobey and Schwanke 2008, 2010, Robbins 2014, Robbins 2015, 2017 pers. comm.).

Year	Bulls:100 cows	Yearling bulls: 100 cows	Calves: 100 cows	% Calves	Adults observed	Total moose observed	Moose/ hour	Density moose/mi^2 (observed range)
2001	23	3	15	11	3,086	3,466	37	1.0 (0.6 – 1.4)
2002[a]	24	6	22	15	2,918	3,428	36	1.0 (0.5 – 1.2)
2003	24	8	18	12	3,707	4,230	47	1.2 (0.5 – 1.7)
2004	28	6	22	15	3,215	3,768	40	1.1 (0.5 – 1.7)
2005	27	7	18	13	3,500	4,009	45	1.1 (0.4 – 1.4)
2006	30	8	23	15	3,416	4,028	49	1.1 (0.5 – 1.5)
2007[b]	32	10	22	14	3,875	4,517	40	1.3 (0.5 – 1.8)
2008	35	12	19	13	3,918	4,481	54	1.3 (0.5 - 1.9)
2009[b]	34	9	23	15	4,315	5,046	50	1.7 (0.5-2.0)
2010	30	10	21	14	4,558	5,313	53	1.5 (0.6-2.2 0
2011	33	10	23	15	4,777	5,604	53	1.6 (0.5-2.2)
2012	32	7	16	11	4,821	5,404	50	1.5 (0.5-2.2)
2013	34	5	27	17	4,453	5,350	49	1.5 (0.4-2.4
2014[c]	35	11	16	11	1,975	2,213	53	1.5 (0.4-2.4
2015	32	7	25	16	4,694	5,596	50	1.6 (0.3-2.4

[a] Two of eight count areas were not flown in 2002, therefore data were estimated for those areas

[b] One of eight count areas was not flown in 2007, therefore data was estimated for those areas

[c] Three of eight count areas were not flown in 2014, therefore data was estimated for those areas

Table 2. Unit 13A, 13B, 13C, 13D, and 13E fall aerial moose composition counts for calendar year 2012 (Robbins 2014).

Unit	Bulls:100 cows	Yearling bulls: 100 cows	Calves: 100 cows	% Calves	Total moose observed	Density moose/mi^2
13A	26	7	15	11	1,580	1.6
13B	34	7	18	12	2,685	1.8
13C	30	6	12	9	506	1.7
13D	67	2	14	8	174	0.5
13E	31	9	24	10	1,525	1.2

Cultural Knowledge and Traditional Practices

Most of game management Unit 13 was traditional territory of the Ahtna Athabascans with the northwestern portion of the unit historically being Dena'ina land (ADF&G 2017b). Moose, caribou, and Dall sheep were the primary large game mammals important for subsistence within the region (ADF&G 2017b). Russian explorer, Rufus Sereberinikoff, noted that Ahtna families along the Tazlina River had fresh moose meat when he visited the Copper Basin in May of 1848 (de Laguna and McClellan 1981). Moose were traditionally hunted in late summer through late winter (ADF&G 2017b). De Laguna and McClellan (1981) reported that within Ahtna territory, "caribou and moose were caught either in drag-pole snares or in snares set 200-300 feet apart in long brush fences." Winter moose hunting took place on foot with the use of snowshoes and the aid of bow and arrows (Reckord 1983; Simeone 2006; Haynes & Simeone 2007; ADF&G 2017b). The traditional practices of drying and freezing meat, as well as the proper and respectful treatment of harvested resources such as moose, are described in several ethnographic accounts of the Ahtna and people of the upper Tanana (de Laguna & McClellan 1981; Haynes & Simeone 2007; Reckord 1983; Simeone 2006).

The Dena'ina traditionally hunted moose on an annual basis in areas close to their winter villages and moose rawhides were used to create snowshoes (Townsend 1981). Before contact, weapons utilized to hunt large game included sinew-backed bow and arrows and spears with antler and chipped/ground stone points. After contact, iron was used for arrows and spear points and guns were available by the 1840s (Townsend 1981).

The arrival of the Russians, and later other non-Native explorers, into both Ahtna and Dena'ina territories brought about many changes in the nineteenth and twentieth centuries. Trading posts, roads, mining camps, roadhouses, schools, missions, and the Trans-Alaska pipeline were a few of many such changes. Population increases rose in the Copper River Basin, most especially in the 1940s with the influx of military

personal coming into Alaska to serve in the Pacific Theater during World War II. Those living in the Copper River Basin today are of diverse backgrounds (Sandberg and Hunsinger 2014).

In recent comprehensive subsistence surveys conducted by the Alaska Department of Fish and Game (ADF&G), it was noted that while salmon composed a majority of the harvest in most communities along the upper Copper River drainage, large land mammal harvest is high and ranged between 21% and 88% of total harvest by weight (Holen, et al. 2015; Kukkonen & Zimpleman 2012; La Vine, et al. 2013; La Vine & Zimpleman 2014). Surveys reported the per capita moose harvest from communities in the Copper River Basin ranged from 0 lbs/person in Mendeltna to approximately113 lbs/person in Tolsona, a community that shares extensively with households in neighboring communities like Mendeltna (Holen et al. 2015). Even in those communities that reported no harvest for their study year, moose was widely used, shared, and received. For example, while Mendeltna reported no harvest for the study year, 100% of the households reported using moose (Holen et al. 2015).

During each study year, communities within the Copper River Basin harvested or hunted for moose in Units 11, 12, and 13. Harvest and search areas specific to Unit 13 described locations along the Middle Fork Chulitna River, Tyone River, Klutina and Mentasta Lakes, and the Denali, Parks, Glenn, and Richardson Highways (Holen et al. 2015; La Vine et al. 2013).

Harvest History

Historically, Unit 13 has been an important area for moose hunting in Alaska due to its proximity to major human populations within the state. Throughout the 1960s and early 1970s, annual harvests averaged more than 1,200 bulls and 200 cows (Tobey 2004). During this time, harvests occurred in both fall and winter seasons. By the late 1970s harvests declined to approximately 775 bulls annually, while cow harvests and the winter season were eliminated, and the bull:cow ratios were low. In response, ADF&G changed the harvest of any bull to a harvest of a bull with an antler spread of at least 36 inches or 3 brow tines on at least one antler in 1980. This harvest regime helps to promote growth of the moose population. Subsequently the harvests increased, peaking in 1998 when 1259 moose were reported harvested (Tobey 2004). However, since 1990 State harvest regulations have been revised several times in response to low bull:cow ratios, severe winter mortality, and increased predation. Since 2001, moose harvest and population levels have continued to increase throughout Unit 13, although calf:cow ratios have remained below State management objectives (**Table 1**, **Table 2**) (Robbins 2014).

Currently, the Federal season in Unit 13 allows for a longer subsistence opportunity for Federally qualified subsistence users than the season for non-Federally qualified users. A majority of the moose harvest in Unit 13 occurs during the State general hunt from Sept. 1 – Sept. 20 (Del Frate 2017). Moose harvest on Federal public lands, which comprise only a small portion of Unit 13, has been approximately 6-8% of the total harvest for the last 10 years. From 2006 to 2016 the total annual moose harvest in Unit 13 has ranged from a low 776 to a high of 1,095 (**Table 3**). Under the current Federal and State regulations the harvest in each subunit is currently within State management objectives (**Table 4**). During the last two years, the combined annual harvest has exceeded 1,000 bulls, which is close to the minimum State harvest objective

of 1,050 moose. A majority of the annual moose harvest on Federal public lands (75% in 2016) occurs in Unit 13B (Robbins 2015).

Ahtna Athabascans, which are the indigenous people of the Copper River Basin, have expressed concerns that increased competition and abuse of the Community Harvest System has decreased their ability to harvest moose according to customary and traditional practices (Fall 2017). As a result of the numerous proposals submitted to the BOG on issues surrounding the community caribou and moose hunts, a special meeting on Copper Basin moose and caribou hunting was held on March 18-21, 2017 at Glennallen, Alaska. A summary of information presented at this meeting can be found at: http://www.adfg.alaska.gov/index.cfm?adfg=gameboard.meetinginfo&date=03-18-2017&meeting=glennallen

A brief history of the Community Subsistence Hunt (CSH) in the Copper River Basin area as it relates to the harvest history is as follows (ADF&G 2017b). The BOG noted that residents of communities in the hunt area (Unit 13) typically travelled shorter distances than non-local hunters and have traditionally hunted moose throughout the year. Harvest by local users was traditionally conducted without regard to antler size restrictions as this was the most efficient way to obtain their food. Hunting regulations that specify specific antler configuration, which are usually done to protect the most important segment of the breeding population, also allow for more hunters in the field as not all animals are available. In addition, restrictions on the season and antler configuration may also reduce the success of local users. In 2009, the BOG established the CSH, with an earlier Aug. 10 starting date versus Aug. 15, to provide a community-based hunt that had been established and used by the Ahtna people.

Beginning in 2011, any community or group of Alaskan hunters numbering 25 or more could apply for the hunt from Aug. 10-Sept. 20. Up to 70 bulls not meeting the general season antler restrictions could be taken.

In 2013, up to 100 bulls not meeting the general season antler restrictions could be taken in CSH hunt area which included Unit 11, a portion of Unit 12, and Unit 13. In addition, the BOG provided other regulatory options to provide reasonable opportunities for those individuals and families that chose not to organize as a community. These options included a general hunt with a harvest ticket (with antler restrictions), a winter "any bull" moose hunt, and drawing hunts.

Between 2009 and 2016 the number of groups and participants in the CSH has increased from 1 to 73 and 378 to 3,023, respectively (**Table 5**) (ADF&G 2017b). Although the number of groups, households, and participants increased, the CSH total moose harvest (approximately 19%) did not increased at the same rate (**Table 5**) (Del Frate 2017). Currently the moose population in Unit 13 is stable based on the 2015 population estimates and composition surveys (Del Frate 2017). A majority of the hunters currently participating in the CSH are non-local residents.

Table 3. State and Federal moose harvest in Unit 13 from 2006-2016 (Toby and Schwanke 2008, 2010, Robbins 2014, WinfoNet 2017, FWS 2017, Hankins 2017a).

Year	M	F	U	Estimate Unre-ported	Estimate Illegal	Accidental Road/Train	Federal Harvest	State Harvest	Total
2006/07	665	4	0	25	25	55	47	669	821
2007/08	628	4	0	25	25	75	53	632	810
2008/09	710	1	4	25	25	75	57	715	897
2009/10	857	1	2	25	25	26	61	860	997
2010/11	855	1	0	25	25	113	77	854	1,094
2011/12	867	1	0	25	25	68	80	868	1,066
2012/13	651	5	2	25	25	54	59	658	821
2013/14	674	2	0	25	25	-	50	676	776[a]
2014/15	842	4	0	25	25	-	86	846	982[a]
2015/16	952	8	0	25	25	-	85	960	1,095[a]
2016/17	953	4	0	25	25	-	99	957	1,106[a]
2017/18	-	-	-	-	-	-	89	-	-

[a] Total does not include road/train mortality data

Table 4. Comparison of current population and harvest estimates for Units 13A, 13B, 13C, 13D, and 13E in 2015 with State management population and harvest objectives (Del Frate 2017).

Unit	Population	Harvest	Bulls:100 cows
13A [a]	3,500 – 4,200	210 -420	25:100
2015	3,568	335	25:100
13B [a]	5,300 – 6,300	310 - 620	25:100
2015	4,762 (± 530)	243	28:100
13C [a]	2,000 – 3,000	155 – 350	25:100
2015	2,184	115	30:100
13D [a]	1,200 – 1,900	75 – 190	25:100
2015	948	78	58:100
13E [a]	5,000 – 6,000	300 – 600	25:100
2015	5,085	192	30:100

[a] State management objective

Table 5. Characteristics of the Community Subsistence Hunt for moose and total harvest in Units 11, 13 and portion of Unit 12 from 2009-2016 (ADF&G 2017a, DelFrate, 2017).

Regulatory Year	Number of Groups	Number of Communities	Number of Households	Number of Individuals	CSH Harvest	Total Harvest (Unit 13)
2009/2010	1	19	246	378	98	997
2010/2011[a]	-	-	-	-	-	1,094
2011/2012	9	31	416	814	83	1,066
2012/2013	19	29	460	969	92	821
2013/2014	45	41	955	2,066	152	776[c]
2014/2015	43	41	893	1,771	149	982[c]
2015/2016	43	43	1.039	1,984	170	1,095[c]
2016/2017[b]	73	48	1,527	3,400	201	1,106[c]

[a] A community hunt was not offered in 2010/2011

[b] Harvest is not finalized

[c] Total does not include road/train mortality data

Other Alternatives Considered

One alternative considered was to delegated authority to BLM and Denali National Park and Preserve, to determine the number of permits, set quotas, and establish closures to manage the moose harvest on Federal public lands in Unit 13. Further discussion is warranted with the applicable land managers and the Southcentral Alaska and Eastern Interior Alaska Subsistence Regional Advisory Councils before this option is pursued.

Effects of the Proposal

If this proposal is adopted, it would extend the moose season on Federal public lands in Unit 13 to March 31. An additional six months would give Federally qualified users more opportunity to harvest antlered bulls when needed. However, there will be fewer antlered bulls from February to March as many bulls will have shed their antlers in December and January. This would allow local residents to more efficiently meet their subsistence needs for moose according to their customary and traditional practices.

As of 2015, moose populations in Unit 13 are stable to slightly increasing. Under current Federal and State regulations, the harvest in each subunit is currently within management objectives set by the State (**Table 4**). Current moose harvest on Federal lands ranges from 6-8% of the total harvest and averaged 69 animals from 2006-2016 (**Table 3**). Increase of the harvest season by approximately six months, with the assumption that the harvest rate would be the same as it is currently during the two months in the fall, has a potential to triple the current harvest. This would potentially increase the annual moose harvest on a relatively small portion of Federal public lands in Unit 13 to approximately 200 bull moose. Harvesting bulls during the rut or early winter, when they are most vulnerable, could disrupt breeding and lead to excessive harvest.

OSM PRELIMINARY CONCLUSION

Support Proposal WP18–18 **with modification** to create a split season.

The modified proposal should read:

Unit 13—Moose

Unit 13E—1 antlered bull moose by Federal registration permit only; only one permit per household.	*Aug. 1–Sept. 20* *Nov. 1-**Mar. 31***
Unit 13, remainder —1antlered bull moose by Federal registration permit only.	*Aug. 1–Sept. 20* ***Nov. 1-Mar. 31***

Justification

The moose populations within Unit 13 overall are stable or increasing. However, there is concern that the most recent Unit 13 moose population estimate and calf:cow ratios are below State population objectives in Unit 13B and 13D and that the calf:cow ratios are below the 25 calves:100 cows, the State management objective. The current moose harvest by subunit is below or within the sustainable harvest levels as determined by the State. Extending the moose season by six months to March 31 has the potential to triple the moose harvest on Federal public lands by Federally qualified subsistence users. Based on the low and high harvest levels documented on Federal public lands from 2006-2015 (**Table 3**), the anticipated increase in bull harvest by Federally qualified subsistence users could range from 141to 258 animals. Providing a break in the moose season during the rut and early winter is recommended to protect bulls, avoid disruption to breeding, and avoid harvesting bulls and cows when they're aggregated during the early winter. At current population levels the potential increase in the moose harvest would likely be sustainable if it is distributed between the five subunits. However, this increase could be excessive if taken entirely from one subunit.

ANALYSIS ADDENDUM

OSM CONCLUSION

Support WP18-18 **with modification** to establish a winter moose season from Dec.1 to Dec. 31 in Unit 13. The BLM Glennallen Field Office Manager would be given authority to set the harvest quota, and set opening and closing dates for the proposed winter season (Dec. 1-Dec. 31) on Federal public lands in Unit 13 via a delegation of authority letter only (**Appendix A**).

The modified regulation should read:

Unit 13—Moose

Unit 13E—1 antlered bull moose by Federal registration permit only; only one permit per household.	*Aug. 1–Sept. 20* ~~*Nov. 1-Mar. 31*~~ ***Dec. 1-Dec. 31***
Unit 13, remainder —1antlered bull moose by Federal registration permit only.	*Aug. 1–Sept. 20* ~~***Nov. 1-Mar. 31***~~ ***Dec.1-Dec. 31***

Justification

A winter hunt from Dec.1 – Dec. 31 would provide increased opportunity for Federally qualified subsistence hunters hunting on Federal public lands. The Southcentral Alaska Subsistence Regional Advisory Council (Council), ADF&G, and the Denali National Park Subsistence Resource Commission, recommended a shortened winter moose season. Although the bull:cow ratios in 2015 and 2016 were close to the State management goals, conservation concerns were expressed that projected increase in the harvest of antlered bulls during an 8 month season would likely be unsustainable, and result in bull:cow ratios below State management objectives and localized declines of moose populations on Federal public lands and adjacent State lands. In addition, calf:cow ratios in 2012 were below State management objectives in all subunits (**Table 2**). There was general support for providing a break in the moose season during the rut and early winter aggregations to protect bulls, avoid disruption to breeding and to avoid harvesting bulls and cows when they are most vulnerable during post rut aggregations in the early winter. The Council supported a longer break period following the rut starting on Dec. 1, as post-rut aggregations typically continue beyond November 1 until the first snowfall disperses the herd. For example during the 2017 fall moose composition surveys, large aggregations of bull moose were still present in Unit 13 B from Nov. 22–27 (Hankins 2017b). If post rut aggregations occur into December, then potentially large numbers of bulls may be taken during the winter hunt. Delegating authority to the Glennallen Field Office Manager would increase management flexibility when bull moose are most vulnerable and allow the harvest to be controlled by quotas and season restrictions. Extending the hunt beyond December would increase the likelihood of some cows being taken. In addition, the quality of the moose meat during late winter tends to be low.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Southcentral Alaska Subsistence Regional Advisory Council

Take No Action on the permit portion of WP18-18 and **Support** WP18-18 **with modification** to have a winter hunt for antlered bulls Dec. 1 – Dec. 31. The Council took no action on permit portion of WP18-18 based on actions taken on WP18-19. The Council supported a longer break between the fall moose season and the winter moose season to protect bulls when they are in the rut and during post-rut aggregations. Due to conservation concerns for the potential overharvest of bulls, the Council supported a shorter winter moose hunt from Dec. 1-Dec. 31 versus the extended moose hunt season to March 31 requested by the proponent.

Eastern Interior Alaska Subsistence Regional Advisory Council

Take No Action on WP18-18. The Council briefly considered opposing the proposal due to the conservation reasons outlined by OSM but then decided to take no action due to their vote on WP18-19 and preferred to defer to the home region on this proposal because the area does not affect the Eastern Interior Region.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee (ISC) found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

The ISC recommends **deferral** of WP18-18 until there is an outline of a man-agement plan that provides direction on how a new federal winter moose season would be implemented. A plan would need to address Unit 13 management objectives for moose, federal and State harvest quotas, allocation issues and, if necessary, an allocation and management framework for a community harvest system that could be implemented by AITRC for a possible federal winter moose season.

WP18-18 seeks to establish an 8 month moose season in Unit 13 and Unit 13 remainder that would accommodate federally qualified subsistence users. AITRC is interested in establishing more robust moose hunting opportunities in their traditional harvest areas for tribal members. Ideally, they would like to be able to harvest antlered moose opportunistically without the crowding and competition associated with the current short fall hunting season of 2 months. An underlying theme of proposals submitted by AITRC is a wish for their tribal constituents to be able to return to more traditional harvesting practices and customs in their traditional area. The federal program is limited in how it can uniquely accommodate similarly eligible rural subsistence users and, as a result, regulatory proposals submitted to benefit the region's tribal members may still disproportionately provide benefits to non-tribal subsistence users. However, a significantly lengthened season will undoubtedly result in an increased moose harvest by federally qualified users, including tribal members.

To minimize unintended cow harvests and avoid the rut, a modified WP18-18 recommends establishment of a winter season for antlered moose in Units 13 and 13 remainder, from December 1 to December 31, by

federal registration permit. Unit 13 moose harvest objectives and quotas are established by ADF&G for individual subunits. A federal hunt, concentrated on the limited federal lands available in Unit 13, could result in localized depletions of moose on federal and adjacent state managed lands and in bull:cow ratios falling below state management objectives in these same areas. Following the State and federal fall hunts, for BLM to responsibly authorize a winter season and establish a federal harvest quota will require up-to-date moose population, harvest, and distribution information. ADF&G, BLM, NPS and potentially AITRC will therefore need to work cooperatively to gather and share timely information. Absent reliable population data, only a conservative winter harvest quota would be authorized and would be unlikely to meet the stated needs of the proponent. If necessary, an allocation and management framework should be in place prior to a winter hunt being established so that setting a winter moose quota is not an arbitrary decision or one that potentially creates conservation concerns.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-18: This proposal, submitted by the Ahtna Inter-Tribal Resource Commission (AITRC), would extend the federal moose season in Unit 13 from September 20 to March 31 and allow Ahtna Inter-Tribal Resource Commission the authority to issue federal registration permits in a manner that has a customary and traditional hunting season to their federally qualified tribal members. In addition, the proposal would allow the Bureau of Land Management and Denali National Park & Preserve Office to distribute federal FM1301 permits to other federally qualified subsistence hunters.

Introduction: The proponent requests more opportunity for Ahtna tribal members to practice customary and traditional ways of harvesting a moose, including a longer traditional season during the fall and winter by extending the moose season to March 31.

Impact on Subsistence Users: If adopted this proposal would give federally qualified users an additional six months to harvest moose on federal public lands, but would be detrimental to future subsistence hunting opportunity for federally qualified users because the hunt would not be sustainable.

Impact on Other Users: If adopted, the resulting increase in harvest would not be sustainable and would significantly impact opportunity provided to non-federally qualified hunters under state regulations, particularly in portions of Unit 13 with the majority of federal lands such as Unit 13B.

Opportunity Provided by State: Community subsistence harvest hunt CM300 (subsistence hunt), registration hunt RM291, drawing hunts DM324 and DM325 (cow), and harvest ticket hunts.

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for moose in Unit 13.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need." Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for moose in Unit 13 is 300-600 animals. The reported resident moose harvest Unit was 712 in RY2012; 698 in RY2013; 914 in RY2014; 1024 in RY2015; and 1052 in RY2016. The mean harvest for these years is 880 moose, well above ANS.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
Unit 13	One Antlered Bull	August 20–September. 20 (CM300)	None
Unit 13	One Antlered Bull spike-fork antlers or 50-inch antlers or antlers with 4 or more brow tines on at least one side.	August 20–September. 20 (HT)	None
Unit 13	One Antlerless moose	October 10–October 31	None
	No person may take a calf or cow accompanied by a calf	March 1-March31 (DM325)	
Unit 13	One Bull	September. 1-September 20 (DM324)	None
Unit 13	One Antlered Bull spike-fork antlers or 50-inch antlers or antlers with 4 or more brow tines on at least one side.	September. 1-September 20 (DM335-DM339)	

Special instructions:

CM300

• The bag limit is one (1) bull moose per Copper Basin CSH moose harvest ticket and CSH moose locking tag. Hunters who do not have a CSH locking tag in possession will only be allowed to shoot a bull that conforms to the general season antler restrictions for that hunt area. Up to 100 bull moose may be taken that do not meet general season antler restrictions.

• When these quotas are reached by CSH hunters (state and federal harvest combined), the bag limit will revert to the general/registration season antler restrictions for that area for the remainder of the season. It is your responsibility to be aware of antler restrictions and EOs issued for this hunt. Call the CSH Hotline 822-6789 before you hunt for current harvest numbers and antler restriction information. EO information can also be view online at http://www.adfg.alaska.gov (see News and Events). An unlimited number of bulls that meet general/registration season antler restrictions may be taken.

• Evidence of sex must remain naturally attached to the meat.

• Copper Basin CSH moose hunters must salvage for human consumption all edible meat from the fore-quarters, hindquarters, ribs, neck, and backbone, as well as the head, heart, liver, kidneys, stomach, and hide; and

• Meat of the forequarters, hindquarters, and ribs must remain naturally attached to the bone until delivered to the place where it is processed for human consumption when taken prior to 1 October.

• Successful harvest reports are due to the Glennallen ADF&G (907-822-3461) within 24 hours of kill, or you may report online within 24 hours of kill, no exceptions. If unsuccessful or did not hunt, reports are due within 15 days of the close of season online at http://www.adfg.alaska.gov, by phone or mail.

• Any member of the community/group may hunt on behalf of another member as a designated hunter. In the field, designated hunters must carry a signed harvest ticket of any CSH beneficiary they are hunting for, along with their own CSH harvest ticket.

DM325

• Cow moose do not have antlers. Bull moose generally drop their antlers between November and January. Young bull moose may retain their antlers through February or March. You may harvest either an antlerless bull or a cow, though you are encouraged to take a cow in this hunt.

• If you have already harvested a moose under state or federal regulations this regulatory year, you have already met your state bag limit and you may not use this permit.

• The bag limit for this permit is one antlerless moose; taking of calves or cows with calves is prohibited.

• Permit holders are highly encouraged to allow youth hunters to take antlerless moose. Please see state hunting regulations for hunter education and youth hunting. and proxy requirements for GMU 13.

• You must sign the back of your harvest ticket for it to be valid. You must carry it with you in the field while hunting.

• Successful hunters must report their take within 10 days of kill. If you did not hunt, or hunted unsuccessfully, you must report within 15 days of the season end or emergency closure. If your report is not received within the allotted time, you will be ineligible for any drawing, Tier II, targeted or registration, (including Tier I Nelchina caribou) permits next season, and you may be cited. You may report online by following links at http://alaska.gov/.

DM324, DM335-DM339

• You must sign the back of your harvest ticket for it to be valid. You must carry it with you in the field while hunting. Remember to validate your ticket immediately after taking a moose by cutting out the month and day.

• Successful hunters must report their take within 10 days of kill. If you did not hunt, or hunted unsuccessfully, you must report within 15 days of the season end or emergency closure. If your report is not received within the allotted time, you will be ineligible for any drawing, Tier II, targeted or registration, (including Tier I Nelchina caribou) permits next season, and you may be cited. You may report online by following links at http://www.adfg.alaska.gov/.

Conservation Issues: As stated in the Office of Subsistence Management (OSM) analysis, if adopted this proposal would give federally qualified users an additional six months to harvest moose on the relatively small portion of Unit 13 that is federal public land. Of the 1,182 mi^2 of BLM lands within Unit 13, 688mi^2 occur in Unit 13B. Between 2011 and 2015 an average of 49 bulls of the federal harvest (approximately 70%) occurred in Unit 13B. The OSM analysis suggests that the harvest would increase to 200 bulls, 70% of which would come from Unit 13B (140 bulls and a projected harvest increase of 189% on federal lands).

Between 2011 and 2015, the cow moose density averaged 1.0 cows per square mile in Unit 13B. This equates to 688 cows. Composition data from the same period indicated that the bull:cow ratio averaged 36 bulls:100 cows. Using this information, there were approximately 688 cows and 248 bulls (936 adult moose) on BLM administered lands in Unit 13B. If the harvest was to increase to 140 bulls annually, the resulting harvest would be 15% of the estimated adult moose population and 56% of the estimated bull population. The harvest would not be sustainable and the post-hunt bull-to-cow ratio would drop to 16 bulls:100 cows the first year – well below the management objective of 25 bulls:100 cows. This analysis does not account for an unknown number of bulls harvested under state regulations on BLM administered lands in Unit 13B.

Additionally, because the current federal season ends on September 20 before the peak of the moose rut, an extension of the federal season into the peak of the moose rut would allow hunters the opportunity to hunt bulls when they are most susceptible to harvest and will result in a harvest rate greater than what is observed during the pre-rut period. Moose movements and tendency to aggregate in areas accessible by snowmobile access will contribute to the predicted increase in harvest. Because bull moose begin dropping antlers during the month of December, extending the season beyond December will likely result in the accidental harvest of cow moose, accelerating the predicted decline in the moose population.

Enforcement Issues: None.

Recommendation: ADF&G is **OPPOSED** to this proposal as written because it will result in an unsustainable harvest that is detrimental to the moose population and future subsistence hunting opportunity. Based on analysis of available population data, the projected increase in harvest will reduce the bull-to-cow

ratio below management objectives and result in localized declines in the moose population on federally administered lands and adjacent state lands. The population is unable to support this additional harvest.

The Southcentral Regional Advisory Council and the Office of Subsistence Management recommend a modification to establish a winter antlered bull moose season from December 1 to December 31 in Unit 13. The BLM Glennallen Field Office would set the harvest quota and season dates in coordination with ADF&G. The season and quota would be dependent on post fall season surveys where bull:cow ratios would be assessed to determine the number of surplus bulls available within the population for harvest. The quota would necessarily be set conservatively and may therefore be variable, including zero, depending on survey results. If survey conditions or other circumstances do not allow for the survey to be conducted, the quota would also be zero. Managing this hunt in-season would be a challenge for managers. Because young bulls tend to keep their antlers longer than large bulls, there is a chance that too many young bulls would be harvested.

Written Public Comments

Ahtna Intertribal Resource Commission
dba/Copper River-Ahtna Inter-Tribal
Resource Conservation District
PO Box 613
Glennallen, Alaska 99588
907-822-8154
contact@ahtnatribal.org

July 26, 2017

Chairperson of Federal Subsistence
Board or his Designated Field Officer
Office of Subsistence Management
1011 E. Tudor Road, MS-121
Anchorage, Alaska 99503-6199

Dear Mr. Christensen or Designated Field Officer:

Enclosed are Ahtna Inter-Tribal Resource Commission's (AITRC) comments on 2018-2020 Federal Wildlife proposals. Please consider our viewpoint on wildlife proposals, when decsions are made on federal wildlife regulations.

Sincerely,

Shirley Smelcer, Chairperson of CRITR

Comments on 2018-2020 Federal Wildlife Proposals

Southcentral Subsistence Regional Advisory Council

WP18-14 Change season dates for wolverine hunting and trapping

We support Proposal WP18-14 to extending Unit 11 Wolverine hunting season to February 28th, and extending Unit 13 Wolverine hunting and trapping seasons to February 28th.

Wolverine population is in Unit 11 and Unit 13 is considered to be healthy and abundant. There isn't a conservation concern for wolverine in these two game management units.

Other Federally qualified subsistnece users and Ahtna People will be able to hunt and trap longer in these two GMUs, allowing more opportunity to harvest a wolverine for peronal use or to sell for extra income.

Wolverine is commonly used for clotheing, ruff, or for moccasins, coats or jackets. Wolverine fur is also sold to acquire extra income, which supplements cash, food cost and bills.

WP18-16 Extend winter season [Unit 11 moose]

We do not support WP18-16. See comments under WP18-17.

WP18-17 Extend season [Unit 11 moose] (CRITR)

We suppport Proposal WP18-17 to extend moose hunting season and to allow Ahtna Intertribal Resource Commission to distribute moose permits on federal public lands in Unit 11.

Moose population in Unit 11 can sustain a moose hunt from August 1 to March 31. Moose population will not be depleted or over harvested by Ahtna tribal members who are federally qualified hunters. An increase of moose harvest on federal public lands will not occur with the newly established tribal moose hunt.

AITRC has management capability to distribute Unit 11 moose federal permits to Ahtna tribal members. A permitting system will be set up to allow proof of residency within the Copper Basin and Cantwell communitie before moose permits are distrbuted to federally qualified tribal members. AITRC staff will monitor moose permit and hunting by tribal members. AltRC has a wildlife biologist on staff to help with moose hunt. AITRC has management capbility to distribute Unit 11 moose permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since 2009. AITRC has experienced staff to distribute moose permits and ensure tribal hunters will return moose permits.

WP18-18 Extend season [Unit 13 mooose] (CRITR)

We support WP18-18 to extend moose season and to allow AITRC to distribute mooose permits. Moose population in Unit 13 can sustain a moose hunt from August 1 to March 31. Moose population will not be depleted or over harvested by Ahtna tribal members who are federally qualified hunters. Bureau of Land Management Biologist reported in 2016 1,384 moose permits wree distributed, 681 moose permits were used and 99 moose were harvested by federally qualified subsistence hunters. An increase of moose harvest on federal public lands will not occur with the newly established tribal moose hunt.

AITRC has management capability to distribute Unit 13 moose federal permits to Ahtna tribal members. A permitting system will be set up to allow proof of residency within the Copper Basin and Cantwell communitie before moose permits are distrbuted to federally qualified tribal members. AITRC staff will monitor moose permit and hunting by tribal members. AItRC has a wildlife biologist on staff to help with moose hunt. AITRC has management capbility to distribute Unit 13 moose permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since 2009. AITRC has experienced staff to distribute moose permits and ensure tribal hunters will return moose permits.

WP18-19 Caribou – Revise permitting system [Unit 13 caribou] (CRITR)

We support WP18-19 to allow AITRC to distribute Unit 13 Nelchina Caribou hunting permits to Ahtna tribal members, who are federally qualifed customary and traditional use hunters.

AITRC has management capbility to distribute Unit 13 Nelchina Cariobu permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since the year 2009. AITRC has experienced staff to distribute Nelchina Caribou permits and ensure tribal hunters return caribou permits.

Eastern Interor Subsistence Regional Advisory Council

WP18-50 Extend season [Unit 11 moose]

We do not support WP18-50, we support WP18-17. See comments under WP18-17.

WP18-51 Statewide – Modify baiting restrictions to align State regulations

We support WP18-51 to modify bait regulations to align with State regulations. Federal regulations are more restrictive than State regulations. Adding skinned carcasses of furbearers and fur animals, small game, with the exception of the meat of birds, to bait bear regulations will align State and Federal regulations, provide more opportunities for federal subsistence hunters who use bait stations to harvest bears.

Traditional use of grease, parts of wild game, and other methods of harvesting bears at bait stations would occur, hunters who use bait stations would have an imporoved chance of harvesting a bear with more options to choose from to use as bait.

WP18-54 – Increase harvest limit and Delegate Authority to set harvest limit for [Unit 12 caribou] to be announced winter season

We do not support WP18-54 to change Unit 12 Caribou regulations to "up to 3 caribou" may be taken with a federal registration permit. This will increase the take of caribou beyond sustainable limits and will stress the herd in its winter range. We have seen overharvest of caribou in the past with liberal bag limit that has taken decades to recover. This is not a wise proposal and we oppose it..

WP18-55 Extend Winter and fall season [Unit 12 moose]

Unit 12 Moose

That portion within Tetlin National Wildlife Refuge and those lands within the Wrangell-St. Elias National Preserve north and east of a line formed by the Pickeral Lake Winter Trail from the Canadian border to Pickerel Lake – 1 antlered bull by Federal registration permit (FM1203) Aug. ~~24~~ **20** - Sept. ~~20~~ **30**

Nov. 1 - ~~Feb. 28~~ **Apr. 30**

We are neutral on WP18-55 to extend Unit 12 Moose season to allow longer hunting opportunity.

Appendix A

Glennallen Field Office Manager
Bureau of Land Management
Glennallen Field Office
P.O. Box 147
Mile 186, 5 Glenn Hwy.
Glennallen, Alaska 99588

Dear Field Office Manager:

This letter delegates specific regulatory authority from the Federal Subsistence Board (Board) to the Bureau of Land Management, Glennallen Field Office Manager, to issue emergency or temporary special actions if necessary to ensure the conservation of a healthy wildlife population, to continue subsistence uses of wildlife, for reasons of public safety; or to ensure the continued viability of the population. This delegation only applies to the Federal public lands subject to ANILCA Title VIII within Unit 13as it applies to moose on these lands.

It is the intent of the Board that actions related to management of moose by Federal officials be coordinated, prior to implementation, with the Alaska Department of Fish and Game (ADF&G), and the Chair of the Southcentral Alaska Subsistence Regional Advisory Council (Council) to the extent possible. Federal managers are expected to work with State managers, Federal managers of other agencies, and the Chair and applicable members of the Council to minimize disruption to resource users and existing agency programs, consistent with the need for special action.

DELEGATION OF AUTHORITY

1. Delegation: The Glennallen Field Office Manager- Bureau of Land Management is hereby delegated authority to issue emergency or temporary special actions affecting moose on Federal lands as outlined under 3. Scope of Delegation of this section. Any action greater than 60 days in length (temporary special action) requires a public hearing before implementation. Special actions are governed by Federal regulation at 36 CFR 242.19 and 50 CFR 100.19.

2. Authority: This delegation of authority is established pursuant to 36 CFR 242.10(d)(6) and 50 CFR 100.10(d)(6), which states: "The Board may delegate to agency field officials the authority to set harvest and possession limits, define harvest areas, specify methods or means of harvest, specify permit requirements, and open or close specific fish or wildlife harvest seasons within frameworks established by the Board."

3. Scope of Delegation: The regulatory authority hereby delegated is limited to the following authorities within the limits set by regulation at 36 CFR 242.26 and 50 CFR 100.26:

- To set a harvest quota, and set opening and closing dates for the winter season (Dec. 1 – Dec. 31) for moose on Federal public lands in Unit 13.

All other proposed changes to codified regulations, such as customary and traditional use determinations, adjustments to methods and means of take shall be directed to the Federal Subsistence Board.

The Federal public lands subject to this delegated authority are those within Unit 13.

3. Effective Period: This delegation of authority is effective from the date of this letter and continues until superseded or rescinded.

4. Guidelines for Delegation: You will become familiar with the management history of the wildlife species relevant to this delegation in the region, with current State and Federal regulations and management plans, and be up-to-date on population and harvest status information. You will review special action requests or situations that may require a special action and all supporting information to determine (1) consistency with 36 CFR 242.19, (2) if the request/situation falls within the scope of authority, (3) if significant conservation problems or subsistence harvest concerns are indicated, and (4) what the consequences of taking an action or no action may be on potentially affected subsistence users and non-subsistence users. Requests not within your delegated authority will be forwarded to the Federal Subsistence Board for consideration. You will maintain a record of all special action requests and rationale for your decision. A copy of this record will be provided to the Administrative Records Specialist in the Office of Subsistence Management no later than sixty days after development of the document.

You will notify the Office of Subsistence Management and coordinate with local ADF&G managers, the U.S. Department of Agriculture, National Park Service (Denali National Park and Preserve) and the Chair of the Southcentral Alaska Subsistence Regional Advisory Council regarding special actions under consideration. You will issue decisions in a timely manner. Before the effective date of any decision, reasonable efforts will be made to notify the public, the Office of Subsistence Management, affected State and Federal managers, law enforcement personnel, and Council representatives. If an action is to supersede a State action not yet in effect, the decision will be communicated to the public, the Office of Subsistence Management, affected State and Federal Managers, and the local Council representatives at least 24 hours before the State action would be effective. If a decision to take no action is made, you will notify the proponent of the request immediately.

You may defer a special action request, otherwise covered by this delegation of authority, to the Federal Subsistence Board in instances when the proposed management action will have a significant impact on a large number of Federal subsistence users or is particularly controversial. This option should be exercised judiciously and may be initiated only when sufficient time allows for it. Such deferrals should not be considered when immediate management actions are necessary for conservation purposes. The Federal Subsistence Board may determine that a special action request may best be handled by the Board, subsequently rescinding the delegated regulatory authority for the specific action only.

5. Support Services: Administrative support for regulatory actions will be provided by the Office of Subsistence Management, U.S. Fish & Wildlife Service, and Department of the Interior.

Sincerely,

Anthony Christianson
Chair, Federal Subsistence Board

cc: Assistants to the Board
Interagency Staff Committee
National Park Service, Denali National Park and Preserve, Superintendent
Chair, Southcentral Alaska Subsistence Regional Advisory Council
Commissioner, Alaska Department of Fish and Game
Coordinator, Southcentral Alaska Subsistence Regional Advisory Council
Subsistence Liaison, Alaska Department of Fish and Game
ARD, Office of Subsistence Management
Administrative Record

WP18–19 Executive Summary	
General Description	Proposal WP18–19 requests that requests that the Ahtna Inter-Tribal Resource Commission be allowed to distribute Federal registration permits to Ahtna tribal members for the Federal caribou season in Units 13A, 13B, and 13 remainder. The proposal also requests that the Ahtna Advisory Committee be added to the list of agencies and organizations consulted by the Bureau of Land Management Glennallen Field Office Manager when announcing the sex of the caribou to be taken in Units 13A and 13B. *Submitted by: Ahtna Inter-Tribal Resource Commission*.
Proposed Regulation	**Unit— Caribou** *Unit 13A and 13B – 2 caribou by Federal registration permit only. The sex of animals that may be taken will be announced by the Glennallen Field Office Manager of the Bureau of Land Management in consultation with the Alaska Department of Fish and Game area biologist and Chairs of the Eastern Interior Regional Advisory Council and the Southcentral Regional Advisory Council* ***and the Ahtna Advisory Committee*** *Aug. 1 – Sept. 30* *Oct. 21 – Mar. 31* *Unit 13, remainder – 2 bulls by Federal registration permit only* *Aug. 1 – Sept. 30* *Oct. 21 – Mar. 31* ***Ahtna Inter-Tribal Resource Commission will distribute (FC1302) caribou permits for tribal members only. Bureau of Land Management and Denali National Park & Preserve will distribute (FC1302) caribou permits for other Federally qualified subsistence users.***
OSM Preliminary Conclusion	**Defer**

WP18–19 Executive Summary	
OSM Conclusion	**Support** WP18-19 **with modification** to establish a community harvest system on Federal public lands for moose in Unit 11 and moose and caribou in Unit 13 to be managed by the AITRC and open to Federally qualified subsistence users living within the Ahtna traditional use territory, subject to a framework to be established by the Federal Subsistence Board. Unless formed, the Ahtna Advisory Committee will not be one of the entities consulted with by the Federal land manager during administration of this hunt. **See pages 769-770 for Unit specific regulatory language.**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	**Support** WP18-19 **with modification** to establish a community harvest system for moose and caribou in Units 11 and 13 to be managed by the AITRC, and open to Federally qualified residents of the Ahtna traditional use territory.
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	

WP18–19 Executive Summary	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	**Take no action**
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee (ISC) found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal. **The ISC recommends deferral of WP18-19, both as proposed and as modified in the WP18-19 Analysis Addendum.** The ISC also recommends that the Board assign appropriate OSM and agency staff the task of exploring, with affected stakeholders, the details of how a federal community harvest system might best address AITRC's desires for greater autonomy, remain consistent with the rural priority set forth in Title VIII, and develop a draft framework for possible implementation by the Board. The ISC also recommends that the Board establish a reasonable deadline for completing the draft framework so they may make a decision in a timely manner. The proponent cites the MOA between AITRC and the Department of Interior as being supportive of the proposal's overall intent. However, the MOA describes establishment of a much different community harvest permitting system than was originally proposed. As written, WP18-19 seeks to delegate to AITRC the ability to distribute federal registration permits for hunting caribou in Unit 13 (FC1302) to its tribal members, while federal agencies would continue to distribute these same permits to other federally qualified

WP18–19 Executive Summary	
	and eligible rural residents. Federal personnel broadly distribute thousands of Unit 13 moose and caribou registration permits annually to eligible hunters throughout the region. Reducing this administrative burden through a cooperative arrangement with AITRC would be a welcomed outcome. However, there presently appears to be statutory impediments to the submitted proposal. Additionally, there are significant implementation uncertainties associated with the addendum's proposal for a community harvest system which was recommended by the Southcentral RAC and modified accordingly by OSM. The modifications to WP18-19 in the addendum suggest broadening the proposal's scope by establishing a community harvest system for both moose and caribou in Units 11 and 13. The modifications openly limit participation in the community harvest system to only those federally qualified rural resident living in the Ahtna traditional use territory. This defined territory does not include all eligible rural residents with a C&T use determination. Noting the exponential growth and participation in the State's Community Subsistence Hunt, a commensurate interest and growth in a federal community harvest system by eligible users should be anticipated in coming years, especially if it confers a harvest advantage to subsistence users. This expansion would be counter to the intent of the proponent's wishes for AITRC administered hunts largely unencumbered by competition from out of area hunters. Additionally, the modified proposal, similar to WP18-18 as modified, supports establishment of a winter season for antlered moose in Units 13 and 13 remainder, from December 1 to December 31, by federal registration permit. Unit 13 moose harvest objectives and quotas are established by ADF&G for individual subunits. A federal community harvest system, concentrated on the limited federal lands available in Unit 13, could result in localized depletions of moose on federal and adjacent state managed lands and in bull:cow ratios falling below state management objectives in these same areas. For BLM to responsibly authorize a winter season and establish a federal harvest quota following the State and federal fall hunts will require up-to-date moose population, harvest, and distribution information. ADF&G, BLM, NPS and potentially AITRC will therefore need to work cooperatively to gather and share timely information. If necessary, an

WP18–19 Executive Summary	
	allocation and management framework should be in place prior to a winter hunt being established so that setting a winter moose quota is not an arbitrary decision.
ADF&G Comments	**Neutral**
Written Public Comments	**1 support**

STAFF ANALYSIS
WP18-19

ISSUES

Proposal WP18-19, submitted by the Ahtna Inter-Tribal Resource Commission (AITRC), requests that AITRC be allowed to distribute Federal registration permits to Ahtna tribal members for the Federal caribou season in Units 13A, 13B, and 13 remainder. The proposal also requests that the Ahtna Advisory Committee be added to the list of agencies and organizations consulted by the Bureau of Land Management Glennallen Field Office Manager when announcing the sex of the caribou to be taken in Units 13A and 13B.

DISCUSSION

The proponent states that per the Memorandum of Agreement between the United States Department of Interior and the AITRC, Federal wildlife proposals are to be written to accommodate Ahtna customary and traditional ways of harvesting large wild game. The proponent also states that AITRC will distribute Federal permits in a customary and traditional manner to Ahtna tribal members, advising them where and when to hunt. The proponent wants to ensure that customary and traditional ways and practices of harvesting caribou are carried on from one generation to the next.

Existing Federal Regulation

Unit 13— Caribou

Unit 13A and 13B – 2 caribou by Federal registration permit only. The sex of animals that may be taken will be announced by the Glennallen Field Office Manager of the Bureau of Land Management in consultation with the Alaska Department of Fish and Game area biologist and Chairs of the Eastern Interior Regional Advisory Council and the Southcentral Regional Advisory Council	*Aug. 1 – Sept. 30* *Oct. 21 – Mar. 31*
Unit 13, remainder – 2 bulls by Federal registration permit only	*Aug. 1 – Sept. 30* *Oct. 21 – Mar. 31*

Proposed Federal Regulation

Unit 13— Caribou

Unit 13A and 13B – 2 caribou by Federal registration permit only. The sex of animals that may be taken will be announced by the	*Aug. 1 – Sept. 30* *Oct. 21 – Mar. 31*

Glennallen Field Office Manager of the Bureau of Land Management in consultation with the Alaska Department of Fish and Game area biologist and Chairs of the Eastern Interior Regional Advisory Council and the Southcentral Regional Advisory Council ***and the Ahtna Advisory Committee***

Unit 13, remainder – 2 bulls by Federal registration permit only	*Aug. 1 – Sept. 30*
	Oct. 21 – Mar. 31

Ahtna Inter-Tribal Resource Commission will distribute (FC1302) caribou permits for tribal members only. Bureau of Land Management and Denali National Park & Preserve will distribute (FC1302) caribou permits for other Federally qualified subsistence users.

Existing State Regulation

Unit 13- Caribou

Residents – One caribou by permit per household, available only by application. See Subsistence Permit Hunt Supplement for details	*RC566*	*Aug. 10 – Sept. 20* *Oct. 21 – Mar. 31*
Or		
Residents – One caribou by permit per household, available only by application. See the Subsistence Permit Hunt Supplement for details	*CC001*	*Aug. 10 – Sept. 20* *Oct. 21 – Mar. 31*
Or		
Residents – One caribou by permit	*DC485*	*Aug. 20 – Sept. 20* *Oct. 21 – Mar. 31*
Nonresidents		*No open season*

Extent of Federal Public Lands

Federal public lands comprise approximately 12% of Unit 13 and consist of 6% National Park Service (NPS) managed lands, 4% Bureau of Land Management (BLM) managed lands, and 2% U.S. Forest Service (USFS) managed lands (see **Unit 13 Map**). Federal public lands within Denali National Park as

it existed prior to the Alaska National Interest Lands Conservation Act (ANILCA) (December 1980) are closed to all hunting and trapping.

Customary and Traditional Use Determinations

Residents of Units 11, 12 (along the Nabesna Road and Tok Cutoff Road, mileposts 79-110), 13, 20D (excluding residents of Fort Greely), and Chickaloon have a customary and traditional use determination for caribou in Unit 13B

Residents of Units 11, 12 (along the Nabesna Road and Tok Cutoff Road, mileposts 79-110), 13, Chickaloon, Dot Lake, and Healy Lake have a customary and traditional use determination to harvest caribou in Unit 13C.

Residents of Units 11, 12 (along the Nabesna Road),13, and Chickaloon have a customary and traditional use determination to harvest caribou in Unit 13A and 13D.

Residents of Units 11, 12 (along the Nabesna Road), 13, Chickaloon, McKinley Village, and the area along the Parks Highway between mileposts 216-239 (excluding the residents of Denali National Park Headquarters) have a customary and traditional use determination to harvest caribou in Unit 13E. Under the guidelines of ANILCA, National Park Service regulations identify qualified local rural subsistence users in National Parks and Monuments by: 1) identifying resident zone communities which include a significant concentration of people who have customarily and traditionally used subsistence resources on park lands; and 2) identifying and issuing subsistence use (13.440) permits to individuals residing outside of the resident zone communities who have a personal or family history of subsistence use. In order to engage in subsistence in the Denali National Park (DENA) ANILCA additions, the National Park Service requires that subsistence users either live within the park's resident zone (36 CFR 13.430, 36 CFR 13. 902) or have a subsistence permit (36 CFR 13.440) issued by the park superintendent.

Regulatory History

The Nelchina Caribou Herd (NCH) is an important resource for many rural and non-rural users due to its proximity to Anchorage and Fairbanks and its distribution within Units 11, 12, 13, and 20E (Tobey 2003). A State Tier II system for NCH harvest was established in 1990 for Unit 13. A State Tier I permit was added for the 1996/97 and 1997/98 seasons to allow any Alaskan resident to harvest cows or young bulls, in order to reduce the herd to the management objective. In 1998, the Tier I hunt was closed, as the herd was brought within management objectives due to increased harvest and lower calf recruitment.

The two Federal registration hunts in Unit 13 are for residents of Units 11, 13, and residents along the Nabesna Road in Unit 12 and Delta Junction in Unit 20. In 1998 the Federal Subsistence Board (Board) adopted Proposal P98-036 to extend the winter caribou season from Jan. 5–Mar. 31 to Oct. 21–Mar. 31 (FWS 1998a). This gave Federally qualified subsistence users the same opportunity to harvest an animal as those hunting under the State regulations. In 1998, the Board adopted Proposal P98-034, which opened the Federal registration hunt to residents of Unit 12, Dot Lake, Healy Lake and Mentasta between November and April when the NCH migrate through the Tetlin National Wildlife Refuge (FWS 1998b).

In 2001, the Board adopted Proposal WP01-07, which changed the harvest limit of 2 caribou to 2 bulls by Federal registration permit only, for all of Unit 13 (FWS 2001).

In 2003, the Board adopted Proposal WP03-14, which changed the harvest limit for Unit 13A and 13B back to 2 caribou from 2 bulls, with the harvest of bulls being allowed only during the Aug. 10 – Sept. 30 season. For the Oct. 21 – Mar. 31 winter season, the BLM's Glennallen Field Office Manager was delegated authority to determine the sex of animals taken in consultation with the Alaska Department of Fish and Game (ADF&G) area biologist and the Chairs of the Eastern Interior Alaska and Southcentral Alaska Regional Subsistence Advisory Councils. For the remainder of Unit 13, the harvest limit remained 2 bulls for the Aug. 10 – Sept. 30 and Oct. 21 – Mar. 31 season (FWS 2003).

In 2005, the Board adopted Proposal WP05-08 for Unit 13A and 13B to allow the sex of caribou harvested to be determined for both seasons by the BLM Glennallen Field Office Manager in consultation with the ADF&G area biologist and Chairs of the Eastern Interior Alaska and Southcentral Alaska Regional Subsistence Advisory Councils. This was in effect for the entire season (Aug. 10 – Sept. 30 and Oct. 21 – Mar. 31), not just the winter season (FWS 2005).

Emergency Order 02-01-07 closed the remainder of the 2006/2007 State season for the NCH on February 4, 2007 due to high State hunter success in the State Tier II hunt. Likewise, Emergency Order 02-08-07 closed the 2007/2008 Tier II hunt on September 20, 2007 and was scheduled to re-open on October 21, 2007. However concerns about unreported harvest in the State and Federal hunt resulted in a closure for the remainder of the season.

For the 2009/2010 season, the State Tier II hunt was eliminated. Two hunts were added: a Tier I hunt and a Community Harvest hunt for residents of Gulkana, Cantwell, Chistochina, Gakona, Mentasta, Tazlina, Chitina, and Copper Center. The harvest limit for each was one caribou (sex to be announced annually) with season dates of Aug. 10 – Sept. 20 and Oct. 21 – Mar. 31 with a harvest quota of 300 caribou. A Federally qualified subsistence user could opt into the State community harvest system or use a State registration permit to harvest one caribou and then get a Federal permit to harvest an additional caribou since the Federal harvest limit was two caribou.

In July 2010, the Alaska Superior Court found that elimination of the Tier II hunt was arbitrary and unreasonable (ADF&G 2010a). In response, the Board of Game held an emergency teleconference in July 2010, and opened a Tier II hunt from Oct. 21 – Mar. 31, maintained the existing Tier I season, awarded up to 500 additional Tier I permits (ADF&G 2010a).

Emergency Order 04-1-10 closed the remainder of the winter Nelchina Tier II season due to harvest reports indicating that approximately 1,404 bulls and 547 cows were harvested and the unreported harvest was expected to raise the total harvest above the harvest objective (ADF&G 2010b, FWS 2102).

In 2012, the Board adopted Proposal WP12-25, which added an additional 9 days to the beginning of the fall caribou season to provide more opportunity for Federally qualified subsistence users. The season was extended from Aug. 10–Sept. 30 to Aug. 1 –Sept. 30 (FWS 2012).

In 2016, the Board adopted Proposal WP16-17, which rescinded the restriction prohibiting Federally qualified users from hunting caribou within the Trans-Alaska Oil Pipeline right-of-way in Unit 13 (FWS 2016).

Biological Background

The NCH calving grounds and summer range lie within Unit 13. The rut also generally occurs within Unit 13. About 60-95% of the NCH overwinters in Unit 20E, although Nelchina caribou also overwinter in Unit 12 and across northern portions of Units 13 and 11 (Schwanke and Robbins 2013). Nelchina caribou are usually found in Unit 12 remainder over the winter and en route to wintering grounds in Unit 20E. Winter competition with the Fortymile caribou herd in Unit 20E may be impacting the NCH and range conditions. While use (location and timing) of the NCH calving grounds remains static, use of other seasonal ranges varies with resource availability and snow cover (Schwanke and Robbins 2013).

State management goals and objectives for the NCH are based on the principle of sustained yield and are as follows (Schwanke and Robbins 2013):

- Maintain a fall population of 35,000–40,000 caribou, with a minimum of 40 bulls:100 cows and 40 calves:100 cows.
- Provide for the annual harvest of 3,000–6,000 caribou.

The State manages the NCH for maximum sustained yield, principally by annual adjustments in harvest quotas. The population of the NCH has fluctuated over time, influenced primarily by harvest (Schwanke and Robbins 2013). Between 2001/02 and 2015/16, the NCH population ranged from 31,114 - 49,550 caribou and averaged 39,672 caribou. However, the herd has exceeded State population objectives since 2010 (**Table 1**). Reduced predation resulting from intensive wolf management programs intended to benefit moose in Unit 13 and the Fortymile herd in Units 12 and 20 may have contributed to NCH population increases (Schwanke and Robbins 2013, ADF&G 2017a).

Bull:cow and calf:cow ratios have similarly fluctuated over time. Between 2001/02 and 2016/17, the fall bull:cow ratio ranged from 24-64 bulls:100 cows and averaged 39.5 bulls:100 cows. Over the same time period, the fall calf:cow ratio ranged from 19-55 calves:100 cows and averaged 40 calves:100 cows (**Table 1**). In summer 2017, composition surveys estimated 54 calves:100 cows (Robbins 2017, pers. comm.).

In recent years (2008-2012), below average fall calf weights and low parturition rates for 3-year-old cows suggest nutritional stress, raising concern for the health of NCH (Schwanke and Robbins 2013). Schwanke and Robbins (2013) caution that without a timely reduction in the NCH population, range quality and long-term herd stability may be compromised. The current State management goal is herd reduction (Schwanke and Robbins 2013).

Table 1. Population size and composition of the Nelchina caribou herd (Tobey and Kelleyhouse 2007, ADF&G 2008, 2010, Schwanke 2011, Schwanke and Robbins 2013, Robbins 2015, 2016a, 2016b pers.comm., 2017, pers. comm.).

Year	Total bulls: 100 cows[a]	Calves: 100 cows[a]	Population size[b]
2001	37	40	35,106
2002	31	48	35,939
2003	31	35	31,114
2004	31	45	38,961
2005	36	41	36,993
2006	24[c]	48[c]	-
2007	34	35	33,744
2008	39	40	-
2009	42	29	33,146
2010	64	55	44,954
2011	58	45	40,915
2012	57	31	46,496
2013	30	19	40,121
2014	42	45	-
2015	36	45	48,700
2016	57	48	49,550
Average	39.5	40.1	39,672

[a] Fall Composition Counts

[b] Summer photocensus

[c] Modeled estimate

Harvest History

The NCH is a popular herd to hunt and experiences heavy harvest pressure due to its road accessibility and proximity to Fairbanks and Anchorage. Population limits can be controlled solely by human harvest, and harvest quotas are adjusted annually in order to achieve State management objectives (Schwanke and Robbins 2013).

Over 95% of the NCH harvest occurs in Unit 13. The Federal harvest limit for caribou in Unit 13A and 13B is two caribou with the sex to-be-announced, and in Unit 13 remainder the harvest limit is two bulls. Between 2001 and 2016, harvest from the NCH under State regulations ranged from 797-5,709 caribou/year and averaged 2,423 caribou/year (Robbins 2017, pers. comm.). Over the same time period, caribou harvest under Federal regulations in Unit 13 ranged from 237-610 caribou/year and averaged 417 caribou/year (OSM 2017, **Table 2**). During this time period, total NCH harvest from Unit 13 averaged 2,839 caribou/year.

While the long-term average is below State management objectives, the harvest quota and associated harvest has increased in recent years (2010-2017) in response to the increasing NCH population (**Table 2**). In 2016, the initial harvest quota of 4,000 caribou was lifted after population estimates from the summer photocensus showed that the NCH was still growing. No adjusted quota was announced in 2016 (Robbins 2017, pers. comm.).

Table 2. Nelchina caribou herd State harvest quota, State harvest, and Federal harvest (FC1302) in Unit 13 (Robbins 2015, pers. Comm., 2017 pers. Comm., Schwanke and Robbins 2013, Tobey and Schwanke 2009, Tobey and Kelleyhouse 2007, OSM 2017).

Regulatory Year	Harvest Quota	State Harvest	Federal Harvest (FC1302)	Total Unit 13 Harvest
2001		1,500	498	1,998
2002		1,344	337	1,681
2003		1,087	322	1,409
2004		1,265	335	1,600
2005		2,813	610	3,423
2006		3,090	570	3,660
2007		1,392	385	1,777
2008		1,372	273	1,645
2009		797	349	1,146
2010	2,300	2,439	451	2,890
2011	2,400	2,515	395	2,910
2012	5,500	4,429	537	4,966
2013	2,500	2,640	279	2,919
2014	3,000	2,818	237	3,055
2015	5,000	3,550	595	4,145
2016	N/A[a]	5,709	491	6,200
2017	6,000[b]			

[a]Initial harvest quota of 4,000 was lifted and no adjusted quota was announced

[b]3,000 bulls and 3,000 cows

Other Alternatives Considered

Delegation of authority cannot be granted to non-Federal agencies as requested in this proposal. Therefore, a November 29, 2016 Memorandum of Agreement (MOA) between the Department of Interior and the Ahtna Intertribal Resource Commission (AITRC) describes initiating rulemaking to allow the Federal Subsistence Board (Board) to issue one or more community harvest permits to AITRC for a community harvest system authorizing the harvest of moose, caribou, and possibly other wildlife species. The MOA further describes that AITRC would then manage harvests by participating Federally qualified subsistence users who reside in the participating villages within a framework established by the Board. Instead of individual permits, AITRC would "provide the Department and Board with a list of all participants who will be hunting under the permit(s). The AITRC will also provide Federally qualified subsistence users participating in the community harvest system with a harvest tag or some other form of identification showing their eligibility to participate in the permit hunt and will ensure that all hunters understand all permit stipulations and applicable regulatory requirements." See **Appendix 1** for the full text of the MOA, including specific language that relates to this community harvest permit (Article III(A)). This alternative avoids the legal uncertainty associated with the proposal for AITRC to issue permits and thus could be implemented within the existing legal framework of the Federal Subsistence Management Program.

Effects of the Proposal

If adopted, this proposal would allow AITRC to distribute Federal registration permits to Ahtna tribal members for the Federal caribou season in Units 13A, 13B, and 13 remainder and the Ahtna Advisory Committee would be added to the list of agencies and organizations consulted by the Bureau of Land Management Glennallen Field Office Manager when announcing the sex of the caribou to be taken in Units 13A and 13B. The NCH within Unit 13 is stable or increasing, and there are currently no conservation concerns for the herd.

OSM PRELIMINARY CONCLUSION

Defer Proposal WP18-19.

Justification

The Board has established a framework of issuing Federal permits through the Subsistence Permitting System. Based on statutes and regulations covering system security and information collection, only Federal employees are granted access to this system and specific field managers are delegated authority to issue permits. 50 CFR 100.10(d)(6) states: The Board may delegate to agency field officials the authority to set harvest and possession limits, define harvest areas, specify methods or means of harvest, specify permit requirements, and open or close specific fish or wildlife harvest seasons within frameworks established by the Board.

Until further guidance is received from the Solicitors Office and DOI, the recommended course of action is to defer action on this proposal.

ANALYSIS ADDENDUM

ISSUES

At its November 6-7, 2017 meeting in Homer, the Southcentral Alaska Subsistence Regional Advisory Council (Council) discussed issues related to AITRC's proposals requesting authority to issue Federal registration permits for caribou and moose in Units 11 and 13. In order alleviate legal concerns about non-Federal entities issuing Federal permits, the Council adopted a modification of Proposal WP18-19 to establish a community harvest system on Federal public lands for caribou and moose in Unit 11 and Unit 13 that would be administered by AITRC and open to Federally qualified users living within the Ahtna traditional use territory.

DISCUSSION

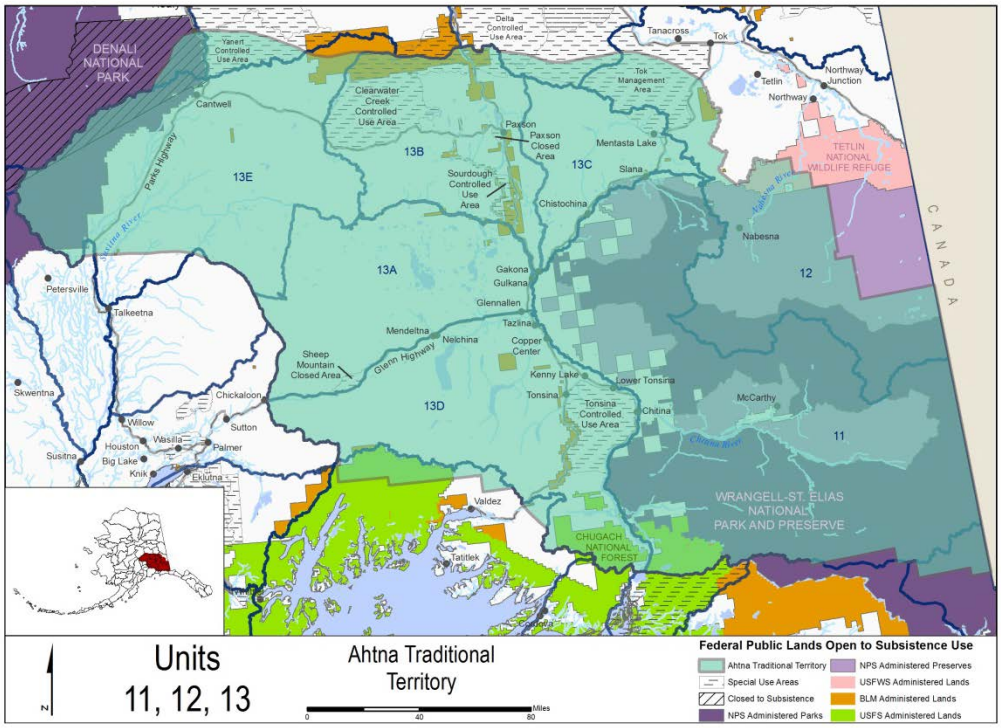
The Council, along with representatives of AITRC and staff from the Office of Subsistence Management, discussed possible alternatives to what was originally requested in WP18-19 so that legal concerns associated with AITRC issuing Federal registration permits would be alleviated. During this discussion, a modification was drafted to allow for a hunt via a community harvest system for caribou and moose in Units 11 and 13. In an effort to consolidate the three proposals submitted by AITRC (WP18-17, WP18-18, and WP18-19) hunts for moose in Unit11 and for caribou and moose in Unit 13 were added to the species subject to the community harvest system in Proposal WP18-19.

Extent of Federal Public Lands

Unit 11

Federal public lands comprise approximately 87% of Unit 11 and consist of approximately 84% National Park Service (NPS) managed lands, 3% U.S. Forest Service (USFS) managed lands, and 0.1% Bureau of Land Management (BLM) managed lands (See **Unit Map**).

Lands customarily and traditionally used by the Ahtna people extend from the Canadian border in the east to Denali National Park in the west and encompass most of Units 11, 12, and 13 (**Map 1**).



Map 1. Location of areas customarily and traditionally used for subsistence by the Ahtna people.

Customary and Traditional Use Determinations

Unit 11 Moose

Residents of Units 11, 12, 13A-D, Chickaloon, Healy Lake, and Dot Lake have a customary and traditional use determination for moose in Unit 11 north of the Sanford River.

Residents of Units 11, 13A-D, and Chickaloon have a customary and traditional use determination for moose in Unit 11 remainder.

Under the guidelines of ANILCA, National Park Service regulations identify qualified local rural subsistence users in National Parks and Monuments by: 1) identifying resident zone communities, which include a significant concentration of people who have customarily and traditionally used subsistence resources on park lands; and 2) identifying and issuing subsistence use (13.440) permits to individuals residing outside of the resident zone communities who have a personal or family history of subsistence use. In order to engage in subsistence in Wrangell St. Elias National Park, the National Park Service requires that subsistence users either live within the park's resident zone (36 CFR 13.430, 36 CFR 13.1902) or have a subsistence permit (36 CFR 13.440) issued by the park superintendent.

Unit 13 Moose

Residents of Unit 13, Chickaloon and Slana have a customary and traditional use determination for moose in Units 13A and 13D.

Residents of Units 13 and 20D (excluding residents of Fort Greely) and Chickaloon, and Slana have a customary and traditional use determination for moose in Unit 13B.

Residents of Units 12 and 13, Chickaloon, Healy Lake, Dot Lake, and Slana have a customary and traditional use determination for moose in Unit 13C.

Residents of Unit 13, Chickaloon, McKinley Village, Slana, and the area along the Parks Highway between mileposts 216 and 239 (excluding residents of Denali National Park headquarters) have a customary and traditional use determination for moose in Unit 13E.

Under the guidelines of ANILCA, National Park Service regulations identify qualified local rural subsistence users in National Parks and Monuments by: 1) identifying resident zone communities which include a significant concentration of people who have customarily and traditionally used subsistence resources on park lands; and 2) identifying and issuing subsistence use (13.440) permits to individuals residing outside of the resident zone communities who have a personal or family history of subsistence use. In order to engage in subsistence in the Denali National Park (DENA) ANILCA additions, the National Park Service requires that subsistence users either live within the park's resident zone (36 CFR 13.430, 36 CFR 13. 902) or have a subsistence permit (36 CFR 13.440) issued by the park superintendent.

Regulatory History

Unit 11 Moose

In 1992, the Board added 10 days to the moose season in Unit 11, aligning it with seasons in adjoining subunits in Units 6, 12, and 13 (OSM 1992). In 1999, Healy Lake was added to communities having a customary and traditional use determination for moose in the portion of Unit 11 north of the Sanford River (OSM 1999a). In 1999, the Board adopted Proposal P99-16 with modification to allow a five day extension to the starting date in Unit 11 moose season to provide additional opportunity for subsistence harvest while protecting the moose population from disruption during the breeding season, and to align Federal and State seasons (OSM 1999b).

In 2000, the Board rejected Proposal P00-19/21 to include the residents in Unit 6C into those with customary and traditional use for moose (P00-19) and sheep (P00-21) in the portion of Unit 11 remainder because Cordova previously failed to qualify as a resident zone community for Wrangell-St Elias National Park (WRST), based on percentage of qualifying individuals (OSM 2000a).

In 2000, the Board adopted Proposal P00-20 modifying general regulations requiring evidence of sex. The regulation was modified to allow hunters in Units 11 and 13 to possess either sufficient portions of the external sex organs, still attached to a portion of the carcass, or the head (with or without the antlers attached) to indicate the sex of the harvested moose; however this does not apply to the carcass of an

ungulate that has been butchered and placed in storage or otherwise prepared for consumption upon arrival at the location where it is to be consumed (OSM 2000b).

In 2002, the Board adopted Proposal WP02-19 to allow for the harvest of a moose without a calf in either Unit 11 or Unit 12 for the annual Batzulnetas Culture Camp by two hunters designated by the Mt. Sanford Tribal Consortium (OSM 2002). The Board adopted this proposal because it was an established, well known culture camp and the change streamlined the process for issuing permits.

In 2007, the Board rejected Proposal WP07-20 to change the season dates from Aug. 20-Sept. 20 to Sept. 1–Sept. 30 to reduce spoilage due to warm weather, because the moose population was low and shifting the season had the potential to increase moose harvest, which would have detrimental effects for the conservation of the population (OSM 2007).

In 2012, the Board adopted Proposal WP12-70 with modification, dividing Unit 11 into two hunt areas and creating a single, joint Federal/State registration permit to administer the hunt area in Units 11 and 12 along the Nabesna Road, and a Federal registration permit for Unit 11 remainder. The season dates for Unit 12 remainder were also modified. These changes aligned the Federal seasons within the area of the joint State/Federal registration permit and helped to improve harvest reporting. In addition, the moose population was healthy enough to allow for the potential increase in bull harvest (OSM 2012).

In 2014, the Board adopted Proposal WP14-16 with modification to establish a winter moose season from Nov. 20 to Dec. 20 in Unit 11, south and east of a line running along the north bank of the Chitina River, the north and west banks of the Nizina River, and the west bank of West Fork of the Nizina River, continuing along the western edge of the West Fork Glacier to the summit of Regal Mountain. The Board also delegated authority to the WRST Superintendent to open and close any portion of the winter season and to establish a harvest quota (OSM 2014). Moose in the area south of the Chitina River (**Map 2**) typically stay at higher elevations during the fall where they are largely inaccessible to subsistence users. In addition, there is limited access during the fall moose season due, in part, to having to cross the Chitina River. The winter hunt provides subsistence hunters with more opportunity to hunt moose when they are more accessible by snowmachine and allows them to store meat without freezers.

Unit 13 Moose

The existing Federal subsistence regulations, one antlered bull moose by Federal registration permit only, from Aug. 1 to Sept. 20 (OSM 1995), have been in place since 1995 when the season starting date was changed from Aug. 25 to Aug. 1 thus providing an additional 14 days for Federally qualified subsistence users to harvest moose without interference from State Tier II permit hunters.

In 2004, the Board considered Proposal WP04-27, which requested that the harvest season for moose be shortened by 14 days, and to require reporting of the permit number and exact location of the harvest, and require a 3-day vs 5-day harvest reporting period to BLM (OSM 2004). The Board rejected this proposal because it would have reduced the harvest opportunity by two weeks, and the permit requirements would have done little to curtail illegal harvest.

The State general harvest regulations for moose in Unit 13 were changed in 2000 when the designation of a legal bull went from 3 or more brow tines or 50-inch antler spread to a 4 or more brow tines or 50-inch antler spread and have been in effect ever since. The same year, non-resident general moose hunting was eliminated from Unit 13 in the State regulations due to low moose population numbers. In addition, the Alaska Department of Fish and Game (ADF&G) also managed a State Tier II hunt (TM300) for one bull moose by permit Aug. 15 – Aug. 31 between 1995 and 2008.

In 2008, the State Tier II hunt was changed by the Alaska State Board of Game (BOG) to add a community harvest (CM300) and the season was modified to Aug 10 – Sept 20 with an upper harvest limit of 10 any-bull moose for Unit 13 and an unlimited number of spike/fork, 50 inch, and 4 or more brow tine moose. For residents, drawing permit hunts (DM330-334) for one bull moose with a season of Sept. 1-Sept. 20 were added as a new harvest option in select areas where moose numbers had increased. For non-residents, drawing permit hunts (DM 335-339) were established to harvest one bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side from Sept. 1-Sept. 20. These three hunts were in addition to the State general harvest of one bull moose with spike-fork or 50-inch antlers or antlers with 4 or more brow tines on at least one side from Sept.1 to Sept. 20 for residents.

In March 2009, the BOG revised the amount reasonably necessary for subsistence (ANS) findings for moose and caribou in Unit 13 eliminated the Tier II hunts for both populations and created the Community Subsistence Hunts (CSH) Robbins 2017). The CSH included an allocation of 100 bulls that did not meet the antler restrictions. The BOG also created antlerless moose drawing hunts of residents and antlered bull moose hunts for nonresidents.

In 2011, the BOG adopted a new regulation for the Community Subsistence Hunt in 2011/12 which allowed any community or group of Alaska residents numbering 25 or more to apply for the hunt between Aug.10 and Sept. 20. Following this change, the number of participants in the CSH hunts increased substantially. The BOG decreased the number of bulls that do not meet the antler restrictions from 100 to 70.

In 2013, the BOG increased the number of bulls not required to meet the antler restrictions from 70 back to 100 in response to increased participation in the hunt. A winter registration hunt from Dec.1-Dec.31, which was effective in 2014, was also added to provide additional opportunity for bulls that do not meet the antler restrictions. The hunt was closed after one day due to very high levels of participation and was not resumed.

In 2015, the BOG required participants in the CSH to commit to participation for two consecutive years and provide an annual group report with the stipulation that if a report is not submitted the entire group would be ineligible for a permit hunt the next regulatory year. The BOG also created an any bull moose drawing for residents which was effective in 2016 and shortened the CSH season by 10 days from Aug. 10-Sept. 20 to Aug. 20-Sept. 20 for the 2016/17 regulatory year.

The Paxson Closed Area in Unit 13B was established by the State in 1958 to provide a viewing area adjacent to the junction of the Richardson and Denali Highways (ADF&G 2015). During 1991/1992 and 1992/1993 regulatory years, Federal public lands within the Paxson Closed Area were closed to the

hunting of big game under the Special Provisions section for Unit 13 in the Federal Subsistence Management Regulations for Federal public lands in Alaska. However, the hunting for small game was still allowed in the Paxson Closed Area. In 1992, the Federal Subsistence Board (Board) closed the Paxson Closed Area in Unit 13B to the taking of big game. In June 2014, the Glennallen Field Office of BLM became aware of the unencumbered Federal public lands within the Paxson Closed Area and they were subsequently removed from State selection. As a result, Federal public lands in the Paxson Closed Area were determined to be opened (i.e. no longer State selected) to the taking of big game, which includes moose, by Federally qualified subsistence users under Federal subsistence regulations. In 2016, the Board rejected Wildlife Proposal WP16-16 which requested that the Federal public lands within the Paxson Closed Area in Unit 13 be closed to Federally qualified subsistence users (OSM 2016).

To address concerns that the communal pattern of use was not providing reasonable opportunity in Unit 13, the BOG adopted amended Proposal 20 (RC25) at the special meeting in Glennallen in February 2017 to retain the CSH moose hunt for resident hunters for the fall (Aug. 20 – Sept. 20) and winter (Dec. 1 - Dec. 31; subsistence hunt only) hunts with the following restrictions: *One bull per by community harvest permit only; however, no more than 100 bulls that do not meet antler restrictions may be taken by Tier II permit during the August 20 – September 20 season, up to 350 Tier II permits may be issued, one Tier II permit per household.*

Biological Background

Unit 11 Moose

The moose population in Unit 11, which initially increased in the 1950s, has experienced two peaks, one in the early 1960s and the other in 1987, and two lows in 1979 and 2001 (Tobey 2010). Predation on moose calves by bears and wolves has been shown to be an important limiting factor in some moose populations (Tobey 2010). High brown bear and wolf numbers in Unit 11 may be contributing to the low calf:cow ratios observed in this unit, as well as the overall low, but stable density moose population (Tobey 2008).

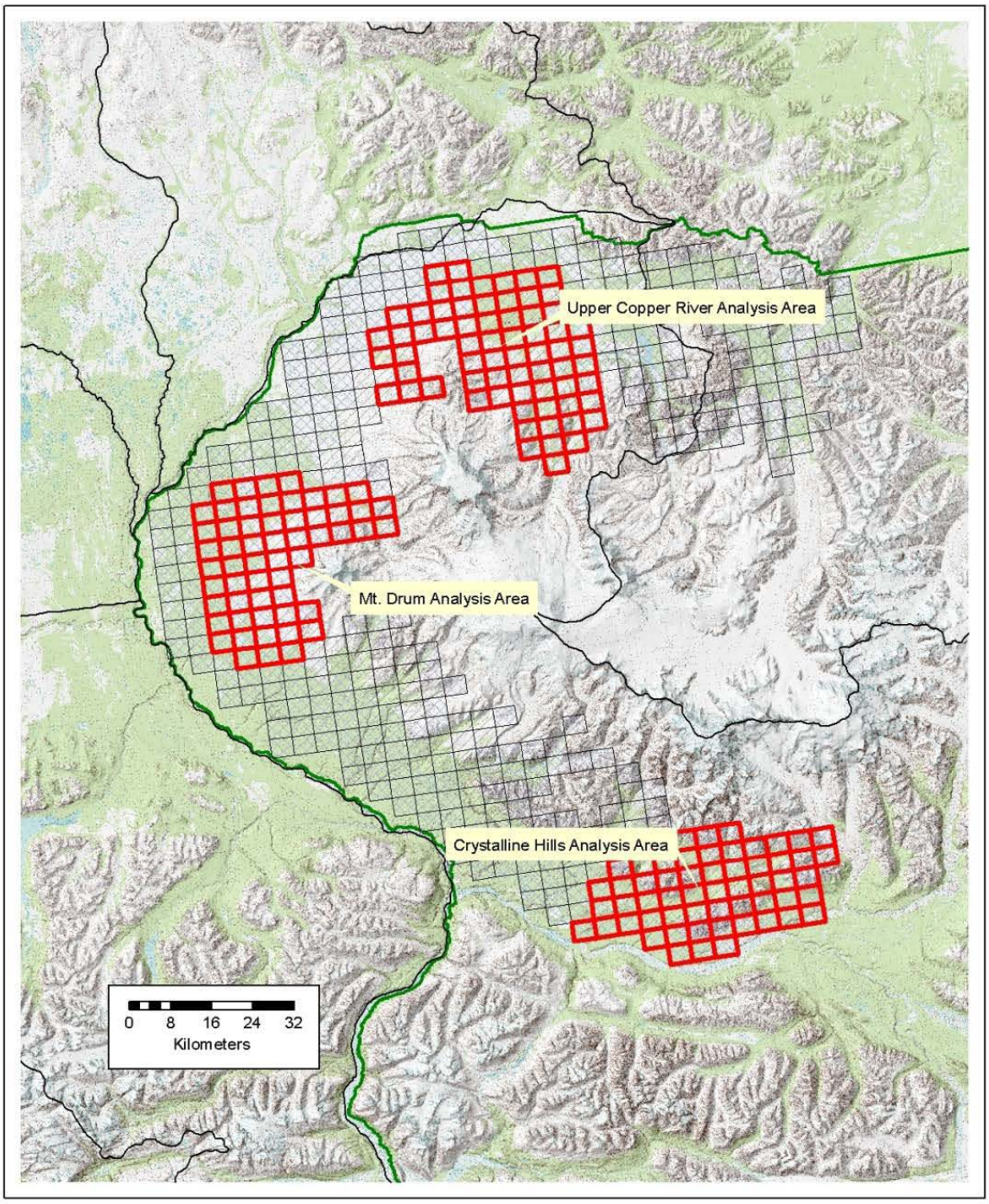
State management goals for moose in Unit 11 are (Tobey 2010):

- To allow the populations to fluctuate based on the available habitat and predation rates.
- Maintain a population with a post hunt age/sex composition of 30 bulls (of which 10-15 are adult bulls) per 100 cows

Three main moose survey efforts have been conducted in Unit 11. The first are ongoing surveys conducted by the Alaska Department of Fish and Game (ADF&G) in the Mount Drum area, the second were surveys conducted by WRST in the north end of Unit 11 from 2003 – 2008, and the third were Geospatial Population Estimator (GSPE) surveys conducted in 2007, 2010, 2011, and 2013 by WRST staff throughout Unit 11 (**Map 2**). The scheduled moose survey for 2016 was not conducted due to inadequate snow conditions (Putera et al. 2017). No moose surveys have been conducted in the winter hunt area in Unit 11. Aerial population and composition trend surveys are usually conducted by the

Alaska Department of the Fish and Game (ADF&G) every other year during late fall along the western slopes of Mount Drum (Count Area CA11). The survey indicator area on Mt. Drum includes 212 mi^2 which is approximately 1.7% of Unit 11 (12470 mi^2). The total number of moose counted in CA11 averaged 170 moose per regulatory year between 1998 and 2015 (**Table 3**). Density estimates from 1999 to 2015 ranged from 0.3 to 1.0 moose/mi^2 in CA11 (**Table 3**) (Tobey 2004, 2010). The bull:cow ratio averaged 95 bulls:100 cows from 1998 through 2015 (Tobey 2010, Schwanke 2013, pers. comm., Hatcher 2014, Robbins 2017, pers. comm.), which exceeds current State management goals. The average number of calves: 100 cows in Unit 11 between 1998 and 2015 was 21 (range 9-48) (Tobey 2010, Schwanke 2013, pers. comm., Hatcher 2014, Robbins 2017, pers. comm.).

The Upper Copper River Analysis Area (UCR) is part of WRST's GSPE moose survey is located near the north end of Unit 11 and covers the Boulder Creek drainage east to Copper Lake (**Table 4**). Although a portion of this survey area is accessible using all-terrain vehicles from the Nabesna Road, the western portion of the survey area is accessible only by aircraft. Between 2003 and 2008 (excluding 2007), an average of 297 moose were counted annually in the Upper Copper River moose survey area (**Table 4**) (Reid 2007, pers comm.). Results from sex and age composition counts found that the calf:cow ratio was fairly stable, averaging 12 calves:100 cows with calves accounting for about 7% of the population. Bull:cow ratios remained fairly stable as well, averaging 46 bulls:100 cows; well above the management objective.



Map 2. Analysis areas within the count area. These areas were selected to allow comparisons with historical survey areas (Putera 2010).

Although a moose population census for all of Unit 11 has never been conducted, population estimates from the GSPE surveys conducted in 2007, 2010, 2011, and 2013 by WRST staff represent the most comprehensive moose population data for Unit 11 (Putera 2013, pers. comm). GSPE developed by ADF&G is an accepted method for estimating moose populations in large areas such as Unit 11 (Ver

Hoef 2001). Population estimates for the total survey area, bull:cow ratios, and calf:cow ratios increased slightly from 2007 to 2013 (**Table 5**) (Reid 2008, Putera 2010, 2013). Separate population estimates were also determined for three analysis areas that cover previous trend count survey areas. For the Mt. Drum area, bull:cow ratios continued to remain high at 118:100 in 2007, 55:100 in 2010, and 79:100 in 2013 (**Table 5**). Moose density increased slightly in 2013 from the 2010 survey. Results of the 2007 and 2010 GSPE surveys for the UCR area are consistent with previous trend surveys, with 2-3 times more moose observed than in the Mt. Drum and Crystalline Hills survey areas. Calf:cow ratios were slightly higher in 2013 (**Table 5**) than surveys conducted in 2012 (**Table 3**). The Crystalline Hills and Mt. Drum count areas had the greatest increase from 2010 to 2013 (**Table 5**). In cooperation with ADF&G, WRST staff conducted a GSPE survey in 2011 along the Nabesna Road corridor, an area that receives relatively high hunting pressure. The population estimate was 1,272 moose with an estimated density of 0.79 moose/mi^2, a bull:cow ratio of 34:100 and a calf:cow ratio of 27:100. The bull:cow ratio along the Nabesna Road corridor was substantially lower than bull:cow ratios from the 2007 and 2010 GSPE surveys (**Table 5**).

Table 3. Unit 11 moose population demographics on the western slopes of Mount Drum, Wrangell-St Elias National Park and Preserve, AK, 1998-2009 – a lightly hunted population (Tobey 2004, 2008; Schwanke 2013, Hatcher 2014, Robbins 2017, pers.comm.).

Year	Number of Bulls	Number of Cows	Number of Calves	Total Moose	Bulls:100 Cows	Calves/ 100 Cows	% Calves	Moose /hour	Density Moose/ mi^2
1998-99	51	46	7	104	111	15	7	24	0.4
1999-00	58	53	11	122	109	21	9	28	0.4
2000-01	58	37	9	104	157	24	9	23	0.4
2001-02	43	46	4	93	94	9	4	19	0.3
2002-03	----	----	----	----	----	---	--	---	----
2003-04	69	60	9	138	115	15	7	30	0.5
2004-05	----	----	----	----	----	----	----	----	----
2005-06	----	----	----	----	----	----	----	----	----
2006-07	57	62	30	149	92	48	20	32	0.5
2007-08	----	----	----	----	----	----	----	----	----
2008-09	63	86	15	164	73	17	9	38	0.6
2009-10	----	----	----	----	----	----	----	----	----
2011-12	98	138	29	265	71	21	11	46	0.9
2012-13	120	143	19	282	84	13	7	46	1.0
2013-14	91	103	27	221	88	26	12	45	0.8
2014-15	67	133	30	230	50	23	13	45	0.8
Mean	70	82	17	170	95	21	10	32	0.56

Table 4. Unit 11 moose population demographics in the Upper Copper River survey area, Boulder Creek to Copper Lake, Wrangell – St. Elias National Park and Preserve, AK, 2003-2008 – a relatively heavily hunted population accessible by aircraft and all-terrain vehicles (Reid 2007, 2008; Putera 2010).

Year	Number of Bulls	Number of Cows	Number of Calves	Total Moose	Bulls:100 Cows	Calves/ 100 Cows	% Calves
2003	97	215	21	333	45	10	6
2004	78	142	25	245	55	18	10
2005	92	183	11	286	50	6	4
2006	86	218	31	335	39	14	9
2008	77	186	22	285	41	12	8
Total	430	944	110	1,484			
Mean	86	189	22	297	46	12	7

Table 5. Moose Population Estimates for selected areas of Unit 11, from GSPE surveys conducted in 2007, 2010, 2011 and 2013 (Reid 2008, Putera 2010, 2013).

Area	Year	Population Estimate	Moose Observed	Calf:100 Cows	Bull:100 Cows	No. Units Surveyed	Density (mi²)
Total Survey 3170 mi²	2007	1576 ± 244	500	19	52	87	0.49
	2010	1584 ± 214	623	17	50	94	0.50
	2013	2107 ± 307	725	18	64	83	0.70
Upper Copper 524 mi²	2007	403 ± 70	170	16	38	25	0.76
	2010	539 ± 106	220	14	49	19	1.02
	2013	515 ± 121	155	16	61	16	1.0
Mt. Drum 349 mi²	2007	232 ± 65	82	11	118	8	0.66
	2010	186 ± 51	66	35	55	11	0.53
	2013	225 ± 56	94	25	79	9	0.70
Crystalline Hills 349 mi²	2007	260 ± 93	63	29	42	9	0.74
	2010	259 ± 55	134	17	50	16	0.74
	2013	380 ± 78	179	19	70	13	1.10
Nabesna 1602 mi²	2011	1272 ± 134	551	27	34	107	0.79

Unit 13 Moose

In the early 1900s, moose densities in Unit 13 were low but increased gradually until peaking in the mid-1960s. The population then declined due to a combination of factors including overhunting, severe winters, and predation, primarily by brown bears and wolves (Ballard et al. 1987, Schwanke 2012, Robbins 2014). The population reached a low in 1975 and then started to increase by 1978, reaching a second peak in 1987. Between 1988 and 1994, the moose population declined due to a combination of

factors including hunting pressure, deep snow and increasing wolf predation (Robbins 2014). From 1987 to 2001 the moose population declined by an estimated 47% (Tobey and Schwanke 2008, 2010). The moose populations in Unit 13 have grown since 2000 due to a combination of mild winters, predator control, and more conservative hunting regulations (Schwanke 2012, Robbins 2014).

State management objectives for moose populations and human use in Unit 13 are as follows (Robbins 2014):

Population Objectives

- Maintain a combined population of 17,600 to 21,900 moose in Unit 13:
    - 3,500-4,200 moose in Subunit 13A
    - 5,300-6,300 moose in Subunit 13B
    - 2,000-3,000 moose in Subunit 13C
    - 1,200-1,900 moose in Subunit 13D
    - 5,000-6,000 moose in Subunit 13E
- Maintain minimum fall composition ratios:
    - 25–30 calves:100 cows in Subunit 13A
    - 30 calves:100 cows in Subunits 13B, 13C, 13D, and 13E
    - 25 bulls:100 cows in all subunits
    - 10 yearling bulls:100 cows in all subunits

Human Use Objectives

- Maintain a combined annual harvest of 1,050–2,180 moose in Unit 13:
    - 210-420 moose in Subunit 13A
    - 310-620 moose in Subunit 13B
    - 155-350 moose in Subunit 13C
    - 75-190 moose in Subunit 13D
    - 300-600 moose in Subunit 13E

ADF&G conducts fall counts to determine the sex and age composition and population trends in large count areas distributed throughout Unit 13. From 2001–2009 the number of moose observed in Unit 13 during the fall increased from 3,466 in 2001 to 5,604 in 2011 and then dropped slightly to 5,596 in 2015 (**Table 6**). Although the bull:cow and yearling bull:cow ratios increased in Unit 13, with the population increases between 2001–2012, calf:cow ratios remained below the minimum management objective of 25:100 cows (**Table 6**). In 2012 (Robbins 2014) and 2015 (DelFrate 2017) bull:cow ratios were within the State management objectives for all subunits. In 2012, the yearling bull:cow and calf:cow ratios were below the State management objectives of 10 yearling bulls:100 cows and 25 calves:100 cows in Unit 13A and 30 calves:100 cows in the remaining units (**Table 7**) (Robbins 2014). The bull: cow ratios were above State bull:cow objectives in all the subunits except 13A based on opportunistic composition surveys conducted by BLM and ADF&G during fall of 2016 (Hankins 2017a).

Moose are most abundant along the southern slopes of the Alaska Range in Units 13B (Alphabet Hills) and 13C and in the eastern Talkeetna Mountains in western Unit 13B. The lowest densities are found in

the section of Denali National Park located in the western portion of Unit 13E, Lake Louise Flats in eastern portion of Unit 13A, and Unit 13D. Historically, moose numbers in the western portion of Unit 13A, Unit 13B, and Unit 13C tend to fluctuate more than in lower density areas (Tobey and Schwanke 2008, 2010, Robbins 2014).

Moose typically congregate in subalpine habitats during fall rutting and move down to lower elevations as the snow increases (Tobey and Schwanke 2010). Winter distribution depends mainly on snow depth and to a lesser extent wolf distribution (Tobey and Schwanke 2010). Known wintering areas include the southern Alphabet Hills, the upper Susitna River, Tolsona Creek burn, the eastern foothills of the Talkeetna Mountains, and the Copper River floodplain (Robbins 2014). Severe winters with deep snow are known to cause winter mortality by increasing nutritional stress through restriction of movements. Severe winters prevent access to adequate and/or quality food (Coady 1974, Testa 2004, Bubenik 2007, Innes 2010), and increases the risk of predation, primarily by wolves (Bishop and Rausch 1974, Peterson et al. 1984). Snow depths greater than 35 inches represent a critical depth for adults with calves (Coady 1974), older adults (≥8 yrs. old), and adult males which are more susceptible to nutritional stress and death (Coady 1982). In 2004–2005, despite the severe snowpack conditions compared to the previous 11 years (Testa 2004), moose numbers remained fairly stable in Unit 13B (Tobey and Schwanke 2008).

Fluctuations in moose populations in Denali National Park were shown to be linked to occasional severe winters. Hunting mortality combined with increased predation during severe winters can severely reduce moose populations (Walters et al. 1981). Prime breeding bulls and cows are particularly vulnerable during the rut which occurs primarily during the month of September in Denali National Park and Preserve (Miquelle 1991). Consequently, hunting seasons are often scheduled after the peak rut when bulls are extremely wary and much less vulnerable, in order to leave more prime bulls in the population and ensure the successful breeding of cows. During early winter aggregations of bulls and cows, excessive harvests can also occur from hunters using snowmobiles and all-terrain vehicles (Timmerman and Buss 2007). For example in 2017, large aggregations of bull moose were still present in Unit 13 B from Nov. 22 – 27 during the fall moose composition surveys (Hankins 2017b, pers. comm.). Many subsistence users will avoid taking bull moose during the rut because of the poor quality of the meat.

Table 6. Unit 13 fall aerial moose composition counts in trend count areas 3, 5, 6, 10, 13, 14, 15, and 16 (Tobey and Schwanke 2008, 2010, Robbins 2014, Robbins 2015, 2017 pers. comm.).

Year	Bulls:100 cows	Yearling bulls: 100 cows	Calves: 100 cows	% Calves	Adults observed	Total moose observed	Moose/ hour	Density moose/mi^2 (observed range)
2001	23	3	15	11	3,086	3,466	37	1.0 (0.6 – 1.4)
2002[a]	24	6	22	15	2,918	3,428	36	1.0 (0.5 – 1.2)
2003	24	8	18	12	3,707	4,230	47	1.2 (0.5 – 1.7)
2004	28	6	22	15	3,215	3,768	40	1.1 (0.5 – 1.7)
2005	27	7	18	13	3,500	4,009	45	1.1 (0.4 – 1.4)
2006	30	8	23	15	3,416	4,028	49	1.1 (0.5 – 1.5)
2007[b]	32	10	22	14	3,875	4,517	40	1.3 (0.5 – 1.8)
2008	35	12	19	13	3,918	4,481	54	1.3 (0.5 - 1.9)
2009[b]	34	9	23	15	4,315	5,046	50	1.7 (0.5-2.0)
2010	30	10	21	14	4,558	5,313	53	1.5 (0.6-2.2 0
2011	33	10	23	15	4,777	5,604	53	1.6 (0.5-2.2)
2012	32	7	16	11	4,821	5,404	50	1.5 (0.5-2.2)
2013	34	5	27	17	4,453	5,350	49	1.5 (0.4-2.4
2014[c]	35	11	16	11	1,975	2,213	53	1.5 (0.4-2.4
2015	32	7	25	16	4,694	5,596	50	1.6 (0.3-2.4

[a] Two of eight count areas were not flown in 2002, therefore data were estimated for those areas

[b] One of eight count areas was not flown in 2007, therefore data was estimated for those areas

[c] Three of eight count areas were not flown in 2014, therefore data was estimated for those areas

Table 7. Unit 13A, 13B, 13C, 13D, and 13E fall aerial moose composition counts for calendar year 2012 (Robbins 2014).

Unit	Bulls:100 cows	Yearling bulls: 100 cows	Calves: 100 cows	% Calves	Total moose observed	Density moose/mi^2
13A	26	7	15	11	1,580	1.6
13B	34	7	18	12	2,685	1.8
13C	30	6	12	9	506	1.7
13D	67	2	14	8	174	0.5
13E	31	9	24	10	1,525	1.2

Harvest History

Unit 11 Moose

Moose harvest from 1963 to 1974 averaged 164 moose per year in Unit 11. During this time there was both a fall and winter season and cows made up as much as 50% of the harvest (Tobey 2010). In response to declining moose numbers, seasons were shortened, the winter season was eliminated, and harvest was restricted to bulls only from 1975 to 1989. The average annual bull harvest was 45 (range 21-58) between 1975 and 1989.

In 1990 the State season was shortened to Sept. 5 - Sept. 9 to align the season with the adjacent Unit 13 and because of the population decline following the severe winter in 1988/1989 (Tobey 1993 2010). During the 1990s, the average harvest was 34 bulls (range 22-42). Since 2000, the mean harvest has been 58 bulls, which includes an estimated 10 unreported moose being harvested each year (**Table 8**) (Tobey 2010, FWS 2017). One moose was harvested in Unit 11 under the Copper Basin Community Permit Hunt (CM300) in 2009 (FWS 2017). The mean annual moose harvest under Federal and State regulations in Unit 11 from 2000 to 2012 was 21 and 28, respectively (**Table 8**). Under the joint State/Federal permit from 2012 to 2016 the annual Federal and State moose harvest was 59 (**Table 8**). Hunting pressure has typically been low in Unit 11, in part because moose densities are greater and access is easier in the adjacent Unit 13. Increasing the harvest season by approximately six months in two areas within Unit 11 has the potential to significantly increase harvest on Federal public lands. The majority of the moose harvest in Unit 11 occurs on Federal public lands. The impact of such an increase of harvest is likely to be much greater in Unit 11 than in adjacent Unit 13, where moose populations are larger, and the majority of lands are non-Federal.

Table 8. State and Federal Moose harvest in Unit 11 from 2000-2015[a] (Tobey 2010, Hatcher 2014, FWS 2017, ADF&G 2017a).

Year	M	F	U	Estimate of Unreported Kill	Federal Total	State Total	Total
2000/2001	52	0	1	10	23	30	63
2001/2002	43	1	1	10	14	31	55
2002/2003	40	0	1	10	8	33	51
2003/2004	45	0	0	10	15	30	55
2004/2005	56	0	1	10	27	30	67
2005/2006	47	1	0	10	24	24	58
2006/2007	41	0	1	10	20	22	52
2007/2008	47	2	0	10	25	24	59
2008/2009	53	0	0	10	28	25	63
2009/2010	64	0	2	10	20	36	66
2010/2011	38	0	0	10	20	18	48
2011/2012	74	0	0	10	27	37	74
2012/2013	48	0	0	10	9[a]	39	58
2013/2014	61	0	0	10	12[a]	39	61
2014/2015	39	0	0	10	10[a]	29	49
2015/2016	47	0	0	10	13[a]	34	57
2016/2017	62	0	0	10	17[a]	45	72

[a] Harvests by Federally qualified subsistence users under the joint State/Federal permit established in 2012 are included in the "Total State" column

Unit 13 Moose

Historically, Unit 13 has been an important area for moose hunting in Alaska due to its proximity to major human populations within the state. Throughout the 1960s and early 1970s, annual harvests averaged more than 1,200 bulls and 200 cows (Tobey 2004). During this time, harvests occurred in both fall and winter seasons. By the late 1970s harvests declined to approximately 775 bulls annually, while cow harvests and the winter season were eliminated, and the bull:cow ratios were low. In response, ADF&G changed the harvest of any bull to a harvest of a bull with an antler spread of at least 36 inches or 3 brow tines on at least one antler in 1980. This harvest regime helps to promote growth of the moose population. Subsequently the harvests increased, peaking in 1998 when 1259 moose were reported harvested (Tobey 2004). However, since 1990 State harvest regulations have been revised several times

in response to low bull:cow ratios, severe winter mortality, and increased predation. Since 2001, moose harvest and population levels have continued to increase throughout Unit 13, although calf:cow ratios have remained below State management objectives (**Table 9**, **Table 10**) (Robbins 2014).

Currently, the Federal season in Unit 13 allows for a longer subsistence opportunity for Federally qualified subsistence users than the season for non-Federally qualified users. A majority of the moose harvest in Unit 13 occurs during the State general hunt from Sept. 1 – Sept. 20 (Del Frate 2017). Moose harvest on Federal public lands, which comprise only a small portion of Unit 13, has been approximately 6-8% of the total harvest for the last 10 years. From 2006 to 2016 the total annual moose harvest in Unit 13 has ranged from a low 776 to a high of 1,095 (**Table 11**). Under the current Federal and State regulations the harvest in each subunit is currently within State management objectives (**Table 12**). During the last two years, the combined annual harvest has exceeded 1,000 bulls, which is close to the minimum State harvest objective of 1,050 moose. A majority of the annual moose harvest on Federal public lands (75% in 2016) occurs in Unit 13B (Robbins 2015 pers. comm.).

Ahtna Athabascans, which are the indigenous people of the Copper River Basin, have expressed concerns that increased competition and abuse of the Community Harvest System has decreased their ability to harvest moose according to customary and traditional practices (Fall 2017). As a result of the numerous proposals submitted to the BOG on issues surrounding the community caribou and moose hunts, a special meeting on Copper Basin moose and caribou hunting was held on March 18-21, 2017 at Glennallen, Alaska. A summary of information presented at this meeting can be found at: http://www.adfg.alaska.gov/index.cfm?adfg=gameboard.meetinginfo&date=03-18-2017&meeting=glennallen

A brief history of the Community Subsistence Hunt (CSH) in the Copper River Basin area as it relates to the harvest history is as follows (ADF&G 2017b). The BOG noted that residents of communities in the hunt area (Unit 13) typically travelled shorter distances than non-local hunters and have traditionally hunted moose throughout the year. Harvest by local users was traditionally conducted without regard to antler size restrictions as this was the most efficient way to obtain their food. Hunting regulations that specify specific antler configuration, which are usually done to protect the most important segment of the breeding population, also allow for more hunters in the field as not all animals are available. In addition, restrictions on the season and antler configuration may also reduce the success of local users. In 2009, the BOG established the CSH, with an earlier Aug. 10 starting date versus Aug. 15, to provide a community-based hunt that had been established and used by the Ahtna people.

Beginning in 2011, any community or group of Alaskan hunters numbering 25 or more could apply for the hunt from Aug. 10-Sept. 20. Up to 70 bulls not meeting the general season antler restrictions could be taken.

In 2013, up to 100 bulls not meeting the general season antler restrictions could be taken in CSH hunt area which included Unit 11, a portion of Unit 12, and Unit 13. In addition, the BOG provided other regulatory options to provide reasonable opportunities for those individuals and families that chose not to

organize as a community. These options included a general hunt with a harvest ticket (with antler restrictions), a winter "any bull" moose hunt, and drawing hunts.

Between 2009 and 2016 the number of groups and participants in the CSH has increased from 1 to 73 and 378 to 3,023, respectively (**Table 13**) (ADF&G 2017c). Although the number of groups, households, and participants increased, the CSH total moose harvest (approximately 19%) did not increased at the same rate (**Table 13**) (Del Frate 2017). Currently the moose population in Unit 13 is stable based on the 2015 population estimates and composition surveys (Del Frate 2017). A majority of the hunters currently participating in the CSH are non-local residents.

Table 9. Unit 13 fall aerial moose composition counts in trend count areas 3, 5, 6, 10, 13, 14, 15, and 16 (Tobey and Schwanke 2008, 2010, Robbins 2014, Robbins 2015, 2017 pers. comm.).

Year	Bulls:100 cows	Yearling bulls: 100 cows	Calves: 100 cows	% Calves	Adults observed	Total moose observed	Moose/ hour	Density moose/mi^2 (observed range)
2001	23	3	15	11	3,086	3,466	37	1.0 (0.6 – 1.4)
2002 [a]	24	6	22	15	2,918	3,428	36	1.0 (0.5 – 1.2)
2003	24	8	18	12	3,707	4,230	47	1.2 (0.5 – 1.7)
2004	28	6	22	15	3,215	3,768	40	1.1 (0.5 – 1.7)
2005	27	7	18	13	3,500	4,009	45	1.1 (0.4 – 1.4)
2006	30	8	23	15	3,416	4,028	49	1.1 (0.5 – 1.5)
2007 [b]	32	10	22	14	3,875	4,517	40	1.3 (0.5 – 1.8)
2008	35	12	19	13	3,918	4,481	54	1.3 (0.5 - 1.9)
2009 [b]	34	9	23	15	4,315	5,046	50	1.7 (0.5-2.0)
2010	30	10	21	14	4,558	5,313	53	1.5 (0.6-2.2 0
2011	33	10	23	15	4,777	5,604	53	1.6 (0.5-2.2)
2012	32	7	16	11	4,821	5,404	50	1.5 (0.5-2.2)
2013	34	5	27	17	4,453	5,350	49	1.5 (0.4-2.4
2014 [c]	35	11	16	11	1,975	2,213	53	1.5 (0.4-2.4
2015	32	7	25	16	4,694	5,596	50	1.6 (0.3-2.4

[a] Two of eight count areas were not flown in 2002, therefore data were estimated for those areas

[b] One of eight count areas was not flown in 2007, therefore data was estimated for those areas

[c] Three of eight count areas were not flown in 2014, therefore data was estimated for those areas

Table 10. Unit 13A, 13B, 13C, 13D, and 13E fall aerial moose composition counts for calendar year 2012 (Robbins 2014).

Unit	Bulls:100 cows	Yearling bulls: 100 cows	Calves: 100 cows	% Calves	Total moose observed	Density moose/mi^2
13A	26	7	15	11	1,580	1.6
13B	34	7	18	12	2,685	1.8
13C	30	6	12	9	506	1.7
13D	67	2	14	8	174	0.5
13E	31	9	24	10	1,525	1.2

Table 11. State and Federal moose harvest in Unit 13 from 2006-2016 (Toby and Schwanke 2008, 2010, Robbins 2014, WinfoNet 2017, FWS 2017, Hankins 2017a).

Year	M	F	U	Estimate Unreported	Estimate Illegal	Accidental Road/Train	Federal Harvest	State Harvest	Total
2006/07	665	4	0	25	25	55	47	669	821
2007/08	628	4	0	25	25	75	53	632	810
2008/09	710	1	4	25	25	75	57	715	897
2009/10	857	1	2	25	25	26	61	860	997
2010/11	855	1	0	25	25	113	77	854	1,094
2011/12	867	1	0	25	25	68	80	868	1,066
2012/13	651	5	2	25	25	54	59	658	821
2013/14	674	2	0	25	25	-	50	676	776[a]
2014/15	842	4	0	25	25	-	86	846	982[a]
2015/16	952	8	0	25	25	-	85	960	1,095[a]
2016/17	953	4	0	25	25	-	99	957	1,106[a]
2017/18	-	-	-	-	-	-	89	-	-

[a] Total does not include road/train mortality data

Table 12. Comparison of current population and harvest estimates for Units 13A, 13B, 13C, 13D, and 13E in 2015 with State management population and harvest objectives (Del Frate 2017).

Unit	Population	Harvest	Bulls:100 cows
13A [a]	3,500 – 4,200	210 -420	25:100
2015	3,568	335	25:100
13B [a]	5,300 – 6,300	310 - 620	25:100
2015	4,762 (± 530)	243	28:100
13C [a]	2,000 – 3,000	155 – 350	25:100
2015	2,184	115	30:100
13D [a]	1,200 – 1,900	75 – 190	25:100
2015	948	78	58:100
13E [a]	5,000 – 6,000	300 – 600	25:100
2015	5,085	192	30:100

[a] State management objective

Table 13. Characteristics of the Community Subsistence Hunt for moose and total harvest in Units 11, 13 and portion of Unit 12 from 2009-2016 (ADF&G 2017b, DelFrate, 2017).

Regulatory Year	Number of Groups	Number of Communities	Number of Households	Number of Individuals	CSH Harvest	Total Harvest (Unit 13)
2009/2010	1	19	246	378	98	997
2010/2011[a]	-	-	-	-	-	1,094
2011/2012	9	31	416	814	83	1,066
2012/2013	19	29	460	969	92	821
2013/2014	45	41	955	2,066	152	776[c]
2014/2015	43	41	893	1,771	149	982[c]
2015/2016	43	43	1.039	1,984	170	1,095[c]
2016/2017[b]	73	48	1,527	3,400	201	1,106[c]

[a] A community hunt was not offered in 2010/2011

[b] Harvest is not finalized

[c] Total does not include road/train mortality data

OSM CONCLUSION

Support WP18-19 **with modification** to establish a community harvest system on Federal public lands for moose in Unit 11 and moose and caribou in Unit 13 to be managed by the AITRC and open to Federally qualified subsistence users living within the Ahtna traditional use territory, subject to a framework to be established by the Federal Subsistence Board. Unless formed, the Ahtna Advisory Committee will not be one of the entities consulted with by the Federal land manager during administration of this hunt.

The modified regulation should read:

§_____.26(n)(11)(iii) Unit 11—Unit specific regulations

(A) For Federally qualified subsistence users living within the Ahtna traditional use territory, a community harvest system for moose is authorized on Federal public lands within the Ahtna traditional use territory, subject to a framework to be established by the Federal Subsistence Board.

§_____.26(n)(13)(iii) Unit 13—Unit specific regulations

(C) For Federally qualified subsistence users living within the Ahtna traditional use territory, a community harvest system for caribou and moose is authorized on Federal public lands within the Ahtna traditional use territory, subject to a framework to be established by the Federal Subsistence Board.

Unit 11—Moose	
Unit 11—that portion draining into the east bank of the Copper River upstream from and including the Slana River drainage—1 antlered bull by joint State/Federal registration permit.	*Aug. 20–Sept. 20*
Unit 11— that portion south and east of a line running along the north bank of the Chitina River, the north and west banks of the Nizina River, and the west bank of West Fork of the Nizina River, continuing along the western edge of the West Fork Glacier to the summit of Regal Mountain – 1 bull by Federal registration permit. However, during the period Aug. 20-Sept. 20, only an antlered bull may be taken.	*Aug. 20–Sept. 20* *Nov. 20–Dec. 20*
Unit 11 remainder—1 antlered bull by Federal registration permit only	*Aug. 20–Sept. 20*
Unit 13— Caribou	
Unit 13A and 13B – 2 caribou by Federal registration permit only. The sex of animals that may be taken will be announced by the Glennallen Field Office Manager of the Bureau of Land Management in consultation with the Alaska Department of Fish and Game area biologist and Chairs of the Eastern Interior Regional Advisory Council and the Southcentral Regional Advisory Council ~~***and the Ahtna Advisory Committee***~~	*Aug. 1 – Sept. 30* *Oct. 21 – Mar. 31*
Unit 13, remainder – 2 bulls by Federal registration permit only	*Aug. 1 – Sept. 30* *Oct. 21 – Mar. 31*

Unit 13—Moose

Unit 13E—1 antlered bull moose by Federal registration permit only; only one permit per household.	*Aug. 1–Sept. 20*
Unit 13, remainder —1antlered bull moose by Federal registration permit only.	*Aug. 1–Sept. 20*

Justification

Establishing a community harvest system will allow AITRC to manage such a hunt without having to issue Federal permits. Currently, under 50 CFR 100.10(d)(6), only Federal employees are able to issue Federal permits due to issues related to permit system security and information collection. The community harvest system would still be subject to the same harvest limits, seasons and methods and means already established under Federal regulations, but would not involve the actual issuance of Federal permits. The proposed modification was supported by both AITRC and the Southcentral Alaska Subsistence Regional Advisory Council (Council) at the Council's November 2017 meeting. The specific guidelines governing the community harvest system would need to established and agreed upon by Federal managers, AITRC and the Office of Subsistence Management. Moose and caribou populations in the units under consideration are not expected to be adversely affected by the creation of a community harvest system on the relatively small amount of Federal public lands occurring within the Ahtna traditional territory in Unit 13. Federal regulations for moose and caribou in Unit 11 will remain the same. Once formed, the Ahtna Advisory Committee will be one of the entities to be consulted by the Federal land manager prior to a caribou hunt occurring in Units 13A and 13B at this time.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Southcentral Alaska Subsistence Regional Advisory Council

Support WP18-19 **with modification** to establish a community harvest system for moose and caribou in Units 11 and 13 to be managed by the AITRC, and open to Federally qualified residents of the Ahtna traditional use territory.

Eastern Interior Alaska Subsistence Regional Advisory Council

Take no action on WP18-19. The Council briefly considered opposing the proposal due to the conservation reasons outlined by OSM but then decided to take no action due to their vote on WP18-19 and preferred to defer to the home region on this proposal because the area does not affect the Eastern Interior Region.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee (ISC) found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

The Interagency Staff Committee recommends deferral of WP18-19, both as proposed and as modified in the WP18-19 Analysis Addendum.

The Interagency Staff Committee also recommends that the Board assign appropriate OSM and agency staff the task of exploring, with affected stakeholders, the details of how a federal community harvest system might best address AITRC's desires for greater autonomy, remain consistent with the rural priority set forth in Title VIII, and develop a draft framework for possible implementation by the Board. The ISC also recommends that the Board establish a reasonable deadline for completing the draft framework so they may make a decision in a timely manner. The proponent cites the MOA between AITRC and the Department of Interior as being supportive of the proposal's overall intent. However, the MOA describes establishment of a much different community harvest permitting system than was originally proposed.

As written, WP18-19 seeks to delegate to AITRC the ability to distribute federal registration permits for hunting caribou in Unit 13 (FC1302) to its tribal members, while federal agencies would continue to distribute these same permits to other federally qualified and eligible rural residents. Federal personnel broadly distribute thousands of Unit 13 moose and caribou registration permits annually to eligible hunters throughout the region. Reducing this administrative burden through a cooperative arrangement with AITRC would be a welcomed outcome. However, there presently appears to be statutory impediments to the submitted proposal. Additionally, there are significant implementation uncertainties

associated with the addendum's proposal for a community harvest system which was recommended by the Southcentral RAC and modified accordingly by OSM.

The modifications to WP18-19 in the addendum suggest broadening the proposal's scope by establishing a community harvest system for both moose and caribou in Units 11 and 13. The modifications openly limit participation in the community harvest system to only those federally qualified rural resident living in the Ahtna traditional use territory. This defined territory does not include all eligible rural residents with a C&T use determination. Noting the exponential growth and participation in the State's Community Subsistence Hunt, a commensurate interest and growth in a federal community harvest system by eligible users should be anticipated in coming years, especially if it confers a harvest advantage to subsistence users. This expansion would be counter to the intent of the proponent's wishes for AITRC administered hunts largely unencumbered by competition from out of area hunters.

Additionally, the modified proposal, similar to WP18-18 as modified, supports establishment of a winter season for antlered moose in Units 13 and 13 remainder, from December 1 to December 31, by federal registration permit. Unit 13 moose harvest objectives and quotas are established by ADF&G for individual subunits. A federal community harvest system, concentrated on the limited federal lands available in Unit 13, could result in localized depletions of moose on federal and adjacent state managed lands and in bull:cow ratios falling below state management objectives in these same areas. For BLM to responsibly authorize a winter season and establish a federal harvest quota following the State and federal fall hunts will require up-to-date moose population, harvest, and distribution information. ADF&G, BLM, NPS and potentially AITRC will therefore need to work cooperatively to gather and share timely information. If necessary, an allocation and management framework should be in place prior to a winter hunt being established so that setting a winter moose quota is not an arbitrary decision.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-19: This proposal, submitted by the Ahtna Inter-Tribal Resource Commission (AITRC), would allow AITRC the authority to accommodate Ahtna customary and traditional ways of harvesting large wild game by allowing them to issue federal caribou registration permits in Unit 13 (FC1302) to their federally qualified tribal members. In addition, the proposal would allow the Bureau of Land Management and Denali National Park & Preserve Office to distribute federal FC1301 permits to other federally qualified subsistence hunters.

Introduction: If adopted AITRC would issue the FC1302 federal caribou permit to Ahtna tribal members while other residents in the area would have permits issued by the NPS and BLM. The proposer states that this change is in accordance with a Memorandum of Agreement (MOA) between the United States Department of Interior and AITRC. The proposer also states that per the MOA, proposals are to be written to accommodate Ahtna customary and traditional harvest methods and that AITRC will distribute federal permits in a customary and traditional manner (advising tribal members when and where to hunt). Between 2011 and 2015 an average of 2,981 FC1302 caribou permits were issued annually by the

Glennallen BLM office, and an average of 407 caribou were harvested. Available federal data does not describe how many Ahtna tribal members were issued permits, or the number of caribou they harvested.

Impact on Subsistence Uses: The Bureau of Land Management (BLM) and the Denali National Park would continue to issue the FC1302 caribou permits to federally qualified subsistence hunters who are not Ahtna tribal members. Tribal members may find it easier to get permits from AITRC.

Impact on Other Uses: None.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for the Nelchina caribou herd in Units 12 and 13.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for Nelchina caribou is 600-1,000 animals. The reported resident Nelchina caribou herd harvest was 4,325 in RY2012; 2,575 in RY2013; 2,946 in RY2014; 4,118 in RY2015; and 6,255 in RY2016. The mean harvest for these years is 4,044 caribou, well above ANS.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
Unit13	1 caribou	August 10–September 20 October. 21–March 31 (RC566 & CC001)	None
Unit13	1 caribou	August 20–September 20 Oct. 21–March 31 (DC485)	None

Special instructions:

RC566

• No member of the household may hunt caribou or moose outside of Unit 13.

• The bag limit may change to bull only, and the hunt could be closed by Emergency Order (EO) at some point during the season. It is your responsibility to be aware of hunt changes and closures. Call the

Nelchina hotline at 267-2304 before you hunt for closure and other herd information. EO information can also be viewed online by following links at http://www.adfg.alaska.gov/.

• The meat of the front quarters, hind quarters, and the ribs must remain naturally attached to the bone until transported from the field or processed for human consumption prior to 1 Oct.

• See state hunting regulation for hunter education requirements for GMU 13.

• Successful hunters must report their take within 3 days of kill. If you did not hunt, or hunted unsuccessfully, you must report within 15 days of the season end or emergency closure. If your report is not received within the allotted time, you will be ineligible for any drawing, Tier II, registration (including Tier I Nelchina caribou) permits next season, and you may be cited. You may report online by following links at http://www.adfg.alaska.gov/.

CC001

• This harvest ticket is valid for the taking of one (1) caribou in GMU 13; season dates are 10 August-20 Sept. and 21 Oct.-31 Mar. No more than one (1) caribou may be retained per household. Up to 300 caribou can be taken by CSH Hunt (state and federal hunts combined). Any household member listed on the harvest ticket may harvest the caribou, unless he/she has already harvested a caribou under federal hunting regulations, unless changed or closed by Emergency Order (EO).

• This caribou hunt may close by Emergency Order (EO) or bag limit changed to bull only. It is your responsibility to be aware of hunt changes and closures. Call the Nelchina Caribou hotline at 907-267-2304 or the community hunt hotline at 907-822-6789 before you hunt for closure and other herd/hunt information. EO information can also be viewed online at http:// adfg.alaska.gov (see News and Events).

• Evidence of sex must remain naturally attached to the meat if the bag limit changes to bull only.

• Copper Basin CSH caribou hunters must salvage for human consumption all edible meat from the forequarters, hindquarters, ribs, neck, and backbone, as well as the heart, liver, kidneys, and fat; and

• Prior to October 1, meat from the forequarters, hindquarters, and ribs must remain naturally attached to the bone until delivered to the place where it is processed for human consumption.

• Successful harvest reports are due to Glennallen ADF&G (822-3461) within 5 days of kill, or report online, or by mail. If unsuccessful or did not hunt, reports are due within 15 days of close of the season online at http://www.adfg.alaska.gov, by phone or mail.

•Any member of the community/group may hunt on behalf of another member as a designated hunter. In the field, designated hunters must carry the signed harvest ticket of any CSH beneficiary they are hunting for, along with their own CSH harvest ticket.

DC485

•The caribou hunt may be closed by Emergency Order (EO) prior to the end of the season. It is your responsibility to be aware of hunt changes and closures. Call the Nelchina hotline at 267-2304 before you

hunt for closure and other herd information. EO information can also be viewed online by following links at http://www.alaska.gov/.

•It is your responsibility to be aware of closed and controlled use areas in Unit 13. See the state hunting regulations for details.

•For caribou in Unit 13, the meat of the front quarters, hind quarters, and the ribs must remain naturally attached to the bone until transported from the field or processed for human consumption prior to October 1.

•Permit holders are highly encouraged to allow youth hunters to take caribou. Please see state hunting regulations for hunter education and youth hunting requirements for GMU 13.

•You must sign the back of your harvest ticket for it to be valid. You must carry it with you in the field while hunting. Remember to validate your ticket immediately after taking a caribou by cutting out the month and day.

•Successful hunters must report their take within 5 days of kill. If you did not hunt, or hunted unsuccessfully, you must report within 15 days of the season end or emergency closure. If your report is not received within the allotted time, you will be ineligible for any drawing, Tier II, targeted, or registration, (including Tier I Nelchina caribou) permits next season, and you may be cited. You may report online by following links at http://www.alaska.gov/.

Conservation Issues: None.

Enforcement Issues: None.

Recommendation: ADF&G is **NEUTRAL** on how federal permit hunts are administered, and suggests that any administrative changes to permitting continue to lead to timely harvest reporting. This is important for in-season and post-season management and decision-making. Additionally, permit decisions should be simple for users to understand and they should facilitate participation.

WRITTEN PUBLIC COMMENTS

WP18-18 Extend season [Unit 13 mooose] (CRITR)

We support WP18-18 to extend moose season and to allow AITRC to distribute mooose permits. Moose population in Unit 13 can sustain a moose hunt from August 1 to March 31. Moose population will not be depleted or over harvested by Ahtna tribal members who are federally qualified hunters. Bureau of Land Management Biologist reported in 2016 1,384 moose permits wree distributed, 681 moose permits were used and 99 moose were harvested by federally qualified subsistence hunters. An increase of moose harvest on federal public lands will not occur with the newly established tribal moose hunt.

AITRC has management capability to distribute Unit 13 moose federal permits to Ahtna tribal members. A permitting system will be set up to allow proof of residency within the Copper Basin and Cantwell communitie before moose permits are distrbuted to federally qualified tribal members. AITRC staff will monitor moose permit and hunting by tribal members. AItRC has a wildlife biologist on staff to help with moose hunt. AITRC has management capbility to distribute Unit 13 moose permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since 2009. AITRC has experienced staff to distribute moose permits and ensure tribal hunters will return moose permits.

WP18-19 Caribou – Revise permitting system [Unit 13 caribou] (CRITR)

We support WP18-19 to allow AITRC to distribute Unit 13 Nelchina Caribou hunting permits to Ahtna tribal members, who are federally qualifed customary and traditional use hunters.

AITRC has management capbility to distribute Unit 13 Nelchina Cariobu permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since the year 2009. AITRC has experienced staff to distribute Nelchina Caribou permits and ensure tribal hunters return caribou permits.

Eastern Interor Subsistence Regional Advisory Council

WP18-50 Extend season [Unit 11 moose]

We do not support WP18-50, we support WP18-17. See comments under WP18-17.

WP18-51 Statewide – Modify baiting restrictions to align State regulations

We support WP18-51 to modify bait regulations to align with State regulations. Federal regulations are more restrictive than State regulations. Adding skinned carcasses of furbearers and fur animals, small game, with the exception of the meat of birds, to bait bear regulations will align State and Federal regulations, provide more opportunities for federal subsistence hunters who use bait stations to harvest bears.

Traditional use of grease, parts of wild game, and other methods of harvesting bears at bait stations would occur, hunters who use bait stations would have an imporoved chance of harvesting a bear with more options to choose from to use as bait.

WP18-54 – Increase harvest limit and Delegate Authority to set harvest limit for [Unit 12 caribou] to be announced winter season

We do not support WP18-54 to change Unit 12 Caribou regulations to "up to 3 caribou" may be taken with a federal registration permit. This will increase the take of caribou beyond sustainable limits and will stress the herd in its winter range. We have seen overharvest of caribou in the past with liberal bag limit that has taken decades to recover. This is not a wise proposal and we oppose it..

WP18-55 Extend Winter and fall season [Unit 12 moose]

Unit 12 Moose

That portion within Tetlin National Wildlife Refuge and those lands within the Wrangell-St. Elias National Preserve north and east of a line formed by the Pickeral Lake Winter Trail from the Canadian border to Pickerel Lake – 1 antlered bull by Federal registration permit (FM1203) Aug. ~~24~~ **20** - Sept. ~~20~~ **30**

Nov. 1 - ~~Feb. 28~~ **Apr. 30**

We are neutral on WP18-55 to extend Unit 12 Moose season to allow longer hunting opportunity.

Appendix 1

MEMORANDUM OF AGREEMENT
BETWEEN
UNITED STATES DEPARTMENT OF THE INTERIOR
AND
AHTNA INTER-TRIBAL RESOURCE COMMISSION
FOR
A DEMONSTRATION PROJECT FOR COOPERATIVE MANAGEMENT OF CUSTOMARY AND TRADITIONAL SUBSISTENCE USES IN THE AHTNA REGION

This Memorandum of Agreement (MOA) is entered into for the purpose of formalizing the subsistence wildlife management partnership between the United States Department of the Interior (Department) and the Ahtna Inter-Tribal Resource Commission (hereinafter referred to as AITRC) for the allocation and harvest of moose and caribou by rural residents of the Native villages in the Ahtna region (as shown on the attached map) on Federal public lands. It also establishes a process for the formation of a local advisory committee and memorializes the parties' mutual goal of developing a regional management plan for moose, caribou, and other wildlife populations traditionally taken by the Ahtna villages to allow for better informed management and decisionmaking in the future.

ARTICLE I – BACKGROUND AND OBJECTIVES

The Department is committed to developing a subsistence wildlife management partnership project with the AITRC that will result in empowering the rural Native villages of the Ahtna region with greater self-determination and, when possible and in accordance with applicable law, providing improved hunting opportunities that will allow them to continue practicing their customary and traditional way of life. The Department recognizes that special circumstances within the Ahtna region have not permitted these local residents to meet their subsistence needs. Moreover, the Department recognizes the right of the rural resident members of the Native villages in the Ahtna region to maintain their cultural identity through opportunities to practice their subsistence lifestyle on the Federal public lands in a manner that enables them to pass down traditional knowledge and customary practices from generation to generation. The Department further recognizes that it has an obligation to uphold the Federal trust responsibility to tribes, a well-established legal obligation that originates from the unique historical relationship between the United States and the tribes. Central to the Department's mission is honoring and supporting the government-to-government relationship with tribes.

The Department and AITRC share a mutual interest in the conservation of healthy wildlife populations and their habitats as well as the opportunity for customary and traditional subsistence uses. The Department and AITRC are committed to developing and maintaining a mutually beneficial relationship that will serve the best interests of the residents of the Ahtna region, the wildlife management agencies within the Department, and the wildlife resources and the environment necessary to sustain healthy populations. To that end, the Department is committed to incorporating Ahtna traditional ecological knowledge and customary and traditional management practices, based on Ahtna's special geographical, historical, and cultural connections to the lands, waters and wildlife in the Ahtna traditional territory, into the Department's subsistence wildlife management structure and policies. The AITRC values the scientific and monitoring tools that the Department brings to subsistence wildlife management, and is committed to building capacity in this area and partnering with the Department on such projects. The Department and AITRC are committed to working together to arrive at mutually beneficial solutions and programs when, through law or policy, wildlife management objectives differ between the parties.

The Department and AITRC also share a mutual concern for the already very evident impact of climate change on the habitat and resources within the Ahtna region, including wildlife populations. The parties agree that in order to begin to address this changing environment, it will be necessary to incorporate traditional ecological knowledge broadly into wildlife management decision making, including, when appropriate, comprehensive wildlife and habitat management plans for the public lands within the Ahtna region.

ARTICLE II - AUTHORITY

The following authorities support the MOA:

- Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA), 16 U.S.C. § 3111 et seq.
- Executive Order 13175, "Consultation and Coordination with Indian Tribal Governments"
- Secretarial Order 3317, "Department of Interior Policy on Consultation with Indian Tribes"
- Secretarial Order 3335, "Reaffirmation of the Federal Trust Responsibility to Recognized Indian Tribes and Individual Indian Beneficiaries"
- Secretarial Order 3342, "Identifying Opportunities for Cooperative and Collaborative Partnerships with Federally Recognized Indian Tribes in the Management of Federal Lands and Resources"
- Federal Subsistence Board Regulations at 36 C.F.R. § 242 and 50 C.F.R. § 100

Congress has vested authority in the Secretaries of the Interior and Agriculture (Secretaries) through Title VIII of ANILCA to manage subsistence uses and resources on the Federal public lands in Alaska. The Secretaries have delegated significant aspects of subsistence management on Federal public lands to the Federal Subsistence Board (Board). The Secretary of Interior, (Secretary) however, retains broad management authority over the National Park Service, U.S. Fish and Wildlife Service, and Bureau of Land Management public lands in Ahtna's

traditional territory. Section 809 of ANILCA authorizes the Secretaries to enter into cooperative agreements or otherwise cooperate with other Federal agencies, the State of Alaska (State), Native Corporations, other appropriate persons and organizations to effectuate the purposes and policies of Title VIII. Additional Federal laws, including the Indian Self-Determination and Education Assistance Act as amended, authorize contracts, compacts and other forms of funding agreements with tribes for Federal programs.

The AITRC is composed of a representative of each of the eight federally recognized tribes in the Ahtna region, (Native Villages of Cantwell, Mentasta, Cheesh'na, Chitina, Gulkana, Gakona, Tazlina, and Kluti Kaah) Ahtna Inc., the ANCSA regional corporation, and Chitina Native Corporation, the ANCSA village corporation for the Native Village of Chitina. The other seven ANCSA village corporations for the Ahtna region merged with Ahtna, Inc. The eight federally recognized Ahtna tribes through resolutions of their governing bodies established the AITRC for the purpose of management of customary and traditional resources, lands and waters, including engaging in cooperative management agreements, and for related Federal tribal contracting opportunities.

The Southcentral Subsistence Regional Advisory Council (SCRAC) and Eastern Interior Subsistence Regional Advisory Council (EIRAC) (collectively, RAC), which were established pursuant to section 805 of ANILCA, have authority to make recommendations to the Board and Secretary on issues related to the taking of subsistence wildlife on the public lands within Ahtna's traditional territory. The Subsistence Resource Commissions (SRC) for the Denali and Wrangell-St. Elias National Parks are responsible for developing annual recommendations for subsistence hunting programs on park and preserve lands in Ahtna's traditional territory. The SRC recommendations go directly to the Secretary.

Both the Regional Advisory Council and SRC recommendations concerning the taking of fish and wildlife are entitled to deference pursuant to sections 805 and 808 of ANILCA and Federal regulations.

ARTICLE III - STATEMENT OF AGREEMENT

This MOA formalizes an agreement for the purpose of establishing a process and structure as a demonstration project within the Federal Subsistence Management Program that provides the AITRC with authority to cooperatively manage, within parameters established by the Board, certain aspects of subsistence hunting on Federal public lands by rural residents who are members of the eight federally recognized tribes in the Ahtna region, which is delineated on the attached map.

A. The Department will immediately commence rulemaking to allow the issuance of AITRC-managed community harvest permit(s) through the Federal Subsistence Management Program.

1) The Department agrees that during the next subsistence regulatory cycle following the signing of this MOA, the Department will commence rulemaking with the goal of authorizing the Board to issue a permit, or series of permits, to the AITRC for subsistence taking of wildlife species, including moose, caribou, and other species culturally and

traditionally harvested, on Federal public lands within the Ahtna region pursuant to the following goals and caveats:

a) Such permit or permits will allow AITRC to establish harvest limits, quotas, season dates, and methods and means within the framework, if any, established by the Board through its regulatory process and included as a condition or conditions of the permit(s) for the purposes of conservation of healthy populations, public safety, or administration. The objective is to provide maximum opportunity for the continuation of the Ahtna tribes' hunting way of life and right to self-determination through providing AITRC with authority to manage the taking of wildlife according to the customary and traditional knowledge and practices of the Ahtna people through a process that is consistent with the Board's legal mandates.

b) Such permit(s) may be for the benefit of the AITRC's member tribal communities only; however, the parties understand and agree that the taking of fish and wildlife on all Federal public lands must be implemented in a manner consistent with the statutory rural priority set forth in Title VIII.

c) The Secretaries will direct the Board to strive to authorize the subsistence taking on the Federal public lands within the Ahtna region of allocations of moose, caribou, and other wildlife species that are sufficient to meet the needs of the participating Ahtna villages to the fullest extent possible in light of the Board's legal obligations.

d) At its discretion, the Board may delegate to the agency field officers for the Wrangell-St. Elias and Denali National Parks, Tetlin National Wildlife Refuge, and for the Bureau of Land Management lands within the Ahtna region, the authority to issue the permit(s) and establish the AITRC quotas.

2) The AITRC agrees that when implementing the permit or permits, it will:

   a) Provide notice of all openings, closings, limits, and changes to methods and means to the appropriate agency field officers and the Office of Subsistence Management in a timely manner so as to allow adequate advanced notice to the public;

   b) Comply with all permit conditions;

   c) Provide the Department and Board with a list of all participants who will be hunting under the permit(s). The AITRC will also provide all hunters participating in the permit with a harvest tag or some other form of identification showing their eligibility to participate in the permit hunt and will ensure that all hunters understand all permit stipulations and applicable regulatory requirements.

B. The Department will seek to establish an Ahtna region specific local advisory committee pursuant to ANILCA section 805 to allow greater reliance on local ecological knowledge and input by regional residents into subsistence hunting management plans and decisionmaking.

1) The Department agrees that within 30 days following the signing of this MOA, the Office of Subsistence Management will, in consultation with AITRC, draft a charter for a subsistence local advisory committee pursuant to 36 C.F.R. § 242.12, 50 C.F.R. § 100.12, and section 805(a) of ANILCA and initiate the regulatory process for implementing the charter. It is anticipated that membership shall consist of six residents of the Ahtna region nominated by AITRC and appointed by the Secretary, one representative each from the SCRAC, EIRAC, the Wrangell-St. Elias SRC, the Denali SRC, and the State of Alaska, for a total of eleven members.

    a) The purpose of the local advisory committee will be to make recommendations concerning policies, standards guidelines, and regulations to the Secretary, Board (or its delegate), RAC's, and SRC for implementing a recommended strategy for the management and taking of wildlife species customarily and traditionally used within the Ahtna traditional territory.

    b) The local advisory committee shall be permitted to meet at least twice per year, with planning, administrative assistance, and travel expenses including per diem (except for the State representative) to be borne by the Office of Subsistence Management.

    c) The Board shall give substantial weight to the recommendations of the local advisory committee except when such recommendations either contradict the recommendations of the appropriate regional advisory council or, as set forth in section 805(c) of ANILCA, are not supported by substantial evidence, are contrary to recognized principles of fish or wildlife management, or are detrimental to the satisfaction of subsistence needs.

        i. Ahtna traditional knowledge and understanding of the customary and traditional needs, practices and uses of Ahtna tribal communities will be presumed to be substantial evidence.

        ii. Ahtna traditional knowledge and customary and traditional management practices shall be presumed to be consistent with recognized principles of wildlife management unless it is demonstrated that there is a significant likelihood that the local advisory committee's recommendations for harvest management will result in material detriment to the conservation of a wildlife stock or population.

2) With regard to the establishment of the local advisory committee, AITRC understand as follows:

a) Such committee will be subject to the Federal Advisory Committee Act (FACA), including, but not limited to the requirements of: advanced notice and open meetings; attendance at meetings by a Designated Federal Officer; a membership that is fairly balanced in terms of those directly affected, interested, and qualified on the issues to be addressed by the committee; and, an approved charter.

b) Charter approval is a statutory prerequisite to action by any federal advisory committee. Such approval is a lengthy process and cannot be guaranteed, however, the Department will make all good faith efforts to expedite the process and charter approval.

C. The future cooperative development and implementation of policies, programs and projects for the conservation and sustainable subsistence harvest of wildlife customarily and traditionally utilized on lands within the Ahtna region.

1) Many wildlife species migrate, and none recognize political or ownership boundaries. The Department and AITRC agree that there are substantial potential benefits for the managers of neighboring land within the Ahtna region to cooperate in reaching subsistence wildlife management objectives. Section 802(3) of ANILCA recognizes the need for cooperation among Native corporations and adjacent land managers such as AITRC "in managing subsistence activities on public lands and in protecting the continued viability of all wild renewable resources in Alaska." The parties therefore agree to a cooperative partnership for the development and implementation of policies, programs, and projects that will serve mutual subsistence management objectives.

2) The partnership will address the conservation and sustainable subsistence harvest of wildlife customarily and traditionally utilized within the Federal public lands and Ahtna lands within the Ahtna region. The parties acknowledge that it may not be practicable to include all wildlife populations customarily and traditionally utilized by the Ahtna Native villages in the initial phases of the cooperative partnership. Moose, caribou, and any other large mammal populations identified by either party after consultation with the other party will be included.

3) A central purpose of the partnership is the incorporation of Ahtna's traditional ecological knowledge and customary management practices into the Department's subsistence wildlife management structure and policies. The parties agree that one important means for achieving this mutual goal is the meaningful incorporation of AITRC in the implementation of the policies, programs, and projects derived from the partnership.

4) Policies, programs, and projects cooperatively developed for purposes related to conservation and sustainable subsistence harvests will include those related to takings quotas and allocations, habitat conservation and enhancement, harvest and population monitoring, research, trespass control and enforcement, and access for subsistence hunting, including access by motorized vehicles to retrieve harvested game. The work of the partnership is intended to inform wildlife-related decisionmaking by the Board, the

Department land managing agencies, the United States Department of Agriculture Forest Service, and the AITRC for the foreseeable future.

5) Both parties agree that it would be beneficial to the residents of the Ahtna region to include the State of Alaska in the development and implementation of the policies, programs and projects described in this section of the MOA. The Department and AITRC therefore mutually agree to invite the State's participation in the work described in this section in the hope that the State: 1) will participate in discussions with the parties that are consistent with the goals and purposes of this section into the future; and 2) will agree, to the maximum extent permitted by applicable law, to implement policies, programs, and projects mutually agreed upon by AITRC, the Department and the State on State managed lands. The State's participation shall have no impact on the ability of AITRC and the Department to reach independent agreements on other subsistence related matters, policies, programs, and projects.

D. Funding AITRC capacity building and participation in the development and implementation of the MOA.

Both parties agree to diligently pursue sources for funding that will assist AITRC in developing and sustaining the capacity to meaningfully participate in the permits and programs set forth in this MOA. It is the mutual goal of the parties that AITRC will, within the near future and depending on the availability of appropriations, enter into funding agreement(s) with the Department for the capacity, expertise, research, and administrative costs associated with development and implementation of the parts of this MOA.

ARTICLE IV – GENERAL PROVISIONS

A. No member of, or delegate to, Congress shall be admitted to any share or part of this document, or to any benefit that may arise therefrom.

B. The provisions of this MOA are complementary to and are not intended to replace Federal responsibility under Title VIII or any other law for the conservation of fish and wildlife on Federal public lands and the subsistence uses thereof.

C. Nothing herein is intended to conflict with Federal, State, or local laws or regulations.

D. Upon signing, the parties shall each designate an individual and an alternate to serve as the principal contact or liaison for implementation of this MOA.

E. This MOA becomes effective upon signing by all signatories and will remain in force until: (1) terminated by one or both of the parties; or, (2) dissolution of AITRC or cessation of operations thereby.

F. In the event that the State of Alaska assumes subsistence management on public lands within the Ahtna traditional territory under Title VIII of ANILCA, Article III Section A

of this Agreement will be suspended for the period of State management. In the event that the State of Alaska ceases to manage public lands, this Agreement will resume and Article III Section A will return to full force and effect as if never suspended.

G. Except as already required by law, nothing in this document shall be construed as obligating the signatories to expend funds or involving the United States or AITRC in any contract or other obligations for the future payment of money, except as may be negotiated in future cooperative funding agreements.

H. This MOA establishes mutual goals and establishes proposed courses of action for reaching those goals, but it does not create any legally enforceable obligations or rights.

I. This MOA does not restrict the signatories from participating in any other agreements with other public or private agencies, organizations, or individuals.

ARTICLE V.

SIGNATORIES:

FOR THE AHTNA INTERTRIBAL RESOURCE COMMISSION:

Christopher Gene, Chairman

Karen Linnell, Executive Director

FOR THE DEPARTMENT OF THE INTERIOR:

Michael L. Connor, Deputy Secretary of the Interior

ARTICLE V.

SIGNATORIES:

SIGNATURE OF SUPPORTING ORGANIZATIONS:

Ahtna, Incorporated acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.

Nicholas Jackson, Chairman of Ahtna, Incorporated

Michelle Anderson, President of Ahtna, Incorporated

ARTICLE V.

SIGNATORIES:

SIGNATURE OF SUPPORTING ORGANIZATIONS:

The Ahtna Customary and Traditional Use Committee acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.

Eleanor Dementi

Eleanor Dementi, Chair, Ahtna Customary and Traditional Use Committee

Roy Ewan, Honorary Elder, Ahtna Customary and Traditional Use Committee

ARTICLE V.

SIGNATORIES:

SIGNATURE OF SUPPORTING ORGANIZATIONS:

The Chitina Native Corporation acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.

Anne Thomas

Anne Thomas, President of Chitina Native Corporation

ARTICLE V.

SIGNATORIES:

SIGNATURE OF SUPPORTING ORGANIZATIONS:

The Native Village of Cantwell acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.

Rene Nicklie

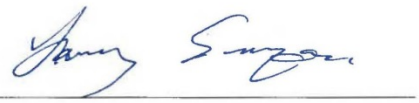
Rene Nicklie, Native Village of Cantwell

ARTICLE V.

SIGNATORIES:

SIGNATURE OF SUPPORTING ORGANIZATIONS:

The Native Village of Chistochina acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.



Larry Sinyon, Native Village of Chistochina

ARTICLE V.

SIGNATORIES:

SIGNATURE OF SUPPORTING ORGANIZATIONS:

The Chitina Traditional Indian Village Council acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.

Rose Tyone

Rose Tyone, President Chitina Traditional Indian Village Council

ARTICLE V.

SIGNATORIES:

SIGNATURE OF SUPPORTING ORGANIZATIONS:

The Native Village of Gakona acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.

Sig for Darrin Gene

Darrin Gene, Native Village of Gakona

ARTICLE V.

SIGNATORIES:

SIGNATURE OF SUPPORTING ORGANIZATIONS:

The Native Village of Gulkana acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.

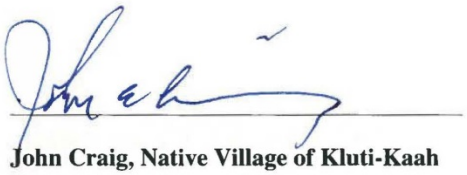
Eileen Ewan, Native Village of Gulkana

ARTICLE V.

SIGNATORIES:

SIGNATURE OF SUPPORTING ORGANIZATIONS:

The Native Village of Kluti-Kaah acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.



John Craig, Native Village of Kluti-Kaah

ARTICLE V.

SIGNATORIES:

SIGNATURE OF SUPPORTING ORGANIZATIONS:

The Native Village of Mentasta acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.



Ted Sanford, Native Village of Mentasta

ARTICLE V.

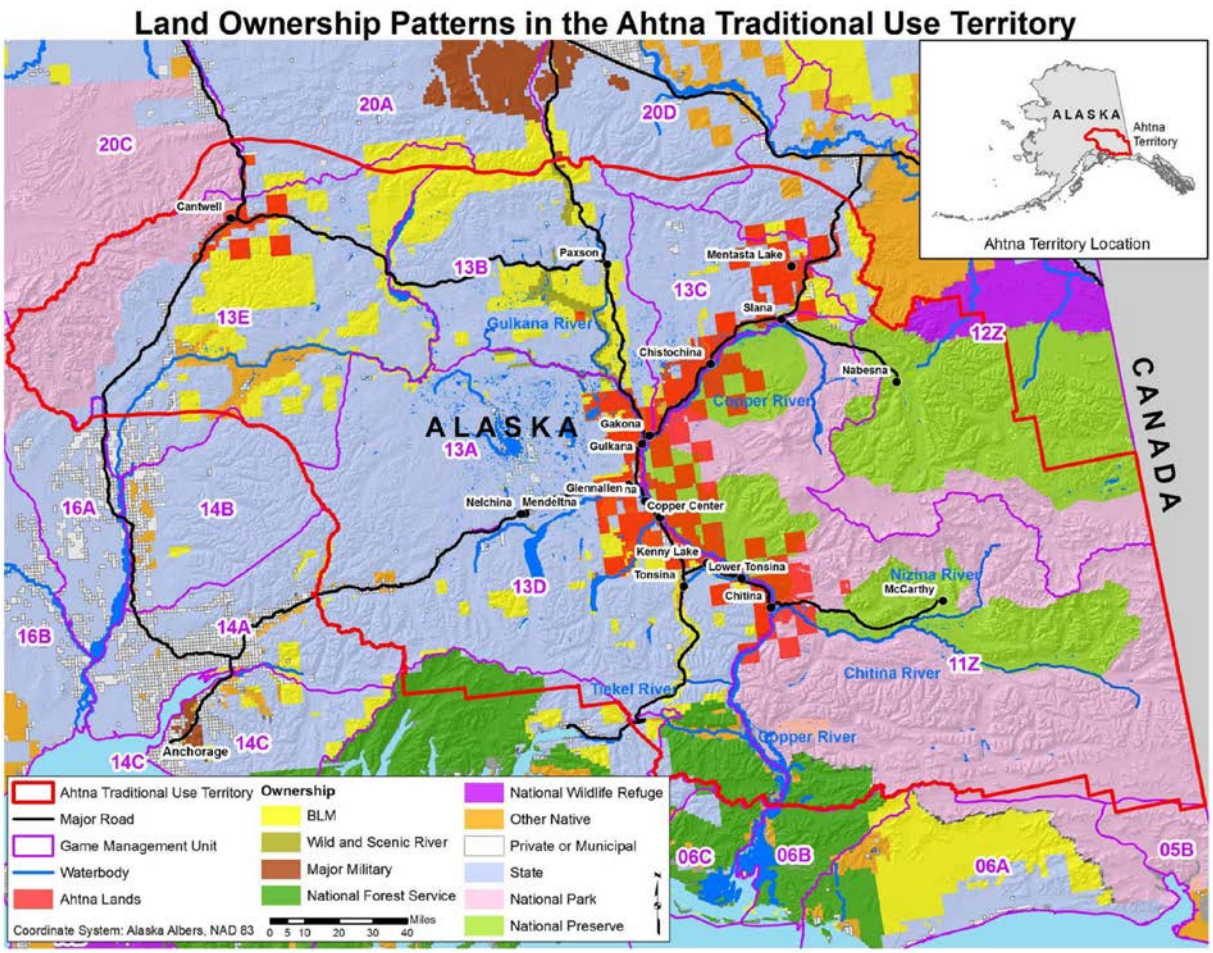
SIGNATORIES:

SIGNATURE OF SUPPORTING ORGANIZATIONS:

The Native Village of Tazlina acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.

Gloria Stickwan

Gloria Stickwan, Native Village of Tazlina


Land Ownership Patterns in the Ahtna Traditional Use Territory
ALASKA
Ahtna Territory
Ahtna Territory Location
CANADA
20A
20C
20D
13B
13C
13E
13A
12Z
14B
16A
16B
14A
14C
13D
11Z
06C
06B
06A
05B
Cantwell
Paxson
Mentasta Lake
Slana
Gulkana River
Chistochina
Nabesna
Copper River
Gakona
Gulkana
Glennallen
Nelchina
Mendeltna
Copper Center
Kenny Lake
Tonsina
Lower Tonsina
Chitina
McCarthy
Nizina River
Chitina River
Tiekel River
Anchorage
Ahtna Traditional Use Territory
Major Road
Game Management Unit
Waterbody
Ahtna Lands
Ownership
BLM
Wild and Scenic River
Major Military
National Forest Service
National Wildlife Refuge
Other Native
Private or Municipal
State
National Park
National Preserve
Coordinate System: Alaska Albers, NAD 83
0 5 10 20 30 40
Miles

WP18–20 Executive Summary	
General Description	Proposal WP18–20 requests that the harvest limit be changed from 1 bull to 1 caribou and that the fall harvest season be extended from Aug. 10 – Sept. 20 to Aug. 1 – Sept. 30 in Unit 9D. *Submitted by: Kodiak/Aleutians Subsistence Regional Advisory Council.*
Proposed Regulation	**Unit 9D – Caribou** *1 ~~bull~~* ***caribou*** *by Federal registration permit only. Quotas and any needed closures will be announced by the Izembek Refuge Manager after consultation with ADF&G.* — ***Aug. 1~~Aug. 10 Sept. 20~~ Sept. 30*** *Nov. 15–Mar. 31*
OSM Conclusion	**Support** Proposal WP18–20 **with modification** to remove the unit specific regulation referencing quotas and closures and delegate authority to announce quotas and any needed closures via a delegation of authority letter only. The modified regulation would read: **Unit 9D – Caribou** *1 caribou by Federal registration permit only. ~~Quotas and any needed closures will be announced by the Izembek Refuge Manager after consultation with ADF&G.~~* — ***Aug. 1 – Sept. 30*** *Nov. 15–Mar. 31*
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council	**Support** WP18-20 **with modification** to limit harvest to 1-4 caribou by Federal registration permit.

WP18–20 Executive Summary	
Recommendation	The modified regulation would read: **Unit 9D – Caribou** *1**-4** caribou by Federal registration permit only.* ~~*Quotas and any needed closures will be announced by the Izembek Refuge Manager after consultation with ADF&G.*~~ ***Aug. 1 – Sept. 30*** *Nov. 15–Mar. 31*
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	

WP18–20 Executive Summary	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Support**
Written Public Comments	**None**

STAFF ANALYSIS
WP18–20

ISSUES

Proposal WP18–20, submitted by the Kodiak/Aleutians Subsistence Regional Advisory Council, requests that the harvest limit be changed from 1 bull to 1 caribou and that the fall harvest season be extended from Aug. 10 – Sept. 20 to Aug. 1 – Sept. 30 in Unit 9D.

DISCUSSION

The proponent states that Federal caribou regulations in Unit 9D are more restrictive than State regulations and current harvest opportunities as perceived for the Southern Alaska Peninsula Caribou Herd (SAPCH) are underutilized. Currently a majority of Federally qualified subsistence users are hunting under the State regulations because they provide more opportunity and flexibility.

Existing Federal Regulation

Unit 9D – Caribou

1 bull caribou by Federal registration permit only. Quotas and any needed closures will be announced by the Izembek Refuge Manager after consultation with ADF&G.	*Aug. 10–Sept.20* *Nov.15–Mar. 31*

Proposed Federal Regulation

Unit 9D – Caribou

*1 ~~bull~~ **caribou** by Federal registration permit only. Quotas and any needed closures will be announced by the Izembek Refuge Manager after consultation with ADF&G.*	***Aug. 1****~~Aug. 10 – Sept. 20~~* ***Sept. 30*** *Nov. 15–Mar. 31*

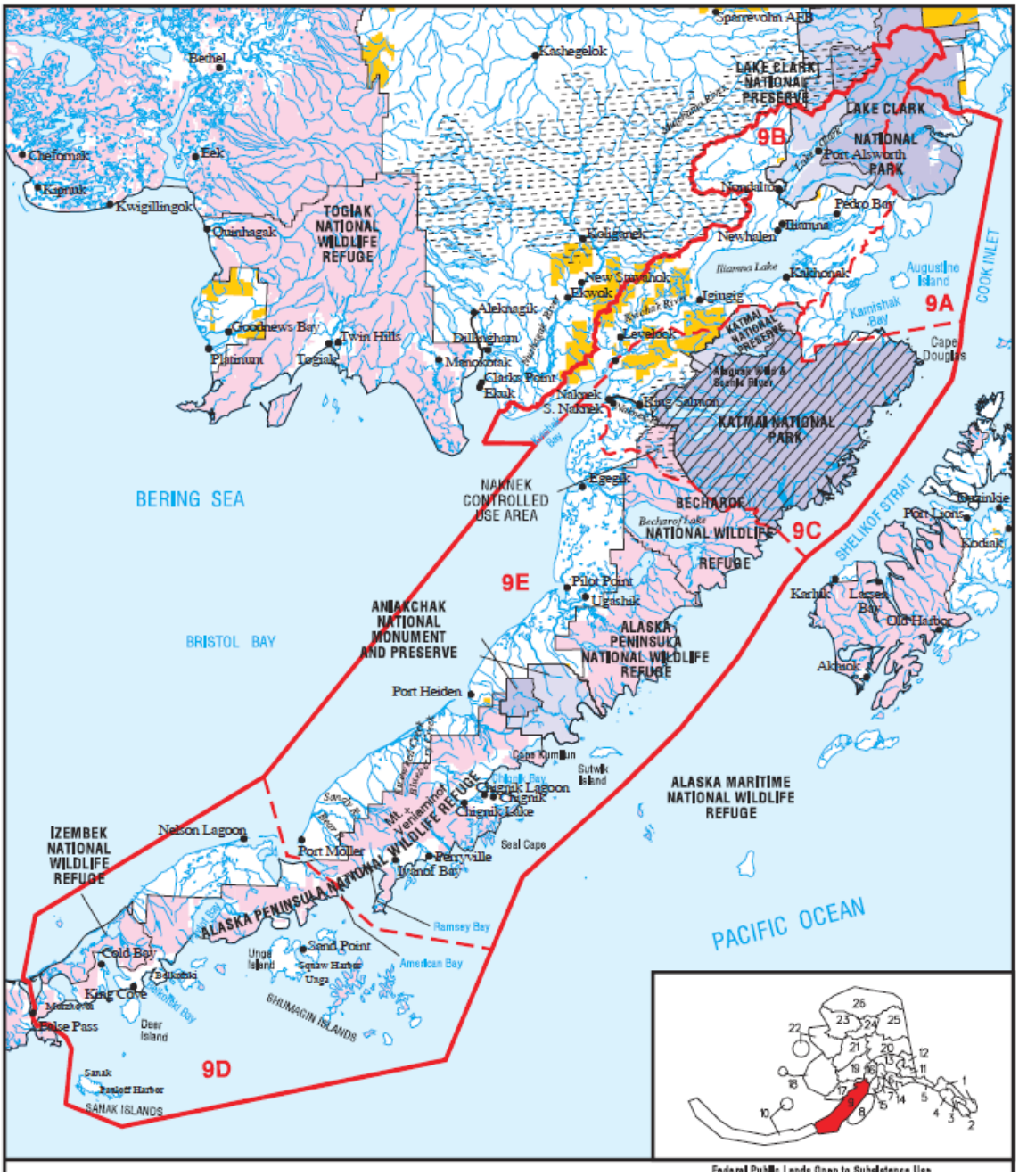
Existing State Regulation

Unit 9D – Caribou

Unit 9D	*Resident: One caribou*	*Aug. 1–Sept.30* *Nov.15–Mar. 31*
	Nonresident: One caribou	*Aug. 1–Sept 30*

Extent of Federal Public Lands

Federal public lands comprise approximately 45% of Unit 9D and consist of 44.91% U.S. Fish and Wildlife (USFWS) managed lands and 0.33% Bureau of Land Management (BLM) managed lands (**See Unit 9 Map**).



Unit 9 Map

Customary and Traditional Use Determinations

Residents of Units 9D, Akutan, and False Pass have a customary and traditional use determination for caribou in Unit 9D.

Regulatory History

The SAPCH population began to decline during the early 1980s. In 1990 State and Federal resource managers agreed that all caribou harvesting should cease when the population fell below 2,500 animals. The threshold level of 2,500 animals included caribou inhabiting Unit 9D and Unit 10 (Unimak Island). Alaska Department of Fish and Game (ADF&G) now recognizes the SAPCH on the Alaska Peninsula and the Unimak Caribou Herd (UCH) on Unimak Island as two separate herds (Butler 2005a, 2005b; Sellers 2003a, 2003b, Mager 2012).

To stem the population decline in Unit 9D, Federal public lands were closed by the Federal Subsistence Board (Board) to caribou hunting by non-Federally qualified users in 1991. The Alaska Board of Game closed the State hunt by emergency order in 1993. The Board closed Federal public lands in Unit 9D and Unit 10 (Unimak Island) to all caribou hunting in 1993 by Temporary Special Action S93-01, and subsequently adopted Proposal P94-28 in 1994, closing the Federal public lands in regulation (OSM 1994).

In 1996, Proposal P96-28 requested opening a Unit 9D caribou season for King Cove residents only, but the Board deferred it until the next year (OSM 1996). Special Action SA96-03, submitted by the Aleutians East Borough, requested opening a caribou season in Units 9D and 10. In their request, local residents noted the disruption of traditional hunting patterns by closures since 1993, and requested limited harvest opportunities for the SAPCH. Ultimately, the Board rejected the request due to concerns that any harvest of the herd at that time would be detrimental to the population and would not be consistent with sound management principles.

Based on caribou surveys conducted in 1997, there were enough bulls in the herd to allow a subsistence harvest to resume on Federal public lands in Unit 9D and Unit 10 (Unimak Island). The Board opened a season through Temporary Special Action SA97-01. This decision provided an Aug. 10–Mar. 31 hunt for Unit 10 (Unimak Island) and a Nov. 10 – Mar. 31 hunt for Unit 9D. Approval of Emergency Special Action SA97-13 extended the 1997 season through April 30 in Unit 9D. Emergency Special Action SA98-05 authorized a Federal subsistence hunt in Unit 9D and Unit 10 from Aug. 1–Mar. 31 during the 1998/99 regulatory year.

The Alaska Board of Game reopened the Unit 9D State caribou season in 1999, allowing hunting by both Alaska residents and nonresidents. Local residents were concerned about the influx of nonlocal hunters in the vicinity of the Cold Bay area road system, especially during the waterfowl season. Noting these concerns, Temporary Special Action SA99-02, submitted by the False Pass Tribal Council, requested that Federal public lands be closed in Unit 9D and Unit 10 to the taking of caribou by non-Federally qualified users. The Board rejected this request, pointing out that this was a user conflict issue, and not a conservation issue, since the biological data indicated the caribou herd could support the harvest at that time.

In 2000, Proposal WP00-29, submitted by the Kodiak/Aleutians Subsistence Regional Advisory Council (Council), requested the Unit 9D and Unit 10 (Unimak Island) hunt be put into permanent regulation. That proposal was adopted with modification by the Board to provide a split season (Aug. 1 – Sept. 25 and Nov. 15 – Mar. 31) to allow the herd to recover following the rut (OSM 2000).

In 2002, Proposal WP02-21, submitted by the Council and adopted by the Board, extended the fall season by five days for Unit 9D and Unit 10 (Unimak Island) from September 25 to September 30 (OSM 2002).

Emergency Special Action WSA03-08, submitted by the Council and approved by unanimous consent of the Interagency Staff Committee, increased the harvest limit from one to two caribou for Unit 9D during the fall season of Aug. 1–Sept. 30, 2003. Temporary Special Action WSA03-10, approved by the Board, requested that the increased harvest limit of two caribou in Unit 9D also be allowed during the Nov. 15, 2003–Mar. 31, 2004 season due to the increased caribou population, which allowed for these increased harvest limits for Federally qualified subsistence users.

In 2004, Proposal WP04-40 was adopted into regulation, increasing the harvest limit to two caribou in Unit 9D for the dates designated in the 2003 Special Actions (OSM 2004). This change allowed Federally qualified subsistence users the opportunity to harvest two caribou throughout the fall and winter seasons.

In 2005/06, the State changed the resident bag limit from 1 caribou to one bull for the fall portion of the season and 1 antlerless caribou during the winter season for Unit 9D.

In 2006, the Board adopted Proposal WP06-20 and changed the harvest limit for unit 9D from two caribou to two bulls (OSM 2006). The change allowed the continued harvest of the SAPCH and eliminated the cow hunt at a time when the population was continuing to decline, while the bull:cow ratio was still within State management objectives.

Recognizing the continued decline of the SAPCH, the Alaska Board of Game restricted the harvest to bulls only for Unit 9D and closed the nonresident season during their March 2007 meeting (ADF&G 2007). The Board of Game also converted the general season resident hunt to a registration hunt, with a one bull harvest limit. Based on July 2007 caribou counts as well as past population declines, poor recruitment, and low bull:cow ratios, ADF&G issued Emergency Order No. 02-02-07 on July 17, 2007 to close resident caribou hunting in Unit 9D (Butler 2007). No State registration permits were issued for the 2007/08 regulatory year.

On July 30, 2007, the Board approved Special Action request WSA07-03 to close the fall season from Aug. 1–Sept. 30 to the taking of caribou in Unit 9D. The intent of this Special Action request was to eliminate additional mortality of the caribou herd caused by human harvest. On November 14, 2007, the Board approved Special Action WSA07-04 to close the winter season for Unit 9D from Nov. 15–Mar. 31. Both Federal and State regulatory managers concurred that the SAPCH decline posed a potentially significant conservation concern that warranted these actions.

In 2008, the Board adopted Proposal WP08-26 which closed Federal public lands and the caribou season in Unit 9D due to population trend and composition counts for the SAPCH indicating the caribou herd had

been in a period of decline for the past several years (OSM 2008). Based on a carefully monitored population, using radio telemetry data, the changing age structure of the SAPCH population supported the conclusion that herd productivity was continuing to decline. The July 2007 recruitment survey indicated that no calves were expected to survive and the number of bulls in the population was decreasing. The Federal and State caribou seasons in Unit 9D remained closed until June 30, 2012.

In 2012, in response to increased calf survival and recruitment, increasing bull:cow ratios, and an increasing population, the Board adopted Proposal WP12-37 to open a limited caribou hunt of 1 bull in Unit 9D by Federally qualified subsistence users by Federal registration permit only (OSM 2012). The SAPCH was close to 1,000 animals, which was the minimal threshold for harvest based on the Southern Alaska Caribou Herd Operational Plan (ADF&G and USFWS 1994). The season was split into two seasons, one before the rut (Aug. 1-Sept. 30) and one after the rut (Nov. 15-Mar. 31). In addition, the Izembek National Wildlife Refuge Manager, after consultation with ADF&G, was given authority to adjust quotas and announce any needed closures.

The Unit 9D caribou season remained closed under the State regulations during 2012/13. In 2013/14, the State opened a Tier II caribou season that paralleled the Federal season. The harvest limit was for one bull or one caribou by State registration permit. In 2015 the State Board of Game, in response to an increasing population trend, opened a registration hunt for one caribou in Unit 9D.

Biological Background

The range of the SAPCH, which is genetically distinct from both the Unimak caribou herd to the south and the Northern Alaska Peninsula Caribou Herd (Mager 2012), extends from Port Moller to False Pass. Historically the SAPCH population has undergone wide fluctuations ranging from a low of 500 to more than 10,000 in 1983 (Butler 2009). Following the 1983 peak, the population declined and by 1996 the herd was estimated to be only 1,403 animals. From 1996–2002, the population grew to about 4,100 caribou and then declined to approximately 1,000 animals by 2011. From 2011-2015 the SAPCH experienced another period of population growth. In 2015, the winter minimum population count was 1,568 animals (**Table 1**) (Sowl 2007, USFWS 2017a).

Caribou herd composition surveys are normally conducted in October by State and Refuge biologists (**Table 1**). Calf:cow ratios, which are an index to productivity, have also fluctuated with the population counts. Under normal circumstances in a caribou population, approximately 25 calves per 100 cows are necessary to offset adult mortality (Valkenburg et al. 1996). Calf:cow ratios since 2011 have averaged 31 calves:100 cows.

Table1. Southern Alaska Peninsula Caribou Herd winter minimum population counts and fall composition counts in Unit 9D from 2001 – 2015 (Butler 2006, 2007, 2010; Peterson 2015; USFWS 2017a, b).

Regulatory Year	Total bulls: 100 cows	Calves: 100 cows	Calves (%)	Cows (%)	Total bulls (%)	Composition Sample size[a]	Winter Count[b]	Post calving count[c]
2001-2002	57	38	19	51	30	1,313		
2002-2003	38	16	10	65	25	932	4,100	
2003-2004	40	8	5	68	27	1,257		
2004-2005	36	7	5	70	25	966	1,872	
2005-2006	30	6	5	73	22	1,040	1,651	
2006-2007	16	1	1	86	26	713	770	
2007-2008	15	1	1	87	12	431		600
2008-2009	10	39	26	67	7	570		700
2009-2010	21	43	2	61	13	679		800
2010-2011	28	47	27	57	16	532	790	
2011-2012	40	20	13	62	25	920	1,061	
2012-2013	45	20	12	60	27	500		
2013-2014	50	40	21	53	26	600	877	1,720
2014-2015	45	45				884	1,316	
2015-2016							1,568	

[a] Estimates based on October composition surveys
[b] Estimates based on winter (January and April) counts by Izembek National Wildlife Refuge staff.
[c] Estimates based on July post calving counts and the proportion of the radio collared caribou encountered

During the calving season in spring of 2008, intensive predator management began by culling 28 wolves on SAPCH calving grounds (ADF&G 2010). Calf survival showed a marked increase in October 2008 to 39% and continued to increase to 47% in 2010. Bull:cow ratios also increased from 10 bulls:100 cows in 2008 to 28 bulls:100 cows in 2010 (Butler 2010). Since 2011, bull:cow ratios have averaged 45:100 which is above the management objective of 35:100 recommended in the Southern Alaska Peninsula Caribou Herd Operational Plan (ADF&G and USFWS 2008).

Skoog (1968) speculated that severe icing events and ash from frequent volcanic activity on the Alaska Peninsula had the potential to negatively affect the quantity, quality, and availability of food for the

SAPCH. Increased winter mortality due to icing events may result in malnutrition and starvation for more susceptible bulls with depleted energy reserves following the rut (Dau 2004, Miller and Gunn 2003). Bull caribou die at a higher rate than cows due to greater energy demands during early winter rutting activities which greatly reduce their body reserves (Russell et al. 1993, Miller and Gunn 2003). For example, bull caribou older than one year, had a higher death rate than females during a catastrophic die-off of caribou on Bathurst and neighboring islands in Queen Elizabeth Islands, Canada from 1993 to 1998 due to widespread, prolonged, and exceptionally severe snow and ice conditions from 1994 to 1997. These trends in snowfall were consistent with predictions of the effects of climate change in the western Canadian High Arctic (Miller and Gunn 2003).

Management Direction

The Southern Alaska Peninsula Caribou Herd Operational Plan was adopted by ADF&G and the USFWS in March 2008 (ADF&G and USFWS 2008). The previous plan, adopted in April 1994, needed revision to reflect the separation of the SAPCH and the Unimak Caribou Herd (ADF&G and USFWS 1994). The draft plan identifies threshold levels for carrying out management objectives, and assists local wildlife managers in making timely recommendations for seasons and harvest limits.

The following are the primary population and management objectives outlined in the Plan:

- Sustain a total population between 3,000 and 4,000.
- Maintain a minimum fall bull:cow ratio of 35 bulls/100 cows. There will be no harvest when the bull:cow ratio falls below 20 bulls/100 cows for three consecutive years.
- Discontinue harvest when the herd is below 1,000 animals and the population is in decline based on three independent estimates.

By the mid-1980s the population began to decline (Pitcher et al. 1990) and by 1993 was below 2,500. From 1993-1998, when the herd was below 2,500, there was no hunting under the State regulations. Reasons for the decline included poor nutrition, predation by wolves and brown bears, and overharvest by hunters (Pitcher et al. 1990). In 1997, in response to positive population trend, a limited fall Federal subsistence hunt was opened. The SAPCH continued to grow slowly, and in 1999, the State opened a general hunt. Following a brief recovery to 4,100 caribou in 2002 the SAPCH population declined again, due in part to poor calf survival.

Cultural Knowledge and Traditional Practices

The Aleut (Unangan) have historically inhabited and hunted in game management subunit 9D. Traditionally, people hunted caribou within the Alaska Peninsula and Unimak Island with bow and arrows (McCartney 1984; Lantis 1984). Both archaeological and historical records suggest that caribou was an important subsistence resource for the eastern Unangan and that they occasionally traded caribou with their more westerly Unangan neighbors (Dumond 1977; McCartney 1984; Laughlin 1980).

Russian traders and explorers travelled to the Aleutian Islands in the mid-eighteenth century (Fall et al. 1996; McCartney 1984). It was soon after this expedition that Russia claimed sovereignty over Alaska and a 126 year period of exploration fueled by economic interests ensued (McCartney 1984; Morseth 2003; Partnow 2001). These activities brought both Russian and later Europeans into contact with the Unangan of the Alaska Peninsula (Morseth 2003; VanStone 1984). Several Russian men took Unangan women as wives and their children represented a creole population they held a special class within the Russian social and legal system (Partnow 2001). Partnow (2001) notes that by the 1860s the Russian-American Company had a local workforce and that the day-to-day operations through the colony was mainly handles by creoles. Russia sold Alaska to the United States in 1867 which brought an influx of exploration and settlement to the Alaskan Peninsula by Europeans interested in trapping, mining, and fishing (Morseth 2003). Today, the region is known for its productive salmon fisheries with major processing operations located at Sand Point and King Cove (ADF&G 2017b).

Contemporary subsistence use for the Southern Alaska Peninsula Caribou Herd is limited (Fall et al. 1990). A study by Fall et al. (1990) reported that the communities of False Pass, King Cove, Nelson Lagoon, and Sand Point have consistently hunted caribou within subunit 9D and continued to do so for the study years 1985-1987. Subsequently surveys of the communities of False Pass, King Cove, and Sand Point, large mammal harvest ranged between 11% and 19% (Fall et al. 1993a; Fall et al. 1993b; Fall et al. 1996). In these subunit 9D communities, caribou was harvested at 10 lb per capita in Sand Point, 19 lb per capita in King Cove, and 74 lb per capita in False Pass (Fall et al. 1993; Fall et al. 1996). Additionally, use was high with 51% of households reporting use in Sand Point, 64% of households reporting use in King Cove, and 90% of households reporting use in False Pass (Fall et al. 1993a; Fall et al. 1993b; Fall et al. 1996).

During each study year, communities within subunit 9D harvested or hunted for caribou in subunit 9D, 9E, and Unit 10. Harvest and search areas specific to subunit 9D described include all of the lower Alaska Peninsula, south and west of Pavlof Bay, Beaver Bay along the coast to the Kupreanof Peninsula, and all of Unimak Island (ADF&G 1996; Fall et al. 1996).

Harvest History

In the early 1980s, when the SAPCH was at its peak, the annual harvest probably exceeded 1,000 caribou several times. Between 2006 and 2012, the SAPCH population was below 1,000 and as a result there was no legal harvest under State and Federal regulations. In 2013, the State opened a caribou season in response to improved calf survival following a predator control program in 2007/2008 (Peterson 2015, ADF&G 2010) (**Table 2**). A majority of the harvest taken by residents from Unit 9D (SAPCH) are from Cold Bay and King Cove. Caribou from the SAPCH were taken under the more liberal State regulations primarily during the months of September, November, and December (Peterson 2015, ADF&G 2017A, USFWS 2017b).

Table 2. Unit 9D Reported Caribou Harvest 1999-2015, Southern Alaska Peninsula Caribou Herd (ADF&G 2017A, USFWS 2017a, b, Risdahl 2017).

Year	Federal Registration Permits			State Harvest Tickets			Total Reported Harvest[a]
	Permits Issued	Bulls Harvested	Cows Harvested	Permits issued	Bulls Harvested	Cows Harvested	
2001	11	7	0	69	45	4	56
2002	4	3	0	86	53	5, 2 unk	63
2003	28	5	1	64	43	1, 1 unk	51
2004	30	5	2	92	63	6, 1 unk	77
2005	101	23	1	63	36	2	62
2006	113	29	0	65	27	2	58
2007-2012	0	0	0	1	0	0	0
2013	1	0	0	25	17	1	18
2014	0	0	0	19	11	1	12
2015	3	2	0	24	17	2	21
2016[b]	31	7	0	66	36	4	47

[a] Doesn't include illegal or unreported harvest

[b] 75 Federal Registration permits were allocated

Other Alternative Considered

The Kodiak/Aleutians Subsistence Regional Advisory Council (KARAC) recommended the following alternative at their Fall 2017 meeting in Cold Bay. They requested a harvest limit of 1-4 caribou by Federal registration permit that would be determined based on conservation concerns and harvestable

surplus, to allow State and Federal managers to respond quickly to rapid population increases that could result in habitat degradation. The proposed harvest limits discussed at the meeting based on the harvestable surplus were as follows (**Table 3):**

Table 3. Proposed caribou harvest limits by the KARAC for the SAPCH based on the harvestable surplus.

Harvestable Surplus	Resident	Nonresident
≥ 150	2	1
≥ 250	3	1
≥ 450	4	2
≥ 550	To be determined	To be determined

This alternative, which would provide management flexibility when quotas are changed in response to changes in the caribou population, was supported by the Izembek National Wildlife Refuge Manager. The proposed changes to the harvest regulations would require a modification to the Delegation of Authority for the Izembek National Wildlife Refuge to allow the manager to set harvest limits. OSM did not consider this alternative because liberalization of the harvest limit should be approached with caution as the SAPCH population is still well below management objectives and has been known to experience wide fluctuations, despite current indications of an increasing trend.

Effects of the Proposal

If adopted, this proposal would remove the more restrictive harvest limit and season on Federally qualified subsistence users hunting caribou under Federal regulations in Unit 9D and give them the same opportunity as those hunting under State regulations. Currently there is no justification for Federally qualified subsistence users to have a shorter fall season and not have the opportunity of harvesting a cow caribou. The caribou population is currently at about 50% of the lower threshold of 3,000 recommended under the Southern Alaska Peninsula Caribou Herd Operational Plan. The increasing population trend and good bull:cow ratios since 2013 suggests that at current harvest rates and hunting intensity, the SAPCH could sustain a slight increase in the harvest.

OSM CONCLUSION

Support Proposal WP18–20 **with modification** to remove the unit specific regulation referencing quotas and closures and delegate authority to announce quotas and any needed closures via a delegation of authority letter only (**Appendix A**).

The modified regulation would read:

Unit 9D – Caribou

*1 **caribou** by Federal registration permit only. ~~Quotas and any needed closures will be announced by the Izembek Refuge Manager after consultation with ADF&G.~~*	***Aug. 1 – Sept. 30*** *Nov. 15–Mar. 31*

Justification

The SAPCH within Unit 9D is currently at approximately 1,500 animals. The population trend is increasing, and for the last 3 consecutive years bull:cow ratios have been above 20:100, which suggest that a small harvestable surplus for Federally qualified subsistence users could occur as outlined in the SAPCH Operational Plan. However, the tendency for this population to undergo wide fluctuations and a current population level at approximately 50% of the recommended lower threshold suggests caution. The current harvest levels seem to be sustainable and there is no indication that removal of the restrictions for Federally qualified subsistence users is going to substantially increase harvest. Removal of restrictions for hunting caribou in Unit 9D will provide the same opportunity provided under State regulations, which as noted, local rural residents already utilize. The Izembek NWR Manager has delegated authority to determine and announce harvest quotas and any needed closures after consultation with ADF&G. Thus there is regulatory flexibility to adjust the harvest based on fluctuations of the SAPCH and to close the hunt for conservation concerns if needed.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Kodiak/Aleutians Subsistence Regional Advisory Council

Support WP18-20 **with modification** to limit harvest to 1-4 caribou by Federal registration permit. In 2016 the Council submitted a proposal to align Federal subsistence regulations with the more liberal State regulations which allowed for the take of one "caribou" versus one "bull" from the Southern Alaska Peninsula (SAP) Herd. OSM's preliminary conclusion was to modify the proposal to remove unit specific harvests and authorize Delegation of Authority to the Refuge Manager to establish and announce quotas. These unit specific harvests and quotas were cumbersome and ineffective, causing some subsistence users to hunt caribou under a state permit. The herd is experiencing exponential growth with few animals harvested, and there is some concern from state biologists that it could quickly grow beyond the biological carrying capacity of the area. That said, the population of the SAP herd is still at the low end of the State's population objective of between 2000 and 3000 animals. In response, the Council voted unanimously to accept OSM's recommendation and further modify the proposal to limit the harvest to 1-4 animals, dependent upon harvestable surplus. Council members believed this would allow managers to respond to herd growth in a conservative way while allowing for additional harvest, when warranted, for reducing unsustainable herd growth.

The modified regulation would read:

Unit 9D – Caribou

1-4 caribou by Federal registration permit only. ~~Quotas and any needed closures will be announced by the Izembek Refuge Manager after consultation with ADF&G.~~	***Aug. 1 – Sept. 30*** *Nov. 15–Mar. 31*

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-20: This proposal, submitted by the Kodiak/Aleutians Subsistence Regional Advisory Council, would change the bag limit of the federal caribou registration hunt (FC0909) in Unit 9D from one bull caribou to one caribou and change the fall harvest season dates from August 10–September 20 season August 1–September 30.

Introduction: Last year the Board of Game (BOG) liberalized the state season and bag limit for the Southern Alaska Peninsula caribou herd (SAP) and opened the season to nonresidents (see box below). This proposal would align federal regulations with the more liberal state regulations. ADF&G has a proposal to the BOG to further liberalize the bag limit in 2018 for the SAP to keep up with herd growth. The herd is currently at approximately 1,700 and increasing, with a population objective of 3,000–4,000.

Impact on Subsistence Uses: The proposed changes will have very little impact on federally qualified subsistence users because a state harvest ticket already provides fall subsistence hunters with the more liberal hunting opportunity.

Impact on Other Uses: None

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for the South Alaska Peninsula caribou herd in Units 9D and 10.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for the South Alaska Peninsula caribou is 100-150 animals.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
Unit 9D	1 caribou	August 1–September 30 November 15–March 31 (Harvest ticket)	August 1–September 30 (Harvest ticket)

Special instructions: None

Conservation Issues: Because the herd is so remote and there are relatively few local hunters, it is important to increase harvest as the herd grows and be prepared to maximize hunting opportunity when necessary.

Enforcement Issues: None

Recommendation: ADF&G **SUPPORTS** this proposal because it aligns state and federal regulations, which should result in less confusion for hunters. ADF&G also recommends that the Federal Subsistence Board (FSB) remove the federal permit requirement and use the state harvest ticket system to provide opportunity and monitor harvest. The Board of Game may take action during the February meeting that affects this recommendation. The FSB should align the federal regulations with the state actions.

Appendix A

FWS/OSM *******

Refuge Manager
Izembek National Wildlife Refuge
P.O. Box 127 MS 515
Cold Bay, Alaska 99571-0127

Dear Refuge Manager:

This letter delegates specific regulatory authority from the Federal Subsistence Board (Board) to the Izembek National Wildlife Refuge Manager to issue emergency or temporary special actions if necessary to ensure the conservation of a healthy wildlife population, to continue subsistence uses of wildlife, for reasons of public safety, or to assure the continued viability of the population. This delegation only applies to the Federal public lands subject to Alaska National Interest Lands Conservation Act (ANILCA) Title VIII jurisdiction within Unit 9D for the management of caribou on these lands.

It is the intent of the Board that actions related to management of caribou by Federal officials be coordinated, prior to implementation, with the Alaska Department of Fish and Game (ADF&G) and the Chair of the Kodiak/Aleutians Subsistence Regional Advisory Council (Council) to the extent possible. Federal managers are expected to work with managers from the State, the Council Chair, and applicable Council members to minimize disruption to subsistence resource users and existing agency programs, consistent with the need for special action.

DELEGATION OF AUTHORITY

1. Delegation: The Izembek National Wildlife Refuge Manager is hereby delegated authority to issue emergency or temporary special actions affecting caribou on Federal lands as outlined under the **Scope of Delegation** below. Any action greater than 60 days in length (temporary special action) requires a public hearing before implementation. Special actions are governed by regulation at 36 CFR 242.19 and 50 CFR 100.19.

2. Authority: This delegation of authority is established pursuant to 36 CFR 242.10(d)(6) and 50 CFR 100.10(d)(6), which state: "The Board may delegate to agency field officials the

authority to set harvest and possession limits, define harvest areas, specify methods or means of harvest, specify permit requirements, and open or close specific fish or wildlife harvest seasons within frameworks established by the Board."

3. Scope of Delegation: The regulatory authority hereby delegated is limited to the following authorities within the limits set by regulation at 36 CFR 242.26 and 50 CFR 100.26:

To set quotas and any needed closures for caribou on Federal public lands in Unit 9D.

This delegation may be exercised only when it is necessary to conserve caribou populations, to continue subsistence uses, for reasons of public safety, or to assure the continued viability of the population.

All other proposed changes to codified regulations, such as customary and traditional use determinations, adjustments to methods and means of take, or closures and restrictions for take for only non-Federally qualified users shall be directed to the Federal Subsistence Board.

The Federal public lands subject to this delegated authority are those within Unit 9D.

4. Effective Period: This delegation of authority is effective from the date of this letter and continues until superseded or rescinded.

5. Guidelines for Delegation: You will become familiar with the management history of the wildlife species relevant to this delegation in the region, with current State and Federal regulations and management plans, and be up-to-date on population and harvest status information. You will review special action requests or situations that may require a special action and all supporting information to determine: (1) consistency with 36 CFR 242.19, (2) if the request/situation falls within the scope of authority, (3) if significant conservation problems or subsistence harvest concerns are indicated, and (4) what the consequences of taking an action or no action may be on potentially affected subsistence users and non-Federally qualified users. Requests not within your delegated authority will be forwarded to the Federal Subsistence Board for consideration. You will maintain a record of all special action requests and rationale for your decision. A copy of this record will be provided to the Administrative Records Specialist in the Office of Subsistence Management (OSM) no later than sixty days after development of the document.

You will notify OSM and coordinate with local ADF&G managers and the Chair of the Kodiak/Aleutians Subsistence Regional Advisory Council regarding special actions under consideration. You will issue decisions in a timely manner. Before the effective date of any decision, reasonable efforts will be made to notify the public, OSM, affected State and Federal

managers, law enforcement personnel, and Council members. If an action is to supersede a State action not yet in effect, the decision will be communicated to the public, OSM, affected State and Federal Managers, and the local Council representatives at least 24 hours before the State action would be effective. If a decision to take no action is made, you will notify the proponent of the request immediately. A summary of special action requests and your resultant actions must be provided to the coordinator of the appropriate Subsistence Regional Advisory Council(s) at the end of each calendar year for presentation to the Council(s).

You may defer a special action request, otherwise covered by this delegation of authority, to the Federal Subsistence Board in instances when the proposed management action will have a significant impact on a large number of Federal subsistence users or is particularly controversial. This option should be exercised judiciously and may be initiated only when sufficient time allows for it. Such deferrals should not be considered when immediate management actions are necessary for conservation purposes. The Federal Subsistence Board may determine that a special action request may best be handled by the Board, subsequently rescinding the delegated regulatory authority for the specific action only.

6. Support Services: Administrative support for regulatory actions will be provided by the Office of Subsistence Management, U.S. Fish & Wildlife Service, and the Department of the Interior.

Sincerely,

Anthony Christianson
Chair, Federal Subsistence Board

cc: Commissioner, Alaska Department of Fish and Game
Assistant Regional Director, Office of Subsistence Management
Deputy Assistant Regional Director, Office of Subsistence Management
Subsistence Council Coordinator, Office of Subsistence Management
Chair, Kodiak/Aleutians Subsistence Regional Advisory Council
Commissioner, Alaska Department of Fish and Game
Federal Subsistence Liaison Team Leader, Alaska Department of Fish and Game
Federal Subsistence Board
Interagency Staff Committee
Administrative Record

WP18–21 Executive Summary	
General Description	Proposal WP18–21 requests that the harvest limit for the Mulchatna Caribou Herd be changed to 2 caribou with no additional restrictions in portions of Units 9, 17 and 19. It also requests consolidation of several hunt areas. *Submitted by: Bristol Bay Subsistence Regional Advisory Council.*
Proposed Regulation	**See pg. 831 of analysis**
OSM Conclusion	**Support** Proposal WP18-21 **with modification** to create a new hunt area in the portion of Unit 9C that drains into the Naknek River from the north to accommodate the existing Federal lands closure in the Naknek River drainage, and change the may-be-announced season in this hunt area to an Aug. 1 – Mar. 15 season with a harvest limit of two caribou, contingent upon the BOG making the same change at its February 2018 meeting, consistent with the proponent's request; delegate authority to the BLM Anchorage Field Office manager to open and close the season and set the harvest limits, including sex restrictions, if a new hunt area is designated; retain language in the Unit 19A and 19B regulation specifying that residents of Lime Village are authorized to hunt under an existing community hunt only. **See pp. 843-844 of analysis for modified regulation**.
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	

WP18–21 Executive Summary	
Bristol Bay Subsistence Regional Advisory Council Recommendation	**Support as modified by OSM**
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	**Support**
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	**Support as modified by OSM**
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Support**

WP18–21 Executive Summary	
Written Public Comments	**None**

STAFF ANALYSIS
WP18-21

ISSUES

Proposal WP18-21, submitted by the Bristol Bay Subsistence Regional Advisory Council (Council), requests that the harvest limit for the Mulchatna Caribou Herd (MCH) be changed to 2 caribou with no additional restrictions in portions of Units 9, 17 and 19. It also requests consolidation of several hunt areas.

DISCUSSION

The range of the Mulchatna caribou herd includes all or parts of Units 9, 17, 18 and 19 (**Map 1**). Currently, the Federal subsistence harvest limit in Units 9A, 9B, portions of 9C, portions of 17A, 17B, portions of 17C, 19A and 19B is 2 caribou with the restriction that no more than one caribou may be a bull and no more than one caribou may be taken Aug. 1 – Jan. 31. The proponent requests removal of these harvest restrictions, which would result in a simplified harvest limit of 2 caribou, and would be consistent with the harvest limits and restrictions in Unit 18. The Council notes that the bull:cow ratio has increased steadily over the past decade and that the Alaska Board of Game recently made a similar change in State regulation. They believe that, while it would likely increase bull and overall caribou harvest slightly, the requested change would result in greater opportunity to harvest caribou and would reduce regulatory complexity by aligning Federal and State regulations.

The Council also requests that the season in the portion of Unit 9C that drains into the Naknek River from the north (currently part of Unit 9C remainder) be changed from a may-be-announced season with a harvest limit of one bull, to an Aug. 1 – Mar. 15 season with a harvest limit of 2 caribou, consistent with the proposed changes in the rest of the MCH range. This request mirrors a proposal submitted to the Alaska Board of Game (BOG) for consideration at its February 2018 meeting, and is intended to maintain parallel State and Federal regulations. The request is contingent upon the BOG's approval of the State proposal. The Council feels the request is justified because the current regulatory structure is not consistent with contemporary distribution and movement patterns of the MCH and the Northern Alaska Peninsula Caribou Herd (NAPCH). The Council believes that it makes sense to open a regular season in this hunt area, closing the season only if the NAPCH moves to the north side of the river.

The requested change in Unit 9C would result in identical seasons and harvest limits in the portion of Unit 9C that drains into the Naknek River from the north and the portion of Unit 9C in the Alagnak River drainage (**Map 2**). Consequently, the Council requests that the former hunt area, which is currently part of Unit 9C remainder, be combined with the Alagnak hunt area. Similarly, they request that the hunt areas in Units 19A and 19B be consolidated into a single hunt area since seasons, harvest limits and proposed harvest restrictions are the same for the existing hunt areas in these units.

Existing Federal Regulation

Unit 9—Caribou

Unit 9A—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1-Jan. 31	*Aug. 1 – Mar. 15*
Unit 9B—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1-Jan. 31	*Aug. 1 – Mar. 31*
Unit 9C, that portion within the Alagnak River drainage—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1-Jan. 31	*Aug. 1 – Mar. 15*
Unit 9C, remainder—1 bull by Federal registration permit or State permit. Federal public lands are closed to the taking of caribou except by residents of Unit 9C and Egegik	*May be announced*

Unit 17—Caribou

Unit 17A, all drainages west of Right Hand Point—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1-Jan. 31	*Aug. 1 – Mar. 31*
Units 17A remainder and 17C remainder—selected drainages; a harvest limit of up to 2 caribou by State registration permit will be determined at the time the season is announced	*Season may be announced between Aug. 1 – Mar. 31*
Unit 17B and that portion of Unit 17C east of the Wood River and Wood River Lakes—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou from Aug. 1-Jan 31	*Aug. 1 – Mar. 31*

Unit 19—Caribou

Unit 19A, north of Kuskokwim River—2 caribou by State registration permit, no more than 1 caribou may be a bull; no more than 1 caribou may be taken from Aug. 1-Jan. 31	*Aug. 1 – Mar. 15*
Unit 19A, south of the Kuskokwim River and Unit 19B (excluding rural Alaska residents of Lime Village)—2 caribou by State registration permit; no more than 1 caribou may be a bull; no more than 1 caribou may be taken Aug. 1-Jan. 31	*Aug. 1 – Mar. 15*

Proposed Federal Regulation

Unit 9—Caribou

Unit 9A—2 caribou by State registration permit~~; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1 Jan. 31~~	*Aug. 1 – Mar. 15*
Unit 9B—2 caribou by State registration permit~~; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1 Jan. 31~~	*Aug. 1 – Mar. 31*
*Unit 9C, that portion ~~within the Alagnak River drainage~~ **north of the Naknek River**—2 caribou by State registration permit~~; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1 Jan. 31~~*	*Aug. 1 – Mar. 15*
Unit 9C, remainder—1 bull by Federal registration permit or State permit. Federal public lands are closed to the taking of caribou except by residents of Unit 9C and Egegik	*May be announced*

Unit 17—Caribou

Unit 17A, all drainages west of Right Hand Point—2 caribou by State registration permit~~; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1 Jan. 31~~	*Aug. 1 – Mar. 31*
Units 17B and 17C—that portion of 17C east of the Wood River and Wood River Lakes—2 caribou by State registration permit~~; no more than 1 caribou may be a bull, and no more than 1 caribou from Aug. 1 Jan 31~~	*Aug. 1 – Mar. 31*
Units 17A remainder and 17C remainder—selected drainages; a harvest limit of up to 2 caribou by State registration permit will be determined at the time the season is announced	*Season may be announced between Aug. 1 – Mar. 31*

Unit 19—Caribou

~~Unit 19A, north of Kuskokwim River—2 caribou by State registration permit, no more than 1 caribou may be a bull; no more than 1 caribou may be taken from Aug. 1 Jan. 31~~	*Aug. 1 – Mar. 15*
*Unit**s** 19A~~, south of the Kuskokwim River~~ and ~~Unit~~ 19B ~~(excluding rural Alaska residents of Lime Village)~~—2 caribou by State registration permit~~; no more than 1 caribou may be a bull; no more than 1 caribou may be taken Aug. 1 Jan. 31~~*	*Aug. 1 – Mar. 15*

Existing State Regulation

Unit 9—Caribou

Residents: Units 9A and 9C, that portion within the Alagnak River drainage —two caribou by permit available online at http://hunt.alaska.gov and in person in Anchorage, Bethel, Dillingham, Fairbanks, Homer, King Salmon, McGrath, Palmer, Soldotna, and at local license vendors beginning July 12	*RC503*	*Aug. 1 – Mar. 15*
Residents: Unit 9B— two caribou by permit available online at http://hunt.alaska.gov and in person in Anchorage, Bethel, Dillingham, Fairbanks, Homer, King Salmon, McGrath, Palmer, Soldotna, and at local license vendors beginning July 12	*RC503*	*Aug. 1 – Mar. 31*
Residents: Unit 9C, that portion north of the north bank of the Naknek River and south of the Alagnak River drainage— one caribou by permit available online at http://hunt.alaska.gov and in person in King Salmon if a winter season is announced	*RC504*	*May be announced*
Residents: Unit 9C south of the north bank of the Naknek River—one caribou by permit	*TC505*	*Aug. 10 – Sep. 20* *Nov. 15 – Feb. 28*

Unit 17—Caribou

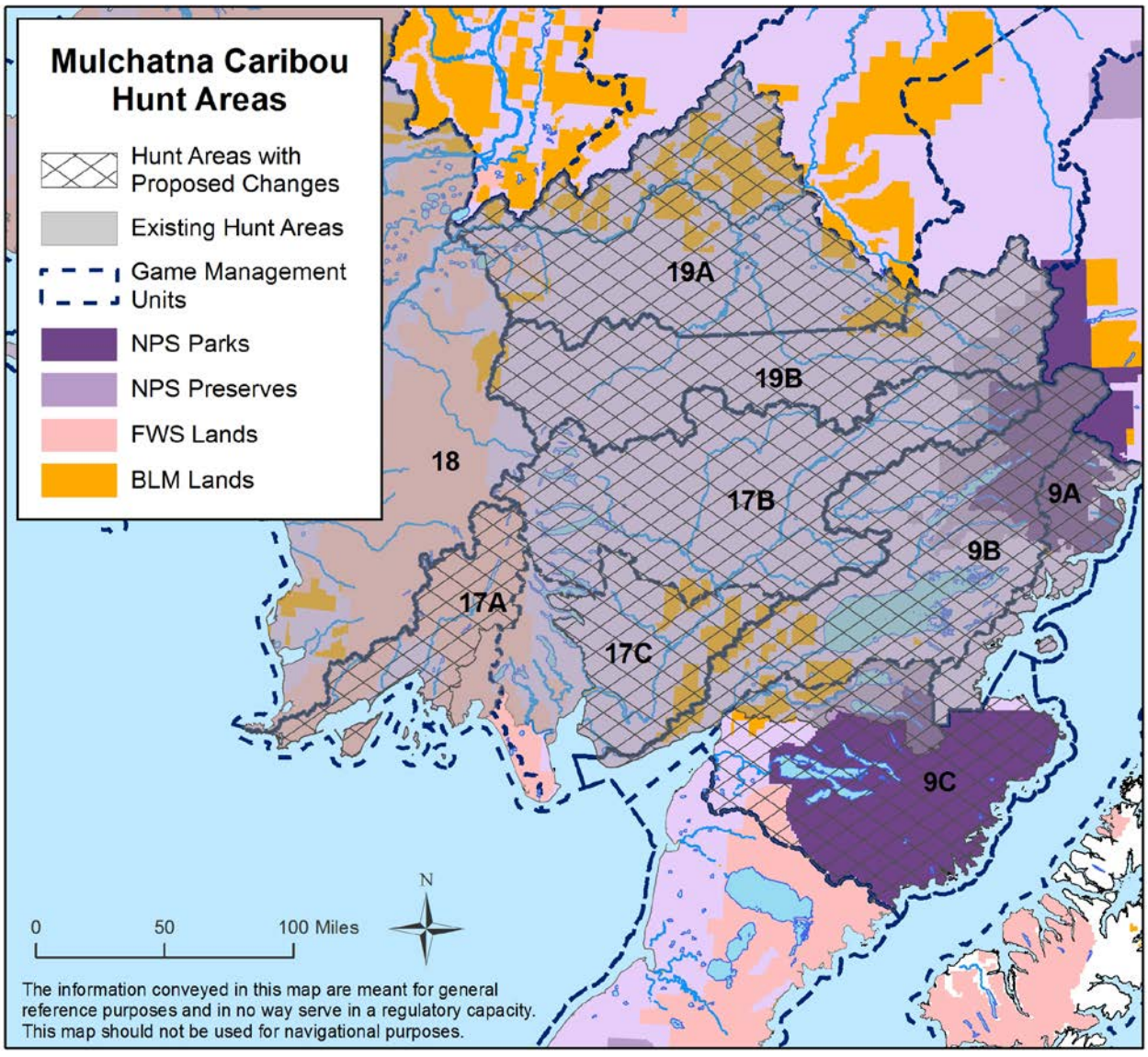
Residents: Units 17A remainder, 17B and 17C east of the east banks of the Wood River, Lake Aleknagik, Agulowak River, Lake Nerka and the Agulukpak River— two caribou by permit available online at http://hunt.alaska.gov and in person in Anchorage, Bethel, Dillingham, Fairbanks, Homer, King Salmon, McGrath, Palmer, Soldotna, and at local license vendors beginning July 12	*RC503*	*Aug. 1 – Mar. 31*

Unit 19—Caribou

Residents: Units 19A and 19B— two caribou by permit available online at http://hunt.alaska.gov and in person in Anchorage, Bethel, Dillingham, Fairbanks, Homer, King Salmon, McGrath, Palmer, Soldotna, and at local license vendors beginning July 12	*RC503*	*Aug. 1 – Mar. 15*

Extent of Federal Public Lands

Federal public lands comprise approximately 25% of the area addressed in this proposal, which includes all or portions of Units 9A 9B, 9C, 17A, 17B, 17C, 19A and 19B. This area consists of approximately 21% National Park Service (NPS) managed lands, 8% Bureau of Land Management (BLM) managed lands and 6% U.S. Fish and Wildlife Service (USFWS) managed lands (**Map 1**).



Map 1. Existing hunt areas and hunt areas with proposed changes within the MCH range.

Customary and Traditional Use Determinations

Residents of Units 9B, 9C and 17 have a customary and traditional use determination for caribou in Unit 9A and Unit 9B.

Residents of Units 9B, 9C, 17, and Egegik have a customary and traditional use determination for caribou in Unit 9C.

Residents of Units 9B, 17, Eek, Goodnews Bay, Lime Village, Napakiak, Platinum, Quinhagak, Stony River, and Tuntutuliak have a customary and traditional use determination for caribou in Unit 17A, that portion west of the Izavieknik River, Upper Togiak Lake, Togiak Lake, and the main course of the Togiak River.

Residents of Units 9B, 17, Akiak, Akiachak, Lime Village, Stony River, and Tuluksak have a customary and traditional use determination for caribou in Unit 17A, that portion north of Togiak Lake that includes Izavieknik River drainages.

Residents of Units 9B, 17, Kwethluk, Lime Village, and Stony River have a customary and traditional use determination for caribou in Units 17A and 17B, those portions north and west of a line beginning from the Unit 18 boundary at the northwestern end of Nenevok Lake, to the southern point of upper Togiak Lake, and northeast to the northern point of Nuyakuk Lake, northeast to the point where the Unit 17 boundary intersects the Shotgun Hills.

Residents of Units 9B, 17, Akiachak, Akiak, Bethel, Eek, Goodnews Bay, Lime Village, Napakiak, Platinum, Quinhagak, Stony River, Tuluksak, and Tuntutuliak have a customary and traditional use determination for caribou in Unit 17B, that portion of Togiak National Wildlife Refuge within Unit 17B.

Residents of Units 9B, 17, Lime Village, and Stony River have a customary and traditional use determination for caribou in Unit 17A remainder.

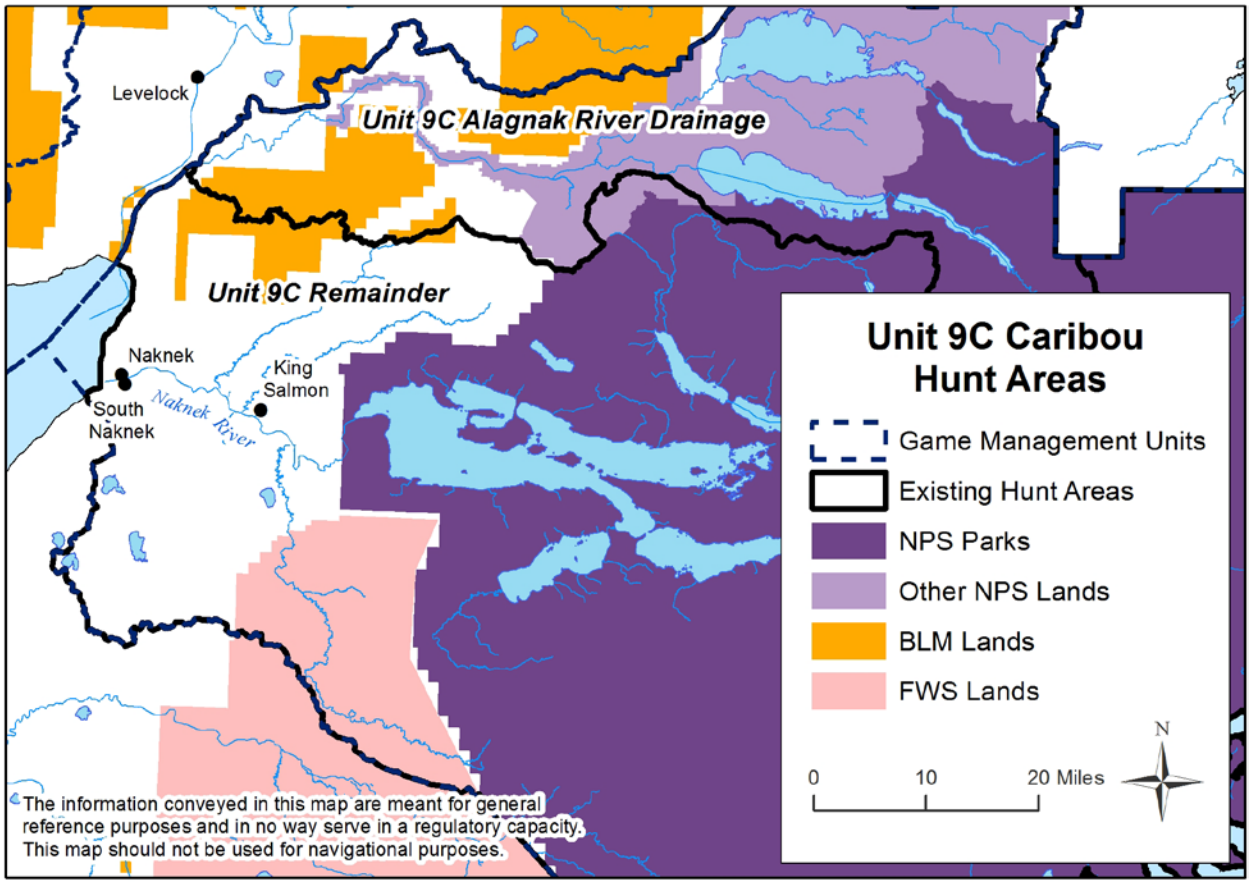
Residents of Unit 19A and 19B, Unit 18 within the Kuskokwim River drainage upstream from, and including, the Johnson River, and residents of St. Marys, Marshall, Pilot Station, and Russian Mission have a customary and traditional use determination for caribou in Units 19A and 19B.

Regulatory History

As a result of the dramatic population increase the MCH experienced during the 1990s, harvest regulations were liberalized throughout the range of the herd. By 1997, both State and Federal seasons in portions of Units 9, 17 and 19 extended from fall through spring and had generous harvest limits and few restrictions. The subsequent population decline resulted in the implementation of more restrictive regulations. Following is a summary of State and Federal regulatory changes since 2006.

At its spring 2006 meeting, the BOG implemented more restrictive regulations for both resident and non-resident hunters. For resident hunters, it established an Aug. 1 – Mar. 15 season throughout the range of the herd. Previously, resident seasons ended on March 31 or April 15. They also reduced the harvest

limit throughout much of the range to three caribou, with only one caribou allowed Aug. 1 – Sep. 30. Nonresident seasons, which previously extended fall through spring, were reduced to Aug. 1 – Sep. 30 (Woolington 2009).



Map 2. Existing Unit 9C caribou hunt areas.

The BOG further restricted harvest from the MCH in 2007. At that time, they reduced the resident harvest limit to 2 caribou with the restriction that no more than one bull could be taken and not more than one caribou could be taken Aug. 1 – Jan. 31. In addition, same day airborne harvest was eliminated for Units 9B, 17B and 17C. The non-resident seasons were reduced to Sep. 1 – 15 at this time as well (Woolington 2009).

The Federal Subsistence Board (Board) considered Proposal WP07-23 in 2007, which requested the Federal regulations for caribou in Units 9B and 17 be modified to reflect the recent changes in State regulation. Following the recommendation of several Subsistence Regional Advisory Councils, the Board adopted this proposal with modification to include Units 18, 19A and 19B (OSM 2017). However, this proposal was submitted prior to the BOG's 2007 regulatory changes and the Federal Subsistence Board's modification did not accommodate the recent changes in State regulation. Consequently, Federal regulations were aligned with the State's 2006 regulations rather than the 2007 regulations.

Following continued decline of the MCH, the BOG adopted Proposal 57 in 2009, which eliminated the non-resident caribou season throughout the range of the MCH (Woolington 2011).

The Board considered three proposals in 2010, all of which proposed further restriction on harvest of the MCH. Proposal WP10-51 requested that the Federal caribou seasons Units 9A, 9B, 17B, a portion of 17C, 18, 19A, and 19B be changed to Aug. 1–Mar. 31. The Board adopted this proposal with modification to end the seasons on March 15, as recommended by several Subsistence Regional Advisory Councils. Proposal WP10-53 requested that the harvest limit for caribou be set at two caribou throughout the range of the MCH, with the restriction that no more than one bull may be taken and no more than one caribou may be taken Aug. 1 – Jan. 31. The Board adopted this proposal. Proposal WP10-60 requested that the harvest limit for caribou in Unit 18 be reduced from 3 caribou to 2 caribou. It was adopted by the Board with a modification to include the restriction that no more than one bull may be taken and no more than one caribou may be taken Aug. 1 – Jan. 31, consistent with action taken on WP10-53 (OSM 2017). The result of the Board's actions in 2010 was that State and Federal regulations for caribou within the range of the MCH were largely aligned.

The BOG initiated intensive management for predator reduction within the range of the MCH in 2011. At their spring 2011 meeting, they established a predation management area in Units 9B, 17B and 17C. At their spring 2012 meeting, they added Units 19A and 19C to the predation management area (Woolington 2013).

In 2012, the Board considered Proposal WP12-42, which requested that, in Unit 18, the harvest limit be reduced from two caribou to one caribou and the season be reduced from Aug. 1 – Mar. 15 to Aug. 1 – Sep. 3- and Dec. 20 – last day of February. The Board adopted the proposal with modification, which resulted in the establishment of two separate hunt areas in Unit 18. For the portion of Unit 18 east and south of the Kuskokwim River, the season was adjusted as proposed while the harvest limit remained at two caribou, with the restriction that not more than one caribou may be taken Aug. 1 – Sep. 30 or Dec. 20 – Jan. 31. For the remainder of Unit 18, there were no changes to regulations (OSM 2017).

Shortly after the Board's decision on WP12-42, it received two Special Action Requests to make similar changes for the remainder of the 2011 regulatory year. WSA11-10 requested that the caribou season in Unit 18 be shortened by 2 weeks, to end on February 29, rather than March 15. WSA11-11 requested that Federal public lands in the portion of Unit 18 south and east of the Kuskokwim River be closed to the harvest of caribou by all users beginning March 1. The Board rejected both requests on the grounds that it would be detrimental to subsistence users and that there was insufficient evidence that the situation required immediate action (OSM 2017).

In February 2013, the BOG adopted Proposal 45A, which required use of a registration permit (RC503) in Units 9A, 9B, portions of 9C, 17, 18, 19A and 19B. Previously, MCH harvest was allowed with just a harvest ticket. These changes were aimed at improving harvest management and assessment of the MCH's response to the ongoing intensive management program (ADF&G 2017a).

The Board considered two Special Action Requests in 2013. The first, Temporary Special Action WSA13-02, requested alignment of Federal permit requirements and season dates with the recently

modified State regulations. As a result of the Board's approval of this request, Federally qualified subsistence users hunting under Federal regulations were required to obtain a State registration permit in Units 9A, 9B, 9C, 17A, 17B, 17C, 18, 19A and 19B. The Board's action also shortened the to-be-announced season in Units 17A remainder and 17C remainder from Aug. 1–Mar. 31 to Aug. 1–Mar. 15. These changes were valid for the remainder of the 2013 regulatory year. The second request, Temporary Special Action WSA13-03, requested the closure of Federal public lands in Units 9A, 9B, 9C, 17A, 17B, 17C, 18, 19A, and 19B to the harvest of caribou, except by Federally qualified subsistence users. The Board rejected WSA13-03 on the grounds that the MCH population was within State management objectives, and composition metrics were showing improvement (OSM 2017).

In 2014, the Board adopted Proposal WP14-22 with modification, which resulted in the requirement of a State registration permit for Federally qualified subsistence users hunting under Federal regulations in Units 9A, 9B, 9C, 17A, 17B, 17C, 18, 19A and 19B. It also resulted in a shortening of the to-be-announced season in Units 17A remainder and 17C remainder, from Aug. 1 – Mar. 31 to Aug. 1 – Mar. 15. Finally, it delegated authority to the Togiak National Wildlife Refuge Manager to take specific in-season management actions in portions of Units 17 A and 17C. This included the authority to open and close seasons, establish harvest limits and restrictions, and identify hunt areas. These changes were meant to align Federal and State regulations across the range of the MCH, while providing improved harvest reporting (OSM 2017).

In February 2015, the BOG adopted Proposal 47 with an amendment to accommodate the request made in Proposal 48. As a result of this action, the caribou season in Units 9B and 17 was changed from Aug. 1 – Mar. 15 to Aug. 1 – Mar 31. This change was made to accommodate hunters who reported that travel conditions often prohibited caribou hunting after the last day of March (ADF&G 2017a).

In March 2016, members of the Western Interior Alaska, Yukon Kuskokwim Delta and Bristol Bay Subsistence Regional Advisory Councils met during the All Council Meeting for an informal discussion focused on Proposal 134, which was considered by the BOG later in same month. The BOG adopted this proposal, which resulted in liberalization of the harvest restrictions for caribou harvested within the range of the MCH. Specifically, the harvest limit remained at 2 caribou, but the restrictions that no more than one bull may be taken and no more than one caribou may be taken from Aug. 1 through Jan. 31 were eliminated. By 2016, the bull:cow ratio had reached the management threshold and conservation of bulls had become less critical compared to 2007, when the restrictions were implemented. Fewer restrictions also resulted in a less complicated regulatory structure and were not expected to result in unsustainable levels of harvest (ADF&G 2017a).

The same spring, the Board considered Proposal WP16-29/30, which requested that caribou seasons in Unit 9B and portions of Unit 17 be extended from Aug. 1 – Mar. 15 to Aug. 1 – Mar. 31. This proposal was intended to provide additional subsistence opportunity and to align Federal and State regulations for caribou hunting within the range of the MCH. The Board approved this request with modification to move in-season management language from regulation to a delegation of authority letter. However, this proposal was submitted prior to the BOG's 2016 regulatory changes and the Federal Subsistence Board's modification did not accommodate the recent changes to State regulation. Consequently, Federal

regulations were aligned with the State's RY2016 regulations rather than the RY2017 regulations (OSM 2017). The proposal considered in this analysis will fully align State and Federal caribou regulations within the range of the MCH if it is approved.

Biological Background

Mulchatna Caribou Herd

Currently, the MCH range covers ~60,000 square miles, primarily within Units 9B, 9C, 17A, 17B, 17C, 18, 19A and 19B. However, this population has experienced dramatic changes in population size and distribution in the past 40 years. In the early 1980s, the population was estimated to include approximately 20,000 caribou and its range was mostly limited to the area east of the Mulchatna River between the Bonanza Hills and Iliamna Lake. By the mid-1990s, the herd had grown to its peak size of approximately 200,000 caribou and had begun wintering in southern Unit 18 and southwestern Unit 19B. Subsequently, the herd began a period of decline that persisted until recently (Woolington 2013).

In 2013, population estimate for the MCH was 18,308 caribou, the lowest estimate in over 30 years and well below the lower bound of the State's population objective of 30,000 – 80,000 caribou (**Table 1)**. Since then, the population appears to have grown. Surveys indicate that the population has varied between 26,000 and 31,000 caribou for the past three years. The most recent estimate, in 2016, was 27,242 caribou (Barten 2016).

The MCH has experienced a steady increase in the bull:cow ratio since 2010, when there were only 17 bulls:100 cows (**Table 1)**. In 2016, the ratio was 39 bulls:100 cows, which is the highest estimate since 2000 and is in excess of the State's management objective of 35 bulls:100 cows. The proportion of bulls classified as large in 2016 was 28%, which is among the highest estimates on record and is well above the long-term average of 19% (Barten 2016). Calf:cow ratios have been variable, which is typical of caribou herds occupying interior and southwest Alaska. In 2016, the calf:cow ratio was 22 calves:100 cows, a decrease relative to 2014 and 2015, but within the range of variability observed in recent years (Barten 2016).

Northern Alaska Peninsula Caribou Herd

Like the MCH, the NAPCH has varied considerably in size in the last century, ranging from approximately 20,000 during population highs to approximately 2,000 during population lows. The most recent population estimate for the NAPCH, obtained in 2015, was fewer than 3,000 caribou (Crowley 2016). This is well below the State's population objective of 12,000 – 15,000 caribou.

Generally speaking, the NAPCH occupies Units 9C and 9E. However, distribution and movement patterns have varied over time, likely due to impacts of population size on habitat quality. Historically, both the calving grounds and wintering grounds of the NAPCH have been south of the Naknek River. However, in 1986, following a period of high population density and winter range depletion, the herd began wintering in the northern part of their range, between the Naknek an Alagnak Rivers. More recently, this

northern range has become less important, with only one radiocollared caribou crossing the Naknek River since 2000 (Peterson 2013).

Table 1. Mulchatna Caribou Herd composition counts and population estimates, 1975 – 2016 (Barten 2016).

Year	Bulls: 100 cows	Calves: 100 cows	% of Total bulls			Composition sample size	Population Estimate
			Small bulls	Medium bulls	Large bulls		
1975	55	35	-	-	-	1,846	14,000
1978	50	65	-	-	-	758	7,500
1980	31	57	-	-	-	2,250	-
1981	53	45	-	-	-	1,235	20,600
1986	56	37	-	-	-	2,172	-
1987	68	60	-	-	-	1,858	52,500
1988	66	54	-	-	-	536	-
1993	42	44	-	-	-	5,907	150,000[a]
1996	42	34	49	29	22	1,727	200,000[a]
1998	41	34	28	43	29	3,086	-
1999	30	14	60	26	14	4,731	175,000[b]
2000	38	24	47	33	20	3,894	-
2001	25	20	32	50	18	5,728	-
2002	26	28	57	30	13	5,734	147,000[b]
2003	17	26	36	45	19	7,821	-
2004	21	20	64	29	7	4,608	85,000[b]
2005	14	18	55	33	12	5,211	-
2006	15	26	57	34	9	2,971	45,000[b]
2007	23	16	53	36	11	3,943	-
2008	19	23	47	36	17	3,728	30,000[b]
2009	19	31	40	44	16	4,595	-
2010	17	20	30	44	26	4,592	-
2011	22	19	32	41	27	5,282	-
2012	23	30	38	38	24	4,853	22,809[c]
2013	27	19	39	36	25	3,222	18,308[c]
2014	35	30	44	31	25	4,793	26,275[c]
2015	35	29	35	43	22	5,414	30,736[c]
2016	39	22	43	29	28	5,195	27,242[c]

[a]Estimate derived from photo-counts, corrected estimates, subjective estimate of number of caribou in areas not surveyed, and interpolation between years when aerial photo surveys were not conducted.

[b]Estimate of minimum population size base on July photo census.

[c]Estimate based on Rivest et al. (1998) caribou abundance estimator.

Cultural Knowledge and Traditional Practices

At least five Alaska Native groups, Alutiiq, Central-Yup'ik, and the Athapaskan subgroups known as the Deg Xinag, Kolchan/Upper Kuskokwim, and Dena'ina, have historically inhabited and hunted in sections of Units 9, 17, and 19. Relationships between these groups varied from intermarriage, trading, and feuding (Snow 1981). All of these groups have a history of hunting caribou in this area and some participated in herding upon the introduction of reindeer in the 1890s (Willis 2006).

Historically, people in Western and Southwestern Alaska hunted caribou in the spring and fall with the occasional summer harvest. Historical accounts suggest that caribou was an important subsistence resource for food and the creation of winter clothing. Caribou were traditionally caught through the use of snares, surrounds, guide fences, bow and arrow, stalking, spears, and the Dena'ina utilized dogs (Clark 1981; Hosley 1981; Snow 1981; Townsend 1981; VanStone 1981). Vanstone mentioned that Central-Yup'ik groups used caribou hides in the creation of winter clothing and Hosley (1981) noted that the Kolchan made a paste out of caribou brains to tan hides for clothing purposes.

Russian fur traders travelled up the Alaskan coast and came into contact with the Alutiiq Koniag after 1760. It was not long after this initial contact that trading posts were established in the area that currently consists of Unit 9 (Clark 1981). As the Russians moved further north along the Alaska coast the fur trade expanded into what is now Units 17 and 19 (Snow 1981; Vanstone 1981). The arrival of the Russians was followed by the creation of missions, boarding schools, canneries, and the arrival of both Russian and European trappers and prospectors (Hosley 1981; Snow 1981; Townsend 1981).

The most recent comprehensive subsistence surveys conducted by the Alaska Department of Fish and Game (ADF&G) have been used to provide examples for each unit in this proposal. ADF&G conducted a survey on the community of Naknek in Unit 9 during 2007, Manokotak in Unit 17 during 2008, and Nikolai in Unit 19 during 2011 (Holen et al. 2011; Holen et al. 2012; Ikuta et al. 2014). Within these communities, large mammal harvest is high and ranged between 12.1% on the low end and 52% on the high end (Holen et al. 2011; Ikuta et al. 2014). The per capita caribou harvest from Naknek, Manokotak, and Nikolai ranged from a low of 2 lbs/person in Nikolai to 21 lbs/person in Naknek (Holen et al. 2011; Ikuta et al. 2014). Even in those communities that reported no harvest for their study year, caribou was widely used, shared, and received. For example, in Manokotak for the 2008 study year, about 50% of the community households used caribou, 44% reported receiving caribou, and about 7% of the households reported sharing caribou with others (Holen et al. 2012).

Harvest

Reported harvest of the MCH has decreased significantly since the early 2000s, when the herd was very large (**Figure 1**). Total reported caribou harvest declined from 3,949 caribou in 2000 to 306 caribou in 2016. Harvest among all user groups declined during this period, but the decline was especially pronounced among non-local residents and nonresidents. Reduction of the State harvest limit in 2006 and elimination of the non-resident season in 2009 were influential in this decline (ADF&G 2017b).

Local users, defined here as those with a customary and traditional use determination, have reported less harvest in recent years as well. Since 2000, local users have reported harvesting an average of 432 caribou annually, with harvest exceeding 300 caribou in every year through 2012. Since 2013, reported harvest among local users has averaged 166 caribou annually and has remained below 300 caribou every year (ADF&G 2017b). Underreporting is a known problem in this area (Woolington 2011) and it is likely that reported harvest underestimates total harvest by local users.

Until the mid-2000s, most of the harvest occurred during the fall, but an increasing proportion of harvest now occurs during spring (**Table 2**). Considering all users, an average of 65% of the harvest for 2000 – 2006 occurred in August and September. For 2007 – 2016, only 25% of the harvest has occurred during these months. Harvest during February and March averaged 18% of the total harvest 2000 – 2006 but increased to 45% for 2007 – 2016. This trend appears to be driven largely by the shift in user base from predominantly non-locals to predominately locals, subsequent to regulatory changes. Harvest among local users tends to be more evenly distributed through the season, with some interannual variability (ADF&G 2017b). These patterns likely reflect movement and distribution of the MCH, as well as local environmental factors such as weather and snow and ice conditions that affect subsistence users' ability to successfully access and harvest caribou.

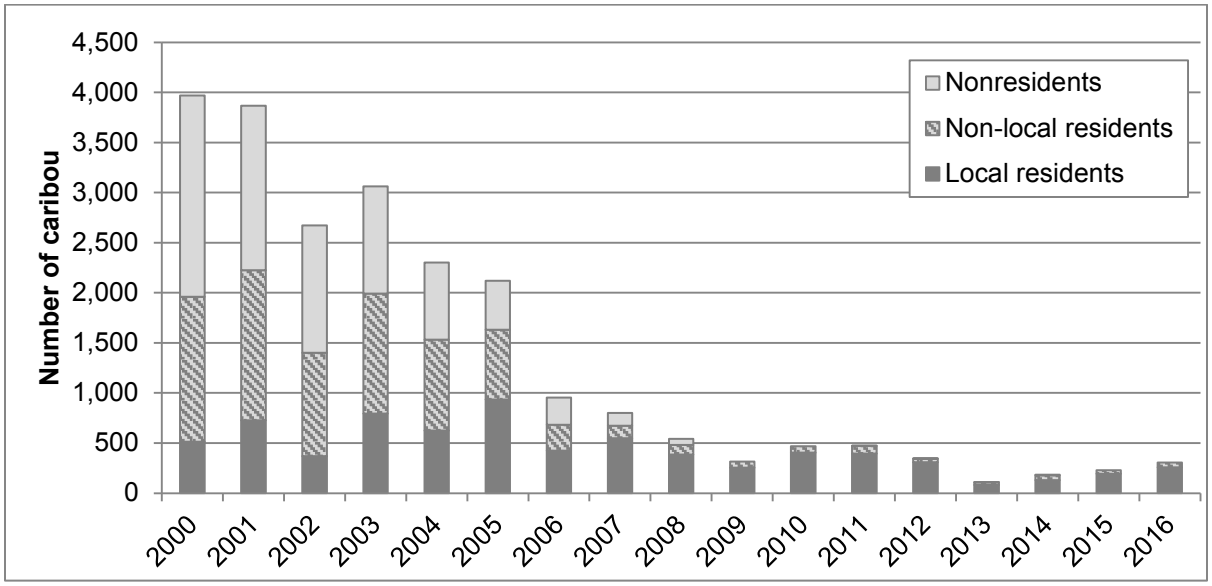


Figure 1. Total reported harvest from the Mulchatna Caribou Herd for regulatory years 2000 – 2016, by user group (ADF&G 2017b).

Effects of the Proposal

If this proposal is adopted, the restrictions that limit MCH harvest to a single bull per season and a single caribou between August 1 and March 15 will be eliminated in all or portions of Units 9A, 9B, 9C, 17A, 17B, 17C, 19A and 19B. As a result, the harvest limit will be 2 caribou, with no further restrictions, throughout the range of the herd. Some variation in season length among hunt areas will remain, but within each hunt area, season, harvest limits, and restriction will be consistent in both State and Federal regulations.

Removal of the harvest restriction is expected to have little effect on MCH harvest. The changes requested in this proposal were implemented in State regulation for regulatory year 2016. While the State's changes could be expected to result in a slight increase in harvest due to fewer restrictions, the requested changes in Federal regulation are unlikely to have any additional effect. With the exception of the southern portion of Unit 9C, where Federal public lands are closed except to Federally qualified subsistence users, any person hunting under Federal regulation may also hunt under State regulation. Consequently, maintaining the harvest restrictions in Federal regulation is not expected to have any functional effect.

Removal of the harvest restrictions will provide more opportunity to Federally qualified subsistence users, who will be able to harvest any two caribou in a single outing, thus maximizing harvest when travel conditions and animal movements are favorable, while minimizing travel expenses. However, since this practice is already allowed under State regulation, the practical effect is expected to be negligible.

Table 2. Total reported harvest from the Mulchatna Caribou Herd for regulatory years 2000 – 2016, by month (ADF&G 2017b).

	Caribou Harvest (Number of caribou)												
Year	**Total**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**
2000	3,968	11	1,042	2,128	234	14	16	89	139	236	55	1	3
2001	3,866	7	876	1,840	117	50	81	98	173	439	183	2	
2002	2,671	6	615	1,503	121	17	41	99	58	151	55	4	1
2003	3,060	10	599	1,380	113	16	136	180	157	386	78	3	2
2004	2,301	6	439	1,075	59	25	82	83	52	248	227	4	1
2005	2,119	4	313	698	45	90	53	117	134	517	143	4	1
2006	953		120	356	12	39	53	57	101	209	4	2	
2007	799		20	208	12	12	49	56	231	207	4		
2008	540		15	120	15	29	23	43	141	152		2	
2009	315		22	35	24	61	15	30	34	91	1	2	
2010	468		14	33	7	17	67	35	92	201	1	1	
2011	474		11	47	9	23	11	88	85	199	1		
2012	347		11	22	5	6	38	24	62	177		2	
2013	109		16	30	9	18	13	9	8	6			
2014	183		35	58	18	7	32	4	19	10			
2015	235		36	50	12	23	39	23	40	10	1	1	
2016	307		27	35	15	6	25	26	59	114			

The proposed changes in Unit 9C will result in a shift in regulatory emphasis. Currently, the portion of Unit 9C that drains into the Naknek River from the north is part of Unit 9C remainder, where seasons, harvest limits and permitting requirements reflect the management needs of the NAPCH. The proposed changes will consolidate this area with the hunt area in the Alagnak River drainage and will result in seasons, harvest limits and permitting requirements that reflect the management needs of the MCH. This is unlikely to have any effect on caribou populations, given the current distributions and movement patterns of the MCH and the NAPCH. However, it will require a shift in the monitoring strategies required for effective in-season management. Instead of monitoring the MCH and opening the season if it moves south

into the hunt area, the NAPCH will need to be monitored and the season closed if it moves north into the hunt area. Finally, the proposed changes in hunt areas will result in regulatory inconsistencies within the newly consolidated hunt area. Notably, a Federal lands closure exists in Naknek River drainage but not in the Alagnak drainage.

Consolidation of the Unit 19A and 19B hunt areas will be inconsequential since the season, harvest limits and restrictions are the same in both hunt areas. Creation of a single hunt area will simply serve to reduce regulatory complexity.

OSM CONCLUSION

Support Proposal WP18-21 **with modification** to create a new hunt area in the portion of Unit 9C that drains into the Naknek River from the north to accommodate the existing Federal lands closure in the Naknek River drainage, and change the may-be-announced season in this hunt area to an Aug. 1 – Mar. 15 season with a harvest limit of two caribou, contingent upon the BOG making the same change at its February 2018 meeting, consistent with the proponent's request; delegate authority to the BLM Anchorage Field Office manager to open and close the season and set the harvest limits, including sex restrictions, if a new hunt area is designated (**Appendix A**); retain language in the Unit 19A and 19B regulation specifying that residents of Lime Village are authorized to hunt under an existing community hunt only.

The modified regulation should read:

Unit 9—Caribou

Unit 9A—2 caribou by State registration permit~~; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1 Jan. 31~~	*Aug. 1 – Mar. 15*
Unit 9B—2 caribou by State registration permit~~; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1 Jan. 31~~	*Aug. 1 – Mar. 31*
Unit 9C, that portion within the Alagnak River drainage—2 caribou by State registration permit~~; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1 Jan. 31~~	*Aug. 1 – Mar. 15*
Unit 9C, that portion draining into the Naknek River from the north—2 caribou by State registration permit. Federal public lands are closed to the taking of caribou except by residents of Unit 9C and Egegik	***Aug. 1 – Mar. 15***
Unit 9C, remainder—1 bull by Federal registration permit or State permit. Federal public lands are closed to the taking of caribou except by residents of Unit 9C and Egegik	*May be announced*

Unit 17—Caribou

Unit 17A, all drainages west of Right Hand Point—2 caribou by State registration permit~~; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1-Jan. 31~~	*Aug. 1 – Mar. 31*
Units 17B and 17C—that portion of 17C east of the Wood River and Wood River Lakes—2 caribou by State registration permit~~; no more than 1 caribou may be a bull, and no more than 1 caribou from Aug. 1-Jan 31~~	*Aug. 1 – Mar. 31*
Units 17A remainder and 17C remainder—selected drainages; a harvest limit of up to 2 caribou by State registration permit will be determined at the time the season is announced	*Season may be announced between Aug. 1 – Mar. 31*

Unit 19—Caribou

~~Unit 19A, north of Kuskokwim River—2 caribou by State registration permit, no more than 1 caribou may be a bull; no more than 1 caribou may be taken from Aug. 1-Jan. 31~~	*~~Aug. 1—Mar. 15~~*
*Unit**s** 19A~~, south of the Kuskokwim River~~ and ~~Unit~~ 19B (excluding rural Alaska residents of Lime Village)—2 caribou by State registration permit~~; no more than 1 caribou may be a bull; no more than 1 caribou may be taken Aug. 1-Jan. 31~~*	*Aug. 1 – Mar. 15*

Justification

Given that the request to eliminate harvest restrictions throughout the range of the MCH has already been implemented in State regulation, and that Federally qualified subsistence users may hunt on both State and Federal lands under State regulation in nearly every hunt area, adoption of these changes is expected to have a negligible effect on harvest of the MCH or on subsistence opportunity. However, alignment of State and Federal regulation will result in reduced regulatory complexity and confusion among subsistence users, something that appears to be valued by Federally qualified subsistence users in this area. Consequently, the elimination of harvest restrictions is recommended.

Establishing a season and harvest limits in the portion of Unit 9C that drains into the Naknek River from the north, which shifts the primary regulatory emphasis from the NAPCH to the MCH, is likely not problematic, given current distribution and movement patterns of caribou in this region. However, it is worth noting that the most conservative approach for the NAPCH, which is currently very small, is to retain the may-be-announced season. In any case, in the interest of unified management strategies, and consistent with the proponent's request, establishing a season and harvest limits is recommended only if the BOG makes the same change when they deliberate proposals for central and southwest Alaska at their February 2018 meeting. The BOG's decision will be made before the Federal Subsistence Board meets in April 2018.

Due to the existence of a Federal lands closure in the portion of Unit 9C that drains into the Naknek River from the north, it is important to establish it as a unique hunt area, rather than consolidating it with the hunt area in the Alagnak River drainage. Although this closure reflects the management needs of the NAPCH and adoption of this proposal will shift the regulatory emphasis to the MCH, rescinding the closure is beyond the scope of the original request. Furthermore, this analysis does not address whether such an action is warranted. In addition to the issue of the closure, it is prudent to maintain independent hunt areas so that in-season management decisions can be made in a geographically precise manner. This will be especially relevant in cases when the NAPCH cross to the north side of the Naknek River, which might necessitate closing the season in the Naknek River drainage but not in the Alagnak River drainage. Delegation of authority to a local manager for in season management decisions within the new hunt area is necessary to ensure flexibility to respond to caribou movements.

Consolidation of the Unit 19A and 19B hunt areas will not affect the season, harvest limits, or restrictions for caribou and will reduce regulatory complexity by simplifying Federal regulation and aligning it with State regulation. However, it is important to retain language excluding residents of Lime Village from these regulations, as they are authorized to hunt only in a separate community harvest.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Bristol Bay Subsistence Regional Advisory Council

Support as modified by OSM. Support of the proposal aligns with current State of Alaska regulations and will reduce confusion between Federal and State hunting regulations. Management action through delegation of authority, to open or close, is in place to address any conservation concerns.

Yukon-Kuskokwim Delta Subsistence Regional Advisory Council

Support. The Council reiterated again that as hunters they notice changes that are going on with the resources they hunt and there have been concerns about the Mulchatna Caribou Herd in their area. The Council noted that based on the proposal there were concerns about the same caribou herd expressed by subsistence hunters on the Bristol Bay side as well. The Council voted to support this proposal as an effort to help the efforts of people in the Bristol Bay region retain this important subsistence resource for future generations.

Western Interior Alaska Subsistence Regional Advisory Council

Support as modified by OSM. The Council supported the proposal with OSM Modification for the reasons stated in the OSM justification. The Council excluded Unit 9C from their discussion and recommendation as that subunit is outside the Western Interior Region.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-21: This proposal, submitted by the Bristol Bay Regional Subsistence Advisory Council, would make two changes to caribou hunting regulations for the Mulchatna caribou herd:

> 1) it aligns state and federal caribou hunting regulations in the following game management units and areas: Units 9A, 9B, 9C–that portion within the Alagnak River drainage; Unit 17A–all drainages west of Right Hand Point; Unit 17B and that portion of Unit 17C east of the Wood River and Wood River Lakes; Unit 19A north of the Kuskokwim River; Unit 19A south of the Kuskokwim River; and Unit 19B (excluding Lime Village), and

2) it would add that portion of Unit 9C that lies north of the Naknek River to the Alagnak River drainage to the RC503 registration permit hunt area.

Introduction: This proposal aligns the federal caribou hunting season in the above mentioned areas with the already established State of Alaska caribou season. During spring 2016, the Alaska Board of Game adopted a proposal to liberalize the harvest restrictions for caribou within the range of the Mulchatna Caribou herd (Units 17, 18, 19A & 19B, and 9A & 9C). Specifically, the harvest limit remained at two caribou, but the restrictions that no more than one bull may be taken and no more than one caribou may be taken from August 1–January 31 were eliminated. This proposal was adopted because the bull-to-cow ratio had reached the management threshold and conservation of bulls had become less critical compared to 2007 when the bag limit restrictions were implemented.

This proposal would also add that portion of Unit 9C that lies north of the Naknek River and up to the Alagnak River drainage to the RC503 registration permit hunt area. This would create a uniform hunting season for this area that is presently managed under a "may be announced" season, under a registration permit (RC504). This proposed change would nearly mirror a proposed change under State of Alaska regulations (Proposal 127) that will be deliberated upon during the February 2018 Board of Game meeting in Dillingham. The difference between these two proposals is that Proposal 127 specifies the "north bank" of the Naknek River, while this proposal simply states "north" of the Naknek River.

Impact on Subsistence Uses: Aligning the federal regulations with the State of Alaska regulations would provide consistent and easily interpreted regulations for federally qualified subsistence users. Adding the RC504 "to be announced" hunt area to the RC503 hunt area would also simplify the regulations and allow for a predictable harvest opportunity.

Impact on Other Uses: These changes would have no effect on other nonfederally qualified users.

Opportunity Provided by State:

State customary and traditional use finding: The Alaska Board of Game has made a positive customary and traditional use finding for the Mulchatna caribou herd in units 9A, 9B, 17, 18, 19A south of the Kuskokwim River, and 19B.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence “need”. Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The Board of Game has found that that 2,100–2,400 Mulchatna caribou are reasonably necessary for subsistence**.**

Existing State Regulation

Unit 9—Caribou

Residents: Units 9A and 9C, that portion within the Alagnak River drainage —2 caribou by permit (RC503).	Aug. 1 – Mar. 15
Residents: Unit 9B—2 caribou by permit (RC503).	Aug. 1 – Mar. 31
Residents: Unit 9C, that portion north of the north bank of the Naknek River and south of the Alagnak River drainage—2 caribou by permit. (RC504)	May be announced
Residents: Unit 9C south of the north bank of the Naknek River—1 caribou by permit (TC505).	Aug. 10 – Sep. 20 Nov. 15 – Feb. 28

Unit 17—Caribou

Residents: Units 17A remainder, 17B and 17C east of the east banks of the Wood River, Lake Aleknagik, Agulowak River, Lake Nerka and the Agulukpak River—2 caribou by permit (RC503).	Aug. 1 – Mar. 31

Unit 19—Caribou

Residents: Units 19A and 19B—2 caribou by permit (RC503).	Aug. 1 – Mar. 15

Special instructions: None

Conservation Issues: No conservation issues have been identified with this proposal. The current federal regulation established when the bull-to-cow ratio was below the management objective for the Mulchatna Caribou herd, and the restriction placed on the bag limit for bulls was implemented to increase the bull-to-cow ratio. This strategy led to the achievement of the management objective to have 35 bulls:100 cows in the herd from 2014–2016, with an 18-year high of 39 bulls:100 cows in 2016. Reaching the objective prompted the recent change in 2016 under State of Alaska regulations where the bag limit was liberalized to provide more harvest opportunity. Although the Fall 2017 bull:100 cow ratio was lower at 32 bulls:100 cows, we don't believe this deviation from the previous 3-year trend is reason for concern.

Enforcement Issues: This change would reduce enforcement issues by aligning federal and state regulations.

Recommendation: ADF&G **SUPPORTS** WP18-21 to liberalize the federal bag limit for the Mulchatna caribou herd, which aligns state and federal regulations and adds a portion of Unit 9C to the RC503 hunt area. The proposed change provides additional subsistence hunting opportunity that will be within the sustainable harvest limits for this herd and simplifies hunting regulations for hunters throughout the herd's range. The state Board of Game will consider actions that could affect this proposal. The Federal Subsistence Board should take action to align the state and federal regulations.

APPENDIX A

Anchorage Field Office Manager
Bureau of Land Management
4700 BLM Road
Anchorage, AK 99507

Dear Manager:

This letter delegates specific regulatory authority from the Federal Subsistence Board (Board) to the manager of the Bureau of Land Management (BLM) Anchorage Field Office to issue emergency or temporary special actions if necessary to ensure the conservation of a healthy wildlife population, to continue subsistence uses of wildlife, for reasons of public safety, or to assure the continued viability of a wildlife population. This delegation only applies to the Federal public lands subject to Alaska National Interest Lands Conservation Act (ANILCA) Title VIII jurisdiction within the portion of Unit 9C draining into the Naknek River from the north for the management of caribou on these lands.

It is the intent of the Board that actions related to management of caribou by Federal officials be coordinated, prior to implementation, with the Office of Subsistence Management (OSM), the Alaska Department of Fish and Game (ADF&G), the U.S. Fish and Wildlife Service (USFWS), the National Park Service (NPS) and the Chair of the Bristol Bay Subsistence Regional Advisory Council (Council) to the extent possible. Federal managers are expected to work with managers from the State and other Federal agencies, the Council Chair and applicable Council members to minimize disruption to subsistence resource users and existing agency programs, consistent with the need for special action.

DELEGATION OF AUTHORITY

1. Delegation: The BLM Anchorage Field Office manager is hereby delegated authority to issue emergency or temporary special actions affecting caribou on Federal lands as outlined under the **Scope of Delegation**. Any action greater than 60 days in length (temporary special action) requires a public hearing before implementation. Special actions are governed by Federal regulation at 36 CFR 242.19 and 50 CFR 100.19.

2. Authority: This delegation of authority is established pursuant to 36 CFR 242.10(d)(6) and 50 CFR 100.10(d)(6), which state: "The Board may delegate to agency field officials the authority to set harvest and possession limits, define harvest areas, specify methods or means of harvest,

specify permit requirements, and open or close specific fish or wildlife harvest seasons within frameworks established by the Board."

3. Scope of Delegation: The regulatory authority hereby delegated is limited to the following authorities within the limits set by regulation at 36 CFR 242.26 and 50 CFR 100.26:

> To open and close the season and set the harvest limit, including sex restrictions, for the caribou season on Federal public lands in the portion of Unit 9C that drains into the Naknek River from the north.

This delegation may be exercised only when it is necessary to conserve caribou populations, to continue subsistence uses, for reasons of public safety, or to assure the continued viability of the population.

All other proposed changes to codified regulations, such as customary and traditional use determinations, adjustments to methods and means of take, or closures to only non-Federally qualified users shall be directed to the Federal Subsistence Board.

The Federal public lands subject to this delegated authority are those within the portion of Unit 9C that drains the Naknek River from the north.

4. Effective Period: This delegation of authority is effective from the date of this letter and continues until superseded or rescinded.

5. Guidelines for Delegation: You will become familiar with the management history of the wildlife species relevant to this delegation in the region, with current State and Federal regulations and management plans, and be up-to-date on population and harvest status information. You will review special action requests or situations that may require a special action and all supporting information to determine (1) consistency with 36 CFR 242.19, (2) if the request/situation falls within the scope of authority, (3) if significant conservation problems or subsistence harvest concerns are indicated, and (4) what the consequences of taking an action or no action may be on potentially affected Federally qualified subsistence users and non-Federally qualified users. Requests not within your delegated authority will be forwarded to the Federal Subsistence Board for consideration. You will maintain a record of all special action requests and rationale for your decision. A copy of this record will be provided to the Administrative Records Specialist in the OSM no later than sixty days after development of the document.

You will consult with OSM and coordinate with local ADF&G managers, USFWS and NPS managers and the Chair of the Bristol Bay Subsistence Regional Advisory Council regarding

special actions under consideration. You will issue decisions in a timely manner. Before the effective date of any decision, reasonable efforts will be made to notify the public, OSM, affected State and Federal managers, law enforcement personnel, and Council members. If an action is to supersede a State action not yet in effect, the decision will be communicated to the public, OSM, affected State and Federal managers, and the local Council members at least 24 hours before the State action would be effective. If a decision to take no action is made, you will notify the proponent of the request immediately. A summary of special action requests and your resultant actions must be provided to the coordinator of the appropriate Subsistence Regional Advisory Council(s) at the end of each calendar year for presentation to the Council(s).

You may defer a special action request, otherwise covered by this delegation of authority, to the Federal Subsistence Board in instances when the proposed management action will have a significant impact on a large number of Federal subsistence users or is particularly controversial. This option should be exercised judiciously and may be initiated only when sufficient time allows for it. Such deferrals should not be considered when immediate management actions are necessary for conservation purposes. The Federal Subsistence Board may determine that a special action request may best be handled by the Board, subsequently rescinding the delegated regulatory authority for the specific action only.

6. Support Services: Administrative support for regulatory actions will be provided by the Office of Subsistence Management, U.S. Fish & Wildlife Service, Department of the Interior.

Sincerely,

Anthony Christianson
Chair, Federal Subsistence Board

cc: Assistant Regional Director, Office of Subsistence Management
Deputy Assistant Regional Director, Office of Subsistence Management
Subsistence Council Coordinator, Office of Subsistence Management
Chair, Bristol Bay Subsistence Regional Advisory Council
Commissioner, Alaska Department of Fish and Game
Federal Subsistence Liaison Team Leader, Alaska Department of Fish and Game
Federal Subsistence Board
Interagency Staff Committee
Administrative Record

WP18–22 Executive Summary	
General Description	Proposal WP18–22 requests that the Federal public lands closure for caribou on the Nushagak Peninsula be rescinded. *Submitted by: Bristol Bay Subsistence Regional Advisory Council.*
Proposed Regulation	**Unit 17— Caribou** *Units17A and 17C – that portion of 17A and 17C consisting of the Nushagak Peninsula south of the Igushik River, Tuklung River and Tuklung Hills, west to Tvativak Bay – up to 5 caribou by Federal registration permit.* ~~*Federal public lands are closed to the taking of caribou except by residents of Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, Clark's Point, and Ekuk hunting under these regulations.*~~ *Aug. 1 – Mar. 31*
OSM Conclusion	**Support**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	**Support with modification** to open Federal public lands to all users when the herd is above 900 caribou and close these lands to all except Federally qualified subsistence users when the herd is below 900 caribou.

WP18–22 Executive Summary	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	**Support**
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Support**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-22

ISSUES

Proposal WP18-22, submitted by the Bristol Bay Subsistence Regional Advisory Council (Council), requests that the Federal public lands closure for caribou on the Nushagak Peninsula be rescinded.

DISCUSSION

The Council recognizes that the Nushagak Peninsula Caribou Herd (NPCH) has experienced growth in the past decade and has been above optimal population size for several years. Although there is some concern from Council members that the seven communities involved in the original reintroduction of this herd will lose their priority access, the Council believes that reducing the herd to a sustainable level is ultimately the best way to ensure long-term subsistence use of this resource. The Council also believes that carefully managing harvest quotas through continued use of Federal and State registration permits provides a safeguard against overharvest.

Existing Federal Regulation

Unit 17— Caribou

Units17A and 17C – that portion of 17A and 17C consisting of the Nushagak Peninsula south of the Igushik River, Tuklung River and Tuklung Hills, west to Tvativak Bay – up to 5 caribou by Federal registration permit. Federal public lands are closed to the taking of caribou except by residents of Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, Clark's Point, and Ekuk hunting under these regulations.	*Aug. 1 – Mar. 31*

Proposed Federal Regulation

Unit 17— Caribou

Units17A and 17C – that portion of 17A and 17C consisting of the Nushagak Peninsula south of the Igushik River, Tuklung River and Tuklung Hills, west to Tvativak Bay – up to 5 caribou by Federal registration permit. ~~Federal public lands are closed to the taking of caribou except by residents of Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, Clark's Point, and Ekuk hunting under these~~	*Aug. 1 – Mar. 31*

~~*regulations.*~~

Existing State Regulation

Unit 17— Caribou

Residents: Unit 17A, all drainages that terminate east of Right Hand Point— two caribou by permit available online at http://hunt.alaska.gov and in person in Anchorage, Bethel, Dillingham, Fairbanks, Homer, King Salmon, McGrath, Palmer, Soldotna, and at local license vendors beginning July 12	*RC501*	*may be announced*
Residents: Unit 17C remainder— two caribou by permit available online at http://hunt.alaska.gov and in person in Anchorage, Bethel, Dillingham, Fairbanks, Homer, King Salmon, McGrath, Palmer, Soldotna, and at local license vendors beginning July 12	*RC501*	*may be announced*

Extent of Federal Public Lands

Federal public lands comprise approximately 85% of the Nushagak Peninsula, and consist of 85% U.S. Fish and Wildlife Service (USFWS) managed lands.

Customary and Traditional Use Determinations

Residents of Units 9B, 17, Lime Village, and Stony River have a customary and traditional use determination for caribou in Unit 17 remainder. However, Federal public lands on the Nushagak Peninsula are currently closed to the harvest of caribou except by the residents of Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, Clark's Point, and Ekuk.

Regulatory History

Caribou were reintroduced to the Nushagak Peninsula in 1988, with the intention of providing a subsistence resource to area residents (USFWS et. al. 1994). In 1994, the Federal Subsistence Board (Board) adopted Proposal P94-42, which established a Jan. 1 – Mar. 31 harvest season for the NPCH in portions of Units 17A and 17C, and instituted a closure to all users except residents of Togiak, Dillingham, Manokotak, Twin Hills, Aleknagik, Clark's Point, and Ekuk (FSB 1994). The newly established season began on January 1, 1995 with a harvest limit of 1 caribou. The Board's approval of Temporary Special Action S95-06 extended the season from Jan. 1 – Mar. 31 to Dec. 1 – Mar. 31 for the 1995/1996 regulatory year. In 1996, the Board adopted Proposal P96-34, which changed the caribou season from Jan. 1 – Mar. 31 to Dec. 1 – Mar. 31 and also established an Aug. 1 – Aug. 30 fall season (FSB 1996). In 1997, the Board adopted

Proposal P97-47, which increased the harvest limit from 1 caribou to 2 caribou on the Nushagak Peninsula, as there was a harvestable surplus of caribou and the previous year's harvest had been well below the management objective (FSB 1997). In 1998, the Board approved Special Action S97-10, which extended the fall season from Aug. 1 – Aug. 30 to Aug. 1 – Sep. 30. This extension became regulation when the Board adopted Proposal P99-39 in 1999 (FSB 1999).

In 2001, the Board adopted Proposal WP01-18, authorizing the use of a designated hunter permit (FSB 2001). In 2002, the Board approved Temporary Special Action WSA02-13, which reduced the harvest limit from 2 caribou to 1 caribou for the NPCH hunt, and gave the Togiak NWR manager authority to close the season when harvest objectives were met. This action was intended to prevent overharvest of the declining NPCH. In 2003, Board action on WP03-22 changed the harvest limit from *2 caribou* to *up to 2 caribou* and delegated authority to the Togiak NWR manager to set harvest objectives and limits, determine the number of permits to be issued, and to close the season. The new regulation also required that hunters report their harvest within 24 hours after returning from the field (FSB 2003). These changes provided management flexibility and reduced the need for special actions and follow-up proposals.

Emergency Special Action WSA15-02, submitted by the Village of Manokotak in April 2015, requested that the season be extended to May 31, due to poor winter travel conditions and subsequent low caribou harvest. The Board rejected this request because immobilization drugs used during a recent capture and collaring project could have posed a human health risk prior to May 10, and because any season extension beyond May 10 would have overlapped with the calving season (OSM 2016a).

The Nushagak Peninsula Caribou Planning Committee submitted four special action requests for the 2015/16 regulatory year. Temporary Special Action WSA15-14 requested increasing the harvest limit to 3 caribou through March 31, 2016. Temporary Special Action WSA15-15 requested opening Federal public lands to caribou harvest by all residents of Alaska through March 31, 2016. Emergency Special Action WSA15-16 requested extending the winter season from Dec. 1 – Mar. 31 to Dec. 1 – Apr. 15. Temporary Special Action WSA15-17 requested that subsistence harvest of Nushagak caribou be exempted from the prohibition on same-day airborne harvest Jan. 1 – Apr. 15. These requests sought to increase harvest and slow population growth of the NPCH. All four requests were approved by the Board, with a modification of WSA15-16 that retained the 3 caribou limit through April 15, 2015 (OSM 2016a).

In early 2016, the Alaska Department of Fish and Game (ADF&G) announced a State season by Emergency Order (EO 04-03-16), targeting caribou migrating off the Nushagak Peninsula in portions of Units 17A and 17C. This season opened on March 4, 2016. Approval of WSA15-15 provided an opportunity for ADF&G to expand the hunt to include Federal public lands on the Nushagak Peninsula, which occurred on March 17. The State season was open through March 31, 2016, had a limit of 2 caribou of either sex, and required the use of a State registration permit (RC501).

After the Federal and State seasons closed in spring 2016, the Manokotak Village Council submitted Emergency Special Action Request WSA15-18, requesting that the Federal caribou season on the Nushagak Peninsula be extended through the end of May, or until females begin calving. The request was approved with the modification to 1) reopen the season through May 10, a date that provided reasonable

assurance that the season would not overlap with calving, and 2) raise the harvest limit to 3 caribou, consistent with recent action on WSA15-14 and WSA15-16. As a result, the season was reopened May 3 – May 10, 2016.

Several proposals related to Nushagak caribou were submitted for consideration for 2016 – 2018 regulatory years. Proposal WP16-25/26, submitted by the Togiak Fish and Game Advisory Committee and the Nushagak Fish and Game Advisory Committee, requested increasing the harvest limit from 2 caribou to 3 caribou and modifying the existing split season to a single Aug. 1 – Mar. 31 season. Proposal WP16-31/32, also submitted by the Togiak Fish and Game Advisory Committee and the Nushagak Fish and Game Advisory Committee, requested that same day airborne harvest of Nushagak Peninsula caribou be allowed during the winter season, Jan. 1 – Mar. 31. The Board adopted WP16-25 with modification, raising the harvest limit to *up to 5 caribou* and creating a single season, as proposed. It also adopted WP16-31. The Board took no action on WP16-26 and WP16-32, based on action taken on WP16-25 and WP16-31 (FSB 2016).

In spring 2016, Temporary Special Action Request WSA16-02 was submitted by the Togiak NWR and ADF&G for consideration by the Board. They requested that the closure be lifted for the 2016/17 regulatory year, as long as the population did not fall below 900 animals, the upper population objective. Members of the public and tribal representatives acknowledged the need for population reduction but offered limited support due to concerns about maintaining subsistence priority, particularly during the winter season, concerns about the limitations imposed by current customary and traditional use determinations, and concerns that the 900 caribou threshold for opening Federal public lands might persist beyond regulatory year 2016/17 and become a permanent management parameter. The Board acknowledged these concerns and encouraged revision of the Nushagak Peninsula Caribou Management Plan to accommodate a wider range of situations, but approved WSA16-02 with modification to delegate authority to the manager of Togiak NWR to reinstate the closure if the population falls below 900 animals, given the biological necessity for population reduction.

In fall 2016, ADF&G announced a State season in portions of Units 17A and 17C by Emergency Order (EO 04-50-16). The season was limited to Alaska residents, required a registration permit (RC501), and had a harvest limit of 2 caribou. Although the season was open Aug. 1, 2016 – Mar. 31, 2017 on State lands, harvest of caribou within the Federal hunt area on the Nushagak Peninsula was allowed only through September 30, 2016. This effectively limited opportunity for winter harvest within the core range of the herd to Federally qualified subsistence users.

Review of the 1994 closure was most recently addressed in Closure Review WCR15-07, which the Council took up at its February 2017 meeting. The Council voted to rescind the closure, due to concerns about long-term sustainability of the herd (BBSRAC 2017) and consistent with the Board's Closure Policy (Appendix A), which specifies that closures "should be removed as soon as practicable when conditions that originally justified the closure have changed to such an extent that the closure is no longer necessary."

Biological Background

Within the first 10 years following reintroduction, the NPCH grew from 146 animals in 1988 to over 1,200 caribou by 1997. Subsequently, calf recruitment and adult female survival decreased and the population fell below 500 caribou by 2006. By 2015, the population had increased to and estimated size of over 1,400 caribou (Aderman 2017, pers. comm.) (**Table 1**).

Table 1. Sex and age composition, minimum counts and population estimates for the NPCH, 1988-2017 (Aderman 2015, Aderman 2017, pers. comm.).

Year	Bulls: 100 Cows	Calves: 100 Cows	Minimum Count[1]	Population Estimate[2]
1988	12	10	146	---
1989	---	---	202	---
1990	---	---	268	---
1991	---	---	383	---
1992	60	72	561	---
1993	---	---	734	---
1994	71	65	1,007	---
1995	---	---	1,156	---
1996	---	---	1,112	---
1997	64	62	1,255	---
1998	57	63	1,237	---
1999	48	53	972	---
2000	52	38	1,024	---
2001	46	35	930	---
2002	43	36	678	---
2003	47	44	757	---
2004	43	34	588	---
2005	38	32	594	---
2006	31	36	477	---
2007	49	40	462	---
2008	44	60	579	683 ± 108
2009	37	35	679	861 ± 160
2010	42	45	706	758 ± 83
2011	29	39	859	847 ± 64
2012	52	50	902	925 ± 63
2013	32	40	926	1,033 ± 135
2014	44	53	1,014	1,056 ± 103
2015	65	46	1,313	1,424 ± 172
2016	51	40	1,230	1,294 ± 68
2017	30	42	786	968 ± 218

[1]Reported minimum counts were obtained pre-calving (January – March) in 1988 – 1994, 1997, 2000 and post-calving (June – July) in all other years.

[2]Population estimates are based on Rivest et al. (1998) caribou abundance estimator.

The causes of the decline between 1999 and 2009 are not clearly understood and are almost certainly multi-factored (Aderman and Lowe 2012). The most likely explanation for the decline is that the exceptionally high growth through 1998 produced large annual cohorts of females that survived until a relative old age, at which time they declined in productivity. This high proportion of unproductive females, combined with high harvest years in 2001 and 2002, changed the population trajectory from an increasing trend to a decreasing trend, which persisted until the replacement of old, unproductive females with younger, more productive females. Changing nutritional conditions (both short-term, such as those associated with drought or winter icing, as well as longer-term changes, such as lower overall carrying capacity due to continuous grazing on the Nushagak Peninsula since 1988) underlaid and exacerbated this decline. Predation on the population has not been shown to be a significant factor. A study of wolf predation from 2007–2011 found that wolf predation was not a primary driver of Nushagak Peninsula caribou population dynamics (Walsh and Woolington 2008). Brown bears are common on the Nushagak Peninsula and likely have learned to exploit the caribou population, but their impact on the NPCH is not known (Aderman and Lowe 2012).

Between 2007 and 2015, the population increased due to improved fall calf recruitment and adult female survival (Aderman 2015). The most recent survey occurred in June 2017, when the population was estimated to be 968 caribou, with a minimum count of 786 (**Table 1**). This is a 36% decrease from the 2016 minimum count of 1,230 caribou, and is due to the increased harvest of caribou during the 2016-2017 season (Aderman 2017, pers. comm.). Both the population estimate and the minimum count remain near the upper end of the Nushagak Peninsula Caribou Management Plan's population objective, which is to maintain a population of 400–900 caribou and an optimum of 750 caribou (Aderman 2015). The most recent composition surveys were conducted in October 2017. These surveys estimated 30 bulls:100 cows and 42 calves:100 cows (**Table 1**) (BBRAC 2017). Current efforts to reduce population size are aimed at preventing another population decline like the one experienced in the late 1990s and early 2000s (Aderman 2015).

Cultural Knowledge and Traditional Practices

Comprehensive subsistence surveys conducted by ADF&G, Division of Subsistence, document the importance of caribou for the residents of Bristol Bay (Coley-Kenner et al. 2003; Evans et al. 2013; Fall et al. 1986; Holen et al. 2012; Holen et al. 2005; Kreig et al. 2009; Schinchnes and Chythlook 1988; Seitz 1996). For most communities, caribou contribute a significant portion of the total community harvest of wild resources; reports document a range from no harvest in Aleknagik in 2008 (an uncommon occurrence) to a high of 23% of the community harvest in Levelock for 2005 (Holen et al. 2012; Kreig et al. 2009). In all communities over each study year (1974 – 2010), results demonstrate that while a small number of households actually harvested caribou, most households used caribou meat. This was particularly true in Kokhanok where caribou contributed only 3% to the total community harvest in 2005 but was used by 80% of the households (Kreig et al. 2009). In 2008, Aleknagik hunters did not report any harvest of caribou but approximately 13% of the households used caribou shared with them by households outside the community (Holen et al. 2012). Such a use pattern is common in rural Alaska, indicating the importance of the resource and that sharing is significant and extensive throughout the area.

An example of typical caribou harvest and use patterns can be seen in a Manokotak study from 1988. In 1986, Manokotak was surveyed for the 1985 harvest year (Schinchnes and Chythlook 1988), with 54 of 59 households (91%) surveyed for the study. Eighty-nine percent of respondents reported using caribou while 31% reported actually harvesting caribou. The average harvest was 112 pounds of caribou per household or 22 pounds of caribou per person. The majority of the caribou hunting took place after freeze-up via snowmachine or airplane. Upon a successful hunt, the meat was divided among participants, and again distributed upon return. During the study year, caribou was broadly shared within the community of Manokotak with 65 % of households reporting the receipt of caribou from others.

Annual harvest and use of caribou fluctuates in the Bristol Bay Region from year to year and study to study for a variety of reasons (migration patterns, access, the availability of alternative resources), but comparison studies over time demonstrate a continued reliance on this important resource.

Harvest History

In 2011, the Nushagak Peninsula Caribou Management Plan's harvest strategy was reviewed and updated to make it more responsive to a dynamic caribou population. The updated strategy establishes an annual harvest goal based on population size and trend, and allows harvest when the population exceeds 200 caribou and is stable or increasing. It calls for a liberal harvest when the population is 800 caribou or greater, and recommends harvesting all animals over a minimum count of 750 caribou (Aderman 2015).

Hunting effort is influenced by travel conditions, availability of and opportunity to harvest other resources, including Mulchatna caribou and moose, as well as economic factors (Aderman and Lowe 2012). Typically, annual harvest of the NPCH has increased as the population has grown and harvest limits have increased (**Table 2**). Historically, most of the reported harvest has occurred in February and March (**Table 2**), due to improved hunter access to the herd via snowmachine (Aderman and Lowe 2012). In some recent years, total reported harvest has been lower than expected, given the NPCH size. In particular, winter harvest has been low due to poor travel conditions resulting from low snowfall and warm temperatures.

Despite the liberalization of harvest regulations in early 2016, spring harvest remained well below harvest levels typical during times of caribou abundance. In March and April, only 22 caribou were harvested under State and Federal regulations (**Table 2**), probably due to the persistence of warm temperatures and low snowfall. Of the 123 State permits issued for the spring hunt, 6 were issued to residents of Soldotna, while the remainder were issued to residents of the seven communities who currently qualify for the Federal subsistence hunt. All caribou harvested under State and Federal regulation were harvested by residents of these seven communities (Aderman 2017, pers. comm.; ADF&G 2017).

Harvest increased dramatically in 2017, likely due to favorable travel conditions, combined with liberal harvest restrictions (**Table 2**). A total of 371 caribou were reported harvested under both Federal and State regulation in regulatory year 2016/17, with most caribou being harvest in February and March, consistent with historical patterns. Despite a long State season (Aug. 1 – Sep. 30 on the Nushagak Peninsula proper and Aug. 1 – Mar. 31 in the larger RC501 hunt area), harvest under State regulation remained modest. Only of 23 caribou were harvested under State regulation and 22 of those were harvested by local residents who are also eligible to hunt under Federal regulation (Aderman 2017, pers. comm.; ADF&G 2017).

Other Alternatives Considered

The Federal public lands closure on the Nushagak Peninsula was temporarily rescinded in regulatory years 2015/16 and 2016/17 by special action. The 2016 rescission, a consequence of the Board's action on temporary special action WSA16-02, included a provision that the closure would be reinstated if the population estimate fell below 900 caribou, the upper limit of the population objective established in the Nushagak Peninsula Caribou Management Plan.

Table 2. Reported harvest of the NPCH, by month, for regulatory years 1994/1995 – 2016/2017 (Aderman 2015; OSM 2015; Aderman 2017, pers. comm.; ADF&G 2017).

	Month									
Year	Aug.	Sep.	Oct.	Dec.	Jan.	Feb.	Mar.	Apr.	Unknown	Total
1994/1995	NS[a]	NS	NS	NS	3	1	25	NS	6	35
1995/1996	NS	NS	NS	3	0	5	43	NS	1	52
1996/1997	5	NS	NS	0	0	2	13	NS	0	20
1997/1998	5	NS	NS	0	2	25	35	NS	0	67
1998/1999	0	2	NS	0	0	0	50	NS	3	55
1999/2000	0	0	NS	0	2	7	54	NS	0	63
2000/2001	0	6	NS	0	0	22	98	NS	0	126
2001/2002	0	3	NS	0	0	9	115	NS	0	127
2002/2003	3	0	NS	0	0	0	0	NS	0	3
2003/2004	2	3	NS	0	0	0	29	NS	0	34
2004/2005	1	0	NS	0	0	0	8	NS	0	9
2005/2006	1	1	NS	0	0	0	9	NS	0	11
2006/2007	NS	NS	NS	NS	NS	0	NS	NS	0	0
2007/2008	NS	NS	NS	NS	NS	0	0	NS	0	0
2008/2009	NS	NS	NS	NS	NS	5	2	NS	1	8
2009/2010	NS	NS	NS	NS	NS	3	14	NS	1	18
2010/2011	NS	NS	NS	NS	NS	18	27	NS	0	45
2011/2012	0	2	NS	NS	NS	20	64	NS	0	86
2012/2013	6	3	NS	0	5	6	89	NS	0	109
2013/2014	3	1	NS	0	0	0	98	NS	0	102
2014/2015	8	7	NS	0	0	1	0	NS	0	16
2015/2016[b]	28	14	NS	0	0	0	15	7	0	64
2016/2017[c]	28	15	1	2	38	111	176	0	0	371

[a] NS = No season

[b] Includes 11 caribou harvested under State regulation

[c] Includes 23 caribou harvested under State regulation

Including a similar provision in WP18-22 was considered. This option would provide assurances that the NPCH would not be harvested by non-Federally qualified users when the population was not at or within the population objective. However, when public input was gathered for WSA16-02, this approach was

met with caution. The following is a summary of the public meeting and tribal and ANSCA consultations held for WSA16-02 (OSM 2016b):

> The third major topic of discussion during these sessions was concern that the 900 caribou threshold for opening Federal public lands might persist beyond regulatory year 2016/17 and become a permanent management parameter. Attendees voiced a preference for a tiered approach, established with input from the Tribes, that would first open the hunt to all Federally qualified subsistence users when the population reached a predetermined population threshold. If the population continued to grow and reached a second, higher threshold, it could then be opened to users statewide. To this end, there was discussion among tribal representatives and agency personnel about revising the Nushagak Caribou Management Plan to accommodate a range of situations, including the current situation.

Using population thresholds to inform the Federal public lands closure may prove to be an effective management tool for this population. However, this alternative warrants input from the Council, tribes, the Nushagak Peninsula Caribou Planning committee, and the public prior to implementation.

A second alternative is to open Federal public lands to Federally qualified subsistence users prior to opening them to all users, in an incremental approach. However, there is expected to be little additional harvest from Federally qualified users who are not currently eligible to harvest Nushagak Peninsula Caribou, given lack of proximity of these communities to the herd, and lack of participation in the hunt in the past two years when the closure was temporarily lifted. Given that the intent is to reduce the population to a sustainable level, this alternative isn't preferred.

Effects of the Proposal

If this proposal is adopted, Federal public lands on the Nushagak Peninsula will be open to all users, including Federal qualified subsistence users who do not reside in one of the seven communities currently allowed to harvest caribou on the Nushagak Peninsula. Alaska residents hunting under State regulation would also be able to participate in hunts on Federal public lands on the peninsula. However, non-Federally qualified users would not be able to participate in the same-day airborne hunting available to Federally qualified subsistence users. While nonresidents would not be excluded under Federal regulation, there is not currently a non-resident season under State regulation, so non-resident harvest is effectively excluded.

Opening this area to additional users will likely increase harvest of the NPCH somewhat, particularly by Alaska residents who are not currently eligible to hunt under Federal regulation. Additional harvest may be influential in reducing the size of the herd. Adoption of this proposal is not expected to affect Federally qualified subsistence users' ability to harvest caribou, given the current caribou abundance.

OSM CONCLUSION

Support Proposal WP18-22.

Justification

The NPCH has been well above the optimal population size for several years, jeopardizing habitat quality and, ultimately, the long-term viability of the population. Rescinding the closure offers the best potential to increase harvest and reduce the population size, and is consistent with the Board's Closure Policy. Annual monitoring of population size, combined with effective harvest reporting through the use of registration permits, provide managers with better than average information to manage the herd and are a safeguards against overharvest.

While rescinding the closure would require that those currently eligible to harvest Nushagak Peninsula caribou give up exclusive access to the resource, this action is not expected to impact Federally qualified subsistence users' ability to successfully harvest caribou at this time, given the size of the herd. In addition, Federally qualified subsistence users would retain several advantages over those hunting under State regulation, including a long season, more liberal harvest limits, and an exception to the prohibition on same day airborne hunting. Despite the lack of a Federal lands closure in the past two regulatory years, harvest patterns suggest that local hunters who are currently eligible to hunt under Federal regulation remain the primary users of the NPCH.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Bristol Bay Subsistence Regional Advisory Council

Support with modification to open Federal public lands to all users when the herd is above 900 caribou and close these lands to all except Federally qualified subsistence users when the herd is below 900 caribou. The Council stated that there are biological concerns, including the potential for overgrazing the range. However, they are also concerned about overharvest and do not want to compromise subsistence users. This modification addresses those concerns.

Western Interior Alaska Subsistence Regional Advisory Council

Support. The Council justified support for the proposal, noting the caribou population is healthy and can support the additional harvest. The Council added it would likely be subsistence communities that would take advantage of the additional harvest anyway.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-22: This proposal requests that the federal public lands closure for caribou on the Nushagak Peninsula be rescinded. Presently only seven nearby villages are authorized to hunt caribou in this area.

Introduction: This proposed federal regulation change was submitted by the Bristol Bay Regional Advisory Council and is meant to provide caribou hunting opportunity to all Alaskan residents during periods when the Nushagak Peninsula caribou population is at a high level – exceeding the long-term carrying capacity of their habitat. The Nushagak Peninsula Caribou herd planning group in 2011recommended a population threshold of 900 caribou on the Nushagak Peninsula, above which the State of Alaska could provide an opportunity for other users. .

The population objective for the Nushagak Peninsula caribou herd is to maintain from 400-900 caribou. Allowing other users to harvest when the estimated number of caribou exceeds the population objective will help to keep the herd within carrying capacity and at a more productive level. However, during times when the population does not exceed the desired range, harvest opportunity would be restricted in order to provide a subsistence priority to the residents of Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, Clark's Point and Ekuk.

During those periods, hunter access and harvest are important components in managing this herd. This proposal would in effect make permanent what was previously accomplished through the implementation of a special action request (SAR) to the federal board during spring 2015 and fall 2016. If this proposal is adopted, it would avoid the need to open these federal lands each year via SAR, which complicates the management of this herd.

Impact on Subsistence Uses: Federally qualified subsistence users will benefit from this regulatory change because more hunters will be available to help reduce caribou on the Nushagak Peninsula during periods of overly high abundance. This will allow managers to decrease the herd to a level of long term sustainability, thus providing a consistent source of caribou for subsistence users. The goal of this regulatory change would be to avoid the boom and bust nature of caribou herds by using hunters to keep the herd at an optimal level.

Impact on Other Uses: These changes would benefit other nonfederally qualified users by providing additional hunting opportunity for caribou.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has not made a finding of customary and traditional uses specifically for the Nushagak Peninsula caribou herd. The ADF&G customary and traditional use worksheet for the Nushagak Peninsula herd states:

> In 1988, the Board of Game determined that residents of GMU 17, 9B, and Lime Village and Stony River have customary and traditional use of caribou in Game Management Unit 17. Although at that time most caribou taken in the Unit were from the Mulchatna Herd, the board's finding pertained [to] all caribou hunting occurring in GMU 17AB&C. (ADF&G 1991:59)

Amounts Reasonably Necessary for Subsistence: Since the Board of Game has not made a C&T finding specifically for the Nushagak Peninsula caribou herd, they have not addressed ANS.

Existing State Regulation

> **Unit 17— Caribou**
>
> *Residents: Unit 17A, all drainages that terminate east of Right Hand Point—two caribou by permit (RC501).* *may be announced*
>
> *Residents: Unit 17C remainder—two caribou by permit (RC501).* *may be announced.*

Special instructions: During fall 2016, the state opened the caribou hunting season on the Nushagak Peninsula under the RC501 permit. This season was preceded by a SAR submitted to the federal subsist-

ence board that rescinded the closure of federal public lands on the Nushagak Peninsula to caribou hunting except by seven nearby villages. However, as part of this SAR, a stipulation was inserted into the language that only allowed for a state season when the caribou population exceeded 900 animals. The state also agreed to only provide a season during the months of August and September.

Conservation Issues: This proposal is intended to prevent conservation issues by keeping the Nushagak Peninsula caribou herd at a level that provides for long-term sustainable population and harvest levels.

Enforcement Issues: The threshold that would be used to open this area to a broader scope of hunters would needs to be well-publicized to inform both the public and enforcement to avoid confusion.

Recommendation: ADF&G **SUPPORTS** this proposal.

APPENDIX A

POLICY ON CLOSURES TO HUNTING, TRAPPING AND FISHING ON FEDERAL PUBLIC LANDS AND WATERS IN ALASKA

FEDERAL SUBSISTENCE BOARD

Adopted August 29, 2007

PURPOSE

This policy clarifies the internal management of the Federal Subsistence Board (Board) and provides transparency to the public regarding the process for addressing Federal closures (closures) to hunting, trapping, and fishing on Federal public lands and waters in Alaska. It also provides a process for periodic review of regulatory closures. This policy recognizes the unique status of the Regional Advisory Councils and does not diminish their role in any way. This policy is intended only to clarify existing practices under the current statute and regulations; it does not create any right or benefit, substantive or procedural, enforceable at law or in equity, against the United States, its agencies, officers, or employees, or any other person.

INTRODUCTION

Title VIII of the Alaska National Interest Land Conservation Act (ANILCA) establishes a priority for the taking of fish and wildlife on Federal public lands and waters for non-wasteful subsistence uses over the taking of fish and wildlife on such lands for other purposes (ANILCA Section 804). When necessary for the conservation of healthy populations of fish and wildlife or to continue subsistence uses of such populations, the Federal Subsistence Board is authorized to restrict or to close the taking of fish and wildlife by subsistence and non-subsistence users on Federal public lands and waters (ANILCA Sections 804 and 815(3)). The Board may also close Federal public lands and waters to any taking of fish and wildlife for reasons of public safety, administration or to assure the continued viability of such population (ANILA Section 816(b)).

BOARD AUTHORITIES

- ANILCA sections 804, 814, 815(3), and 816.
- 50 CFR Part 100 and 36 CFR Part 242, Section .10(d)(4).

POLICY

The decision to close Federal public lands or waters to Federally qualified or non-Federally qualified subsistence users is an important decision that will be made as set forth in Title VIII of ANILCA. The Board will not restrict the taking of fish and wildlife by users on Federal public lands (other than national parks and park monuments) unless necessary for the conservation of healthy populations of fish and wildlife resources, or to continue subsistence uses of those populations, or for public safety or administrative reasons, or "pursuant to other applicable law." Any individual or organization may propose a closure.

Proposed closures of Federal public lands and waters will be analyzed to determine whether such restricts are necessary to assure conservation of healthy populations of fish and wildlife resources or to provide a meaningful preference for qualified subsistence users. The analysis will identify the availability and effectiveness of other management options that could avoid or minimize the degree of restriction to subsistence and non-subsistence users.

Like other Board decisions, closure actions are subject to change during the yearly regulatory cycle. In addition, closures will be periodically re-evaluated to determine whether the circumstances necessitating the original closure still exist and warrant continuation of the restriction. When a closure is no longer needed, actions to remove it will be initiated as soon as practicable. The Office of Subsistence Management will maintain a list of all closures.

Decision Making

The Board will:

- Proceed on a case - by - case basis to address each particular situation regarding closures. In those cases for which conservation of healthy populations of fish and wildlife resources allows, the Board will authorize non-wasteful subsistence taking.

- Follow the statutory standard of "customary and traditional uses." Need is not the standard. Established use of one species may not be diminished solely because another species is available. These established uses have both physical and cultural components, and each is protected against all unnecessary regulatory interference.

- Base its actions on substantial evidence contained within the administrative record, and on the best available information; complete certainty is not required.

- Consider the recommendations of the Regional Advisory Councils, with due deference (ANILCA § 805 (c)).

- Consider comments and recommendations from the State of Alaska and the public (ANILCA § 816 (b)).

Conditions for Establishing or Retaining Closures

The Board will adopt closures to hunting, trapping or fishing by non-Federally qualified users or Federally qualified subsistence users when one or more of the following conditions are met:

- Closures are necessary for the conservation of healthy populations of fish and wildlife:

    a) When a fish or wildlife population is not sufficient to provide for both Federally qualified subsistence users or other users, use by non-Federally qualified users may be reduced or prohibited, or

b) When a fish or wildlife population is insufficient to sustain all subsistence uses, the available resources shall be apportioned among subsistence users according to their:

1) Customary and direct dependence upon the population as the mainstay of livelihood,

2) Local residency, and

3) Availability or alternative resources, or

c) When a fish or wildlife population is insufficient to sustain any use, all uses must be prohibited.

- Closures are necessary to ensure the continuation of subsistence uses by Federally qualified subsistence users.
- Closures are necessary for public safety.
- Closures are necessary for administrative reasons.
- Closures are necessary "pursuant to other applicable law."

Considerations in Deciding on Closures

When acting upon proposals recommending closure of Federal public lands and waters to hunting, trapping, or fishing, the Board may take the following into consideration to the extent feasible:

- The biological history (data set) of the fish stock or wildlife population.
- The extent of affected lands and water necessary to accomplish the objective of the closure.
- The current status and trend of the fish stock or wildlife population in question.
- The current and historical subsistence and non-subsistence harvest, including descriptions of harvest amounts, effort levels, user groups, and success levels.
- Pertinent traditional ecological knowledge.
- Information provided by the affected Regional Advisory Councils and Alaska Department of Fish and Game.
- Relevant State and Federal management plans and their level of success as well as any relationship to other Federal or State laws or programs.

- Other Federal and State regulatory options that would conserve healthy populations and provide a meaningful preference for subsistence, but would be less restrictive than closures.

- The potential adverse and beneficial impacts of any proposed closure on affected fish and wildlife populations and uses of lands and waters both inside and outside the closed area.

- Other issues that influence the effectiveness and impact of any closure.

Reviews of Closures

A closure should be removed as soon as practicable when conditions that originally justified the closure have changed to such an extent that the closure is no longer necessary. A Regional Council, a State or Federal agency, or a member of the public may submit, during the normal proposal period, a proposal requesting the opening or closing of an area. A closure may also be implemented, adjusted, or lifted based on a Special Action request according to the criteria in 50 CFR 100.19 and 36 CFR 242.19.

To ensure that the closures do not remain in place longer than necessary, all future closures will be reviewed by the Federal Subsistence Board no more than three years from the establishment of the closure and at least every three years thereafter. Existing closures in place at the time this policy is implemented will be reviewed on a three-year rotational schedule, with at least one - third of the closures reviewed each year.

Closure reviews will consist of a written summary of the history and original justification for the closure and a current evaluation of the relevant considerations listed above. Except in some situations which may require immediate action through the Special Action process, closure review analyses will be presented to the affected Regional Council(s) during the normal regulatory proposal process in the form of proposals to retain, modify or rescind individual closures.

WP18–23 Executive Summary	
General Description	Proposal WP18-23 requests that residents of Units 9C and 9E be added to the customary and traditional use determination for caribou in Unit 17 remainder, specifically that portion of Units 17A and 17C consisting of the Nushagak Peninsula. *Submitted by: Gayla Hoseth of Dillingham*.
Proposed Regulation	**Customary and Traditional Use Determination—Caribou** *Unit 17A, that portion west of the Izavieknik River, Upper Togiak Lake, Togiak Lake, and the main course of the Togiak River* — *Residents of Units 9B, 17, Eek, Goodnews Bay, Lime Village, Napakiak, Platinum, Quinhagak, Stony River, and Tuntutuliak.* *Unit 17A, that portion north of Togiak Lake that includes Izavieknik River drainages* — *Residents of Units 9B, 17, Akiak, Akiachak, Lime Village, Stony River, and Tuluksak.* *Units 17A and 17B, those portions north and west of a line beginning from the Unit 18 boundary at the northwestern end of Nenevok Lake, to the southern point of upper Togiak Lake, and northeast to the northern point of Nuyakuk Lake, northeast to the point where the Unit 17 boundary intersects the Shotgun Hills* — *Residents of Units 9B, 17, Kwethluk, Lime Village, and Stony River.* *Unit 17B, that portion of Togiak National Wildlife Refuge within Unit 17B* — *Residents of Units 9B, 17, Akiachak, Akiak, Bethel, Eek, Goodnews Bay, Lime Village, Napakiak, Platinum, Quinhagak, Stony River, Tuluksak, and Tuntutuliak.*

WP18–23 Executive Summary		
	Units17A and 17C – that portion of 17A and Unit 17C consisting of the Nushagak Peninsula south of the Igushik River, Tuklung River and Tuklung Hills, west to Tvativak Bay	***Residents of Units 9B,9C, 9E, 17, Lime Village, and Stony River.***
	Unit 17, remainder	*Residents of Units 9B, 17, Lime Village, and Stony River.*
OSM Conclusion	**Support** Proposal WP18-23 **with modification** to add residents of Units 9C and 9E to the customary and traditional use determination for caribou in Unit 17, remainder. The modified regulation would read: **Customary and Traditional Use Determination—Caribou**	
	Unit 17A, that portion west of the Izavieknik River, Upper Togiak Lake, Togiak Lake, and the main course of the Togiak River	*Residents of Units 9B, 17, Eek, Goodnews Bay, Lime Village, Napakiak, Platinum, Quinhagak, Stony River, and Tuntutuliak.*
	Unit 17A, that portion north of Togiak Lake that includes Izavieknik River drainages	*Residents of Units 9B, 17, Akiak, Akiachak, Lime Village, Stony River, and Tuluksak.*
	Units 17A and 17B, those portions north and west of a line beginning from the Unit 18 boundary at the northwestern end of Nenevok Lake, to the southern point of upper Togiak Lake, and northeast to the northern point of Nuyakuk Lake, northeast to the point where *the Unit 17 boundary intersects the Shotgun*	*Residents of Units 9B, 17, Kwethluk, Lime Village, and Stony River.*

WP18–23 Executive Summary		
	Hills	
	Unit 17B, that portion of Togiak National Wildlife Refuge within Unit 17B	*Residents of Units 9B, 17, Akiachak, Akiak, Bethel, Eek, Goodnews Bay, Lime Village, Napakiak, Platinum, Quinhagak, Stony River, Tuluksak, and Tuntutuliak.*
	Unit 17, remainder	*Residents of Units 9B, **9C, 9E**, 17, Lime Village, and Stony River.*
Southeast Alaska Subsistence Regional Advisory Council Recommendation		
Southcentral Alaska Subsistence Regional Advisory Council Recommendation		
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation		
Bristol Bay Subsistence Regional Advisory Council Recommendation	**Support as modified by OSM**	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation		
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	**Support**	

WP18–23 Executive Summary	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendations and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Neutral**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-23

ISSUE

Proposal WP18-23, submitted by Gayla Hoseth of Dillingham, requests that residents of Units 9C and 9E be added to the customary and traditional use determination for caribou in Unit 17 remainder, specifically that portion of Units 17A and 17C consisting of the Nushagak Peninsula south of the Igushik River, Tuklung River, and Tuklung Hills, west to Tvativak Bay. The geographic boundaries described by this proposal encompass the primary range of the Nushagak Peninsula Caribou Herd (NPCH).

DISCUSSION

The NPCH has experienced significant growth in the past decade and has been above optimal population size for several years. The proponent states that residents of Units 9C and 9E have demonstrated patterns of use relevant to the NPCH during Bristol Bay Subsistence Regional Advisory Council (Council) meetings and that adding them to the customary and traditional use determination for caribou on the Nushagak Peninsula will provide increased opportunity for Federally qualified subsistence users to harvest caribou in times of abundance.

During the fall 2015 Council meeting in Dillingham, while addressing WP16-31/32 on allowing same-day airborne hunting of the NPCH, Council members discussed other means of increasing harvest of the herd and controlling the booming population (BBSRAC 2015). Specifically, members expressed interest in expanding the customary and traditional use determination for caribou in Unit 17 in order to liberalize harvest opportunities for a larger pool of Federally qualified subsistence users rather than opening the hunt to all users. Discussions during the fall 2015 meeting centered around inclusion of both Unit 9 residents and "east bay villages".

It should be noted that population numbers can never be a reason to grant or deny a customary and traditional use determination. Customary and traditional use determinations recognize use and are not used as a means to regulate a resource.

Existing Federal Regulation

Customary and Traditional Use Determination—Caribou

Unit 17A, that portion west of the Izavieknik River, Upper Togiak Lake, Togiak Lake, and the main course of the Togiak River	*Residents of Units 9B, 17, Eek, Goodnews Bay, Lime Village, Napakiak, Platinum, Quinhagak, Stony River, and Tuntutuliak.*
Unit 17A, that portion north of Togiak Lake that includes	*Residents of Units 9B, 17, Akiak,*

Izavieknik River drainages	*Akiachak, Lime Village, Stony River, and Tuluksak.*
Units 17A and 17B, those portions north and west of a line beginning from the Unit 18 boundary at the northwestern end of Nenevok Lake, to the southern point of upper Togiak Lake, and northeast to the northern point of Nuyakuk Lake, northeast to the point where the Unit 17 boundary intersects the Shotgun Hills	*Residents of Units 9B, 17, Kwethluk, Lime Village, and Stony River.*
Unit 17B, that portion of Togiak National Wildlife Refuge within Unit 17B	*Residents of Units 9B, 17, Akiachak, Akiak, Bethel, Eek, Goodnews Bay, Lime Village, Napakiak, Platinum, Quinhagak, Stony River, Tuluksak, and Tuntutuliak.*
Unit 17, remainder	*Residents of Units 9B, 17, Lime Village, and Stony River.*

Proposed Federal Regulation

Customary and Traditional Use Determination—Caribou

Unit 17A, that portion west of the Izavieknik River, Upper Togiak Lake, Togiak Lake, and the main course of the Togiak River	*Residents of Units 9B, 17, Eek, Goodnews Bay, Lime Village, Napakiak, Platinum, Quinhagak, Stony River, and Tuntutuliak.*
Unit 17A, that portion north of Togiak Lake that includes Izavieknik River drainages	*Residents of Units 9B, 17, Akiak, Akiachak, Lime Village, Stony River, and Tuluksak.*
Units 17A and 17B, those portions north and west of a line beginning from the Unit 18 boundary at the northwestern end of Nenevok Lake, to the southern point of upper Togiak Lake, and northeast to the northern point of Nuyakuk Lake, northeast to the point where the Unit 17 boundary intersects the Shotgun Hills	*Residents of Units 9B, 17, Kwethluk, Lime Village, and Stony River.*

Unit 17B, that portion of Togiak National Wildlife Refuge within Unit 17B	*Residents of Units 9B, 17, Akiachak, Akiak, Bethel, Eek, Goodnews Bay, Lime Village, Napakiak, Platinum, Quinhagak, Stony River, Tuluksak, and Tuntutuliak.*
Units17A and 17C – that portion of 17A and Unit 17C consisting of the Nushagak Peninsula south of the Igushik River, Tuklung River and Tuklung Hills, west to Tvativak Bay	***Residents of Units 9B,9C, 9E, 17, Lime Village, and Stony River.***
Unit 17, remainder	*Residents of Units 9B, 17, Lime Village, and Stony River.*

Extent of Federal Public Lands

Federal public lands comprise approximately 28% of Unit 17, and consists of 21% U.S. Fish and Wildlife Service (USFWS) managed lands, 4% Bureau of Land Management (BLM) managed lands, and 3% National Park Service (NPS) managed lands.

The Nushagak Peninsula, or that portion of 17A and 17C consisting of the Nushagak Peninsula south of the Igushik River, Tuklung River and Tuklung Hills, west to Tvativak Bay, is comprised of approximately 85% Federal public lands, all of which are part of the Togiak National Wildlife Refuge and managed by USFWS.

Regulatory History

The Federal Subsistence Board (Board) has addressed customary and traditional use determinations for Bristol Bay since the inception of the Federal Subsistence Management Program in 1990. The Board adopted the State's customary and traditional use determinations in 1990. At that time, the State had established that residents of Units 9B, 17, Lime Village, and Stony River had a customary and traditional use of caribou for Unit 17, and that residents of Kwethluk had a customary and traditional use of caribou for portions of Subunits 17A and 17B. The State also established a customary and traditional use determination for residents in Unit 9C of caribou in Units 9A, 9B, 9C, and 9E, and established a customary and traditional use determination for residents of Unit 9E for caribou in Unit 9E.

In 1998, Proposal P98-53 requested that residents of Akiak and Akiachak be added to the existing customary and traditional use determination for caribou in Unit 17A and 17B. The Board deferred action on this proposal pending the completion of a formal community study by the Alaska Department of Fish and Game (ADF&G). This study was carried out in 1999 and the Board took action on the request in 2000 with Proposal P00-34. The Board adopted this proposal with modifications recommended by the Council to open the northwest corner of Subunit 17A, including the drainages of the Izavieknik River of Togiak Lake, for subsistence harvest of caribou to residents of Akiak, Akiachak, and Tuluksak. The portion of the

Togiak National Wildlife Refuge within Subunit 17B was also opened to subsistence caribou harvest to residents of Akiak, Akiachak, and Tuluksak with this action.

In 1999, Proposal P99-38, submitted by Joshua Cleveland of Quinhagak, requested that rural residents of Eek and Quinhagak be added to the existing customary and traditional use determination for caribou in Unit 17A. The Board adopted the proposal with modifications made by the Council which identified a more geographically specific area in Units 17A and 17B. This action provided a customary and traditional use determination for caribou by residents of Napakiak, Tuntutuliak, Eek, Quinhagak, Goodnews Bay, and Platinum for the area west of the Togiak River drainage and the western portion of Unit 17B. The Board rejected the Yukon Kuskokwim Regional Advisory Council's request to have residents of Bethel included to the customary and traditional use determination for caribou in the westernmost portion of Unit 17B.

The Nushagak Peninsula Caribou Herd

Caribou were reintroduced to the Nushagak Peninsula in 1988, with the intention of providing a subsistence resource to area residents (USFWS et. al. 1994). In 1994, adoption of Proposal P94-42 established a Jan. 1 – Mar. 31 harvest season for the NPCH in portions of Units 17A and 17C, and instituted a closure to all users except residents of Togiak, Dillingham, Manokotak, Twin Hills, Aleknagik, Clark's Point, and Ekuk; the seven community villages who supported the reintroduction of the herd and participate in the Nushagak Peninsula Caribou Planning Committee. The newly established season began on January 1, 1995 with a harvest limit of 1 caribou.

Since the first season in 1995 the NPCH has grown to a recent population count beyond the carrying capacity of the herd's range. A number of special actions have been submitted to the Board in recent years attempting to extend seasons (WSA15-02, WSA15-16, WSA15-18), increase harvest limits (WSA15-14), liberalize methods (WSA15-17), and to lift the closure to the harvest of Nushagak Peninsula caribou except by the residents of Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, Clarks Point, and Ekuk (WSA15-15, WSA16-02). During its February 2017 meeting the Council addressed the 1994 closure in Closure Review WCR15-07. The Council voted to rescind the closure, due to concerns about long-term sustainability of the herd (BBRAC 2017) and to ensure consistency with the Board's Closure Policy which specifies that closures "should be removed as soon as practicable when conditions that originally justified the closure have changed to such an extent that the closure is no longer necessary."

For the current wildlife regulatory cycle, the Council submitted Proposal WP18-22, which requests that the Federal public lands closure for caribou on the Nushagak Peninsula be rescinded. Should WP18-22 be adopted by the Board, all users, including non-Federally qualified users, would be allowed to harvest caribou on the Nushagak Peninsula under the applicable Federal and State regulations.

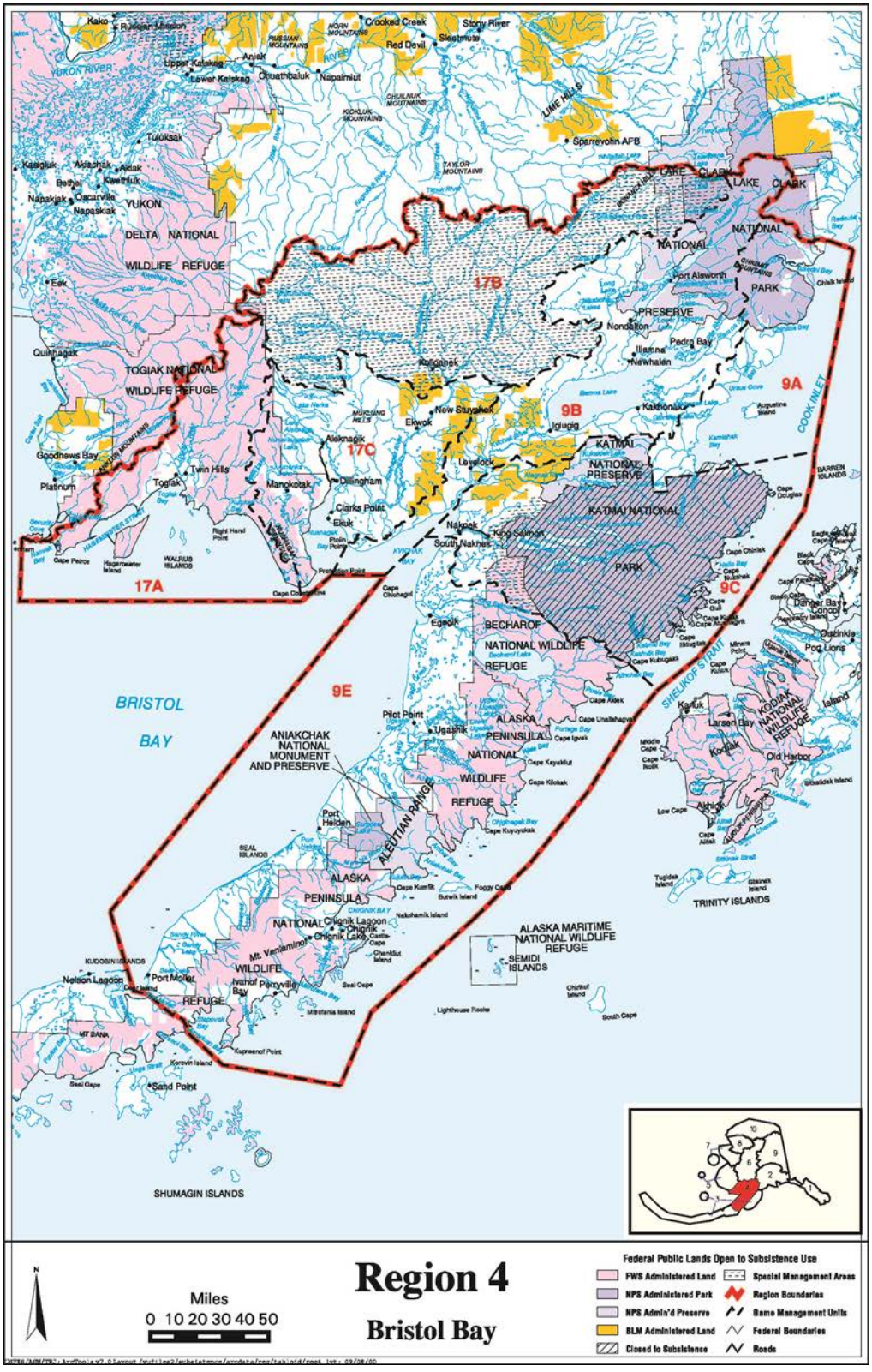
Community Characteristics

Units 9C and 9E make up that portion of the Alaska Peninsula extending from the northern borders of the Katmai National Park and Preserve south to include Kupreanof Peninsula on the Pacific Ocean side of the Peninsula and Port Moller on the Bering Sea side (**Map 1**). The communities within Unit 9C are King Salmon, Naknek, and South Naknek, and the communities within Unit 9E are Egegik, Pilot Point, Ugashik,

Port Heiden, Chignik, Chignik Lake, Chignik Lagoon, Perryville, and Ivanof Bay (it should be noted as of 2017 Ivanof Bay no longer has year round residents). Based on most recent assessments from the Alaska Department of Commerce, Community, and Economic Development (ADCCED), the population for the 12 communities considered in this analysis totals approximately 1,650 persons. The largest community is Naknek (544) which is joined by road to King Salmon (374). These two communities combine as a regional hub for services and commerce, and swell into the thousands during the summer commercial and sport fishing seasons. The smallest community is Ivanof Bay, whose residents have now relocated to other parts of the state and do not reside there year round.

The contemporary communities of the northern Alaska Peninsula are a mix of indigenous tribal members and non-Native residents. Families with extended local histories are comprised of Alutiiq, Central Yup'ik, Aleut, decedants of Russian traders, and other non-Native settlers to the region. In addition, a number of Inupiat people settled in the region to work in canneries and participate in local reindeer herding opportunities during the early 1900s (Morseth 2003). Many settlements of the northern Alaska Peninsula were established after the 1912 eruption of Mount Katmai or received a significant number of displaced villagers from the settlements buried in ash (Partnow 2001). The local economy for the area is based on a tradition of commercial fishing and those businesses that support processing and distribution. Other past industries of importance to the region were the fur trade, fur farms, and reindeer herding. Feldman documents the testimony of a former King Salmon resident that recalls herding activities in the area as recently as the 1940s (Feldman 2001).

Updates of the baseline subsistence harvests for all resources in the northern Alaska Peninsula region are uneven. The most recent comprehensive subsistence survey was conducted for the 2007 study year by ADF&G in King Salmon, Naknek, and South Naknek (Holen, Krieg, and Lemons 2011). Chignik Lake, Chignik Lagoon, Chignik, and Perryville were last surveyed in 2003 (Fall 2006), and the remaining communities were last surveyed in 1984 and 1985 (Morris 1987). Harvests fluctuate over time for a variety of reasons, however all communities demonstrated a strong reliance on subsistence foods, even in the hub communities of King Salmon, Naknek, and South Naknek where recent surveys documented per capita harvests of 313 lb, 264 lb, and 267 lb respectively (Holen, Krieg, and Lemons 2011). Earlier studies in the region document the highest per capita harvests as 814 lb in Ugashik (Morris 1987) and 518 lb in Perryville (Fall 2006). In all surveyed communities over all study years, the use of subsistence foods in each household was high, from 96% to 100%.



Map 1. Unit map for Region 4.

Eight Factors for Determining Customary and Traditional Use

A community or area's customary and traditional use is generally exemplified through the eight factors: (1) a long-term, consistent pattern of use, excluding interruptions beyond the control of the community or area; (2) a pattern of use recurring in specific seasons for many years; (3) a pattern of use consisting of methods and means of harvest which are characterized by efficiency and economy of effort and cost, conditioned by local characteristics; (4) the consistent harvest and use of fish or wildlife as related to past methods and means of taking: near, or reasonably accessible from the community or area; (5) a means of handling, preparing, preserving, and storing fish or wildlife which has been traditionally used by past generations, including consideration of alteration of past practices due to recent technological advances, where appropriate; (6) a pattern of use which includes the handing down of knowledge of fishing and hunting skills, values, and lore from generation to generation; (7) a pattern of use in which the harvest is shared or distributed within a definable community of persons; and (8) a pattern of use which relates to reliance upon a wide diversity of fish and wildlife resources of the area and which provides substantial cultural, economic, social, and nutritional elements to the community or area.

The Board makes customary and traditional use determinations based on a holistic application of these eight factors (50 CFR 100.16(b) and 36 CFR 242.16(b)). In addition, the Board takes into consideration the reports and recommendations of any appropriate Regional Advisory Council regarding customary and traditional use of subsistence resources (50 CFR 100.16(b) and 36 CFR 242.16(b)). The Board makes customary and traditional use determinations for the sole purpose of recognizing the pool of users who generally exhibit the eight factors. The Board does not use such determinations for resource management or for restricting harvest. If a conservation concern exists for a particular population of fish or wildlife, the Board addresses that concern through the imposition of harvest limits, season restrictions or Section 804 subsistence user prioritization rather than through adjustments to customary and traditional use determinations.

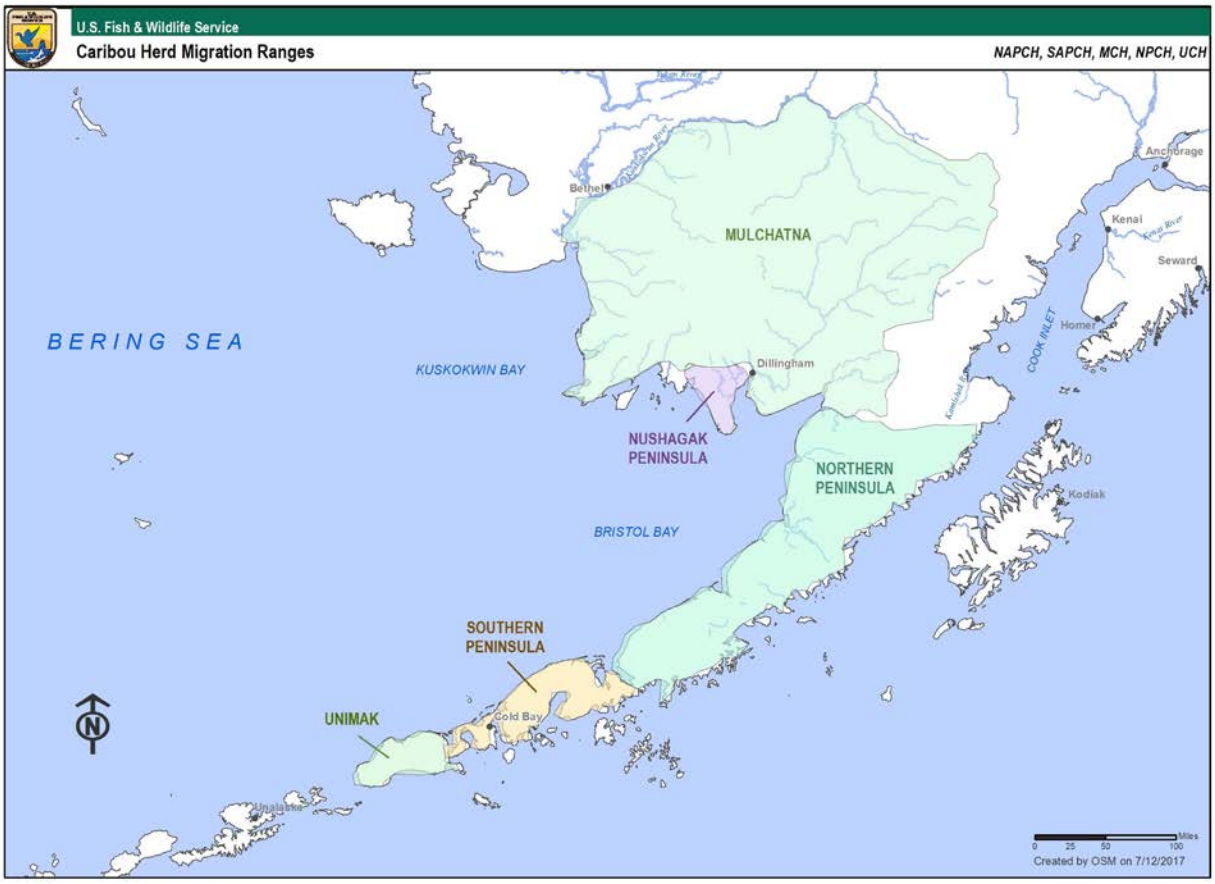
Residents in Unit 9C already have a customary and traditional use determination for caribou in Units 9A, 9B, 9C, and 9E, and residents of Unit 9E have a customary and traditional use determination for caribou in Unit 9E. A long term and consistent pattern of use of caribou including methods of harvest, handling, preparing, preserving and storage, and the sharing of knowledge and resources between generations and communities has already been recognized. This analysis will demonstrate use of caribou in Unit 17 by residents of Units 9C and 9E in addition to harvest patterns that demonstrate an interest in traveling outside of their immediate community for caribou hunting.

A Long-term and Consistent Pattern of Using Caribou

Archaeological surveys and historic accounts document the primacy of the ocean in feeding the people of the Alaskan Peninsula but they also describe the importance of caribou, particularly for those communities on the western, Bristol Bay portion of the peninsula (Lantis 1984; Morseth 2003; VanStone 1984a; VanStone 1984b). By the late 1800s, Veniaminov reported a decline in caribou numbers on the peninsula noting that periodic volcanic eruptions were hard on the vegetation upon which caribou depend (Morseth

2003: 65). Reindeer herding, while successful in other parts of the State, was attempted on the peninsula from the early 1900s but never took off as a viable economic or subsistence venture.

Comprehensive subsistence surveys conducted by ADF&G Division of Subsistence document the continued use of caribou by residents in Units 9C and 9E, but note that harvest was higher in the past compared to recent times due to the population decline and changing migration patterns of the MCH and prohibitions against the harvest of the NAPCH for health and recovery needs (Holen, Krieg, and Lemons 2011; Krieg et al 1998). The highest harvest of caribou by the communities of the northern Alaska Peninsula (Egegik, Chignik, Chignik Lagoon, Chignik Lake, Perryville, and Ivanof Bay) documented by ADF&G occurred in 1984, with an average harvest of about 263 lb per household (Morris 1987). In that study, an average of 91% of the households in all communities of Unit 9E used caribou, 80% reported receiving caribou, and approximately 58% reported sharing their caribou with others. For the 1986 – 1987 study year "caribou made by far the largest contribution to the wild food supply" for the villages of Pilot Point, Ugashik, and Port Heiden (Fall and Morris 1987:107). Household averages for caribou harvest were approximately 821 lb in Pilot Point, 600 lb in Ugashik, and 681 lb in Port Heiden. Use was also high for these three communities with 100% of the households in Port Heiden reporting using caribou, 94% in Pilot Point, and 80% of households reporting use of caribou in Ugashik.



Map 2. Southwest Alaska Caribou Herd migration range.

Harvest of Caribou in Unit 17 by Residents of Units 9C and 9E

The caribou herds accessible to residents in the southwest region of Alaska (Units 9 and 17) include the Northern Alaska Peninsula Caribou Herd (NAPCH), the Southern Alaska Peninsula Caribou Herd (SAPCH), the Unimak Caribou Herd (UCH), the Mulchatna Caribou Herd (MCH), and more recently, the NPCH, which is a reintroduced population after an absence of at least 100 years (**Map 2**). Archeological evidence and historical accounts demonstrate the presence and importance of caribou to those communities close to the Nushagak Peninsula but by 1900 herds were absent from the immediate area (Aderman 2015). The NPCH was started in 1988 with 146 individual caribou relocated from the Northern Alaska Peninsula Caribou Herd (Aderman 2015). The reintroduction of the herd was conducted by cooperative agreement between USFWS, ADF&G, the villages of Togiak and Manokotak, and Choggiung Limited in Dillingham in order to provide local residents with an opportunity to harvest caribou in close proximity to their homes and villages (USFWS et al. 1994). Village residents from Togiak assisted with the capture and handling of the animals (Paul 2009). As the herd grew a hunt was established on Federal public lands. Per objectives of the Nushagak Peninsula Caribou Management Plan, the hunt was limited to only seven resident communities with a customary and traditional determination for caribou in Unit 17; Togiak, Twin Hills, Manoktotak, Aleknagik, Dillingham, Clarks Point, and Ekuk. The caribou herds present in Unit 17 are the MCH and the NPCH. Both herds remain distinct with ranges that only minimally overlap.

Residents of Units 9C and 9E have harvested caribou in Unit 17 for as long as reports have been kept. Currently, they may only harvest caribou in Unit 17 under State regulations. The MCH can be hunted in 17A by a "may be announced season" or in 17A remainder, 17B, and portions of 17C Aug. 1 – Mar. 31. The possibility to hunt Nushagak Peninsula caribou occurs in Unit 17C remainder by a "may be announced season" on State lands only. More recently, all State residents, including those in Units 9C and 9E, were able to harvest Nushagak Peninsula caribou on Federal public lands due to Board approval of WSA16-02, which temporarily lifted the closure to all but seven communities with a customary and traditional use determination (Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, Clarks Point, and Ekuk).

The ADF&G and USFWS maintain a harvest reporting database (OSM 2017); however, complete records were not kept until the mid-1980s and ADF&G data have not been added to USFWS data since 2010. Regardless, some indication of harvest patterns can be discerned. **Table 1** demonstrates the cumulative harvest of caribou under State regulations in Unit 17 by residents of Units 9C and 9E from 1983 to 2010. It should be noted that State lands make up a far larger portion of Unit 17C than Federal public lands. In addition, harvest surveys conducted by ADF&G demonstrate Unit 9 resident harvest and search areas for caribou that consistently include portions of Unit 17 (Krieg et al 1996; Krieg et al 1998; Holen, Krieg, and Lemons 2011).

Table 1. Permits issued and cumulative harvest of caribou in Unit 17 by residents of Units 9C and 9E, 1983 – 2010.

Resident Community	Subunit of Residence	Permits Issued	Actual Harvest
NAKNEK	9C	22	17
KING SALMON	9C	34	29
CHIGNIK	9E	1	0
UGASHIK	9E	2	1
PILOT POINT	9E	1	1
TOTAL		60	48

Method and Means of Caribou Harvest

While prehistorically and through the early 1900s residents of the Northern Alaska Peninsula typically hunted and harvested resources close to home, by the latter half of the 20th century the use of aircraft was becoming a prevalent form of local transportation for some, expanding the range of harvest opportunities. The importance of this method for caribou hunting specifically was demonstrated in an ADF&G technical paper on the subsistence harvests of residents of the Northern Alaska Peninsula. In the description of use of caribou by residents of the Bristol Bay Borough, the following was noted:

> The regulation change which created the most controversy, and perhaps the biggest change in local hunting patterns, was the elimination of same day airborne hunting in 1977-78. For the previous three years same day airborne hunting had been allowed for caribou from January through March (Morris 1987: 79).

Fall and Morris also documented aircraft use by residents of Pilot Point, Ugashik, and Port Heiden to access caribou during the 1986 – 1987 study year (Fall and Morris 1987). Early in the season, hunters would access the herd along waterways by skiff, use ATVs when the ground hardened, and then, as the season progressed and the herd migrated further north, hunters would use airplanes. While the transportation described apply specifically to the harvest of the Northern Alaska Peninsula Caribou Herd, it still demonstrates the ability and need of hunters in Unit 9 to travel far in order to harvest important resources.

As stated earlier, the caribou present in Unit 17 consists of the MCH and the NPCH. The range and migration patterns of the MCH extend into Unit 9B and occasionally a small portion of Unit 9C where the residents of Units 9B and 9C may harvest them under Federal regulation (Krieg et al 1996:11). The NPCH range is bounded by the Nushagak Peninsula, however, residents of Units 9C and 9E may also claim ties to the herd as it was established with animals from the NAPCH whose range lies completely within Unit 9. The animals were captured from the NAPCH in the late winter near Becharof Lake in Unit 9E (Paul 2009). Originally 167 animals were captured, but 146 (12 calves, 118 cows, and 16 bulls) were successfully released and introduced to the new range.

A final note, residents of Unit 17 have a customary and traditional use determination for caribou in Units 9C and 9E, demonstrating a regional pattern, easily extended to residents of Unit 9, of caribou harvest that ranges far by necessity as migration patterns change and populations fluctuate.

Effects of the Proposal

If adopted, Proposal WP18-23 would add residents of communities in Units 9C and 9E to the customary and traditional use determination for caribou on the Nushagak Peninsula in Unit 17. Their use of and connection to caribou in Unit 17 would be recognized by the Board giving residents of Units 9C and 9E the opportunity to hunt Mulchatna and Nushagak Peninsula Caribou under Federal regulations.

If Proposal WP18-23 was not adopted, residents of Units 9C and 9E would be able to continue harvest of caribou in Unit 17 under State regulations.

OSM CONCLUSION

Support Proposal WP18-23 **with modification** to add residents of Units 9C and 9E to the customary and traditional use determination for caribou in Unit 17, remainder.

The modified regulation would read:

Customary and Traditional Use Determination—Caribou

Unit 17A, that portion west of the Izavieknik River, Upper Togiak Lake, Togiak Lake, and the main course of the Togiak River	*Residents of Units 9B, 17, Eek, Goodnews Bay, Lime Village, Napakiak, Platinum, Quinhagak, Stony River, and Tuntutuliak.*
Unit 17A, that portion north of Togiak Lake that includes Izavieknik River drainages	*Residents of Units 9B, 17, Akiak, Akiachak, Lime Village, Stony River, and Tuluksak.*
Units 17A and 17B, those portions north and west of a line beginning from the Unit 18 boundary at the northwestern end of Nenevok Lake, to the southern point of upper Togiak Lake, and northeast to the northern point of Nuyakuk Lake, northeast to the point where the Unit 17 boundary intersects the Shotgun Hills	*Residents of Units 9B, 17, Kwethluk, Lime Village, and Stony River.*
Unit 17B, that portion of Togiak National Wildlife Refuge	*Residents of Units 9B, 17, Akiachak, Akiak, Bethel, Eek, Goodnews Bay, Lime Village, Napakiak, Platinum,*

	Quinhagak, Stony River, Tuluksak, and Tuntutuliak.
Unit 17, remainder	*Residents of Units 9B, **9C, 9E**, 17, Lime Village, and Stony River.*

Justification

Residents of Units 9C and 9E have a pattern of customary and traditional use of caribou in their region as well as a documented history of caribou harvest in Unit 17. The Bristol Bay Subsistence Regional Advisory Council has expressed support for the inclusion of Unit 9 residents into the customary and traditional use determination for caribou in Unit 17, specifically as a means to provide access to the Nushagak Peninsula Caribou Herd.

Residents of Units 9C and 9E have a demonstrated pattern of using caribou, and that use extends beyond their specific units. In the past, use of a resource often required traveling beyond close proximity to home villages. Residents of Units 9C and 9E have a demonstrated pattern of traveling farther, particularly by airplane, to access their local herds and those herds that range into their region. Herds that they have accessed in the past through contemporary times include the NAPCH, the SAPCH, and the Mulchatna Herd.

Residents of Unit 17 have a customary and traditional use determination for caribou in Units 9C and 9E, demonstrating a regional pattern, easily extended to residents of Unit 9, of caribou harvest that ranges far, by necessity, as migration patterns change and fluctuate.

Finally, residents of Unit 9 have a unique connection to the Nushagak Peninsula Caribou Herd specifically because it was reintroduced to the peninsula by transferring individual animals from the NAPCH from the Units 9C and 9E. While the NPCH primarily sticks to the peninsula, individuals occasionally break away and range further than the peninsula specific Federal lands.

This modification reflects that customary and traditional use determinations are not meant to regulate use but instead are meant to recognize subsistence uses in the most inclusive manner possible.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Bristol Bay Alaska Subsistence Regional Advisory Council

Support WP18-23 **as modified by OSM**. Adding communities from Unit 9C and 9E to harvest caribou in Unit 17 remainder recognizes their demonstrated customary and traditional uses of the resource in Unit 17 remainder. It is also appropriate as the herd of the Nushagak Peninsula originated from the Alaska Peninsula.

Western Interior Subsistence Regional Advisory Council

Support WP18-23. The Council justified support for the proposal, noting the caribou population is healthy and can support the additional harvest. The Council added it would likely be subsistence communities that would take advantage of the additional harvest anyway.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-23: This proposal, submitted by Gayla Hoseth, would make two changes. The first change would be to specify an area within Unit 17 where a change in customary and traditional use determination for Nushagak Peninsula caribou would be made. Federal Subsistence Board regulations for Unit 17 currently define five areas in which communities have customary and traditional use determinations for caribou. This proposal further divides "Unit 17, remainder" into "Units 17A and 17C– that portion of 17A and 17C consisting of the Nushagak Peninsula south of the Igushik River, Tuklung River, and Tuklung Hills, west to Tvativak Bay" and "Unit 17, remainder".

The second change would be to specify which communities in the two new areas had customary and traditional uses of caribou. In the Nushagak Peninsula portion of Units 17A and 17C, residents of communities in Units 9C and 9E would be added to the current list of communities, which is residents of Units 9B, 17, Lime Village, and Stony River. There would be no changes to the list of communities in the new Unit 17, remainder area, so residents of Units 9B, 17, Lime Village, and Stony River would continue to have C&T determinations for caribou in that area.

Introduction: According to oral history of the area, caribou were extirpated in the area by the early 1900s and were reintroduced in 1911 to provide meat for the government school at Kulukak and Togiak (ADF&G 1991:59). Reindeer herds were also introduced at that time. However these animals did not survive. In

1988, 146 caribou from the Northern Alaska Peninsula Herd were reintroduced to the Nushagak Peninsula (Aderman, 2013) forming the current herd.

Communities in Unit 9C include King Salmon (population estimate 300 in 2016, excluding residents of group quarters; ALDWD 2017), Naknek (494), and South Naknek (64). Communities in Unit 9E include Egegik (48), Pilot Point (74), Ugashik (15), Port Heiden (98), Port Moller, Chignik (96), Chignik Lagoon (85), Chignik Lake (64), Perryville (110), and Ivanof Bay (7).

Impact on Subsistence Uses: Adoption of this proposal would increase the pool of federally qualified subsistence users eligible to participate in opportunities provided under ANILCA.

Impact on Other Uses: If this proposal were adopted, impact to other users would depend on actions taken by the Federal Subsistence Board or the Alaska Board of Game to provide opportunities to a larger pool of users eligible for hunting under ANILCA.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has not made a finding of customary and traditional uses specifically for the Nushagak Peninsula caribou herd. The ADF&G customary and traditional use worksheet for the Nushagak Peninsula herd states:

> In 1988, the Board of Game determined that residents of GMU 17, 9B, and Lime Village and Stony River have customary and traditional use of caribou in Game Management Unit 17. Although at that time most caribou taken in the Unit were from the Mulchatna Herd, the board's finding pertained [to] all caribou hunting occurring in GMU 17AB&C. (ADF&G 1991:59)

Amounts Reasonably Necessary for Subsistence: Since the Board of Game has not made a C&T finding specifically for the Nushagak Peninsula caribou herd, they have not addressed ANS.

Conservation Issues: There are no conservation concerns associated with this proposal. Increased harvest may tend to keep the Nushagak herd from growing beyond the ability of the existing habitat to support the population.

Recommendation: ADF&G is **NEUTRAL** on eligibility requirements for participation in the subsistence program provided under ANILCA.

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WP18–28 Executive Summary	
General Description	Proposal WP18–28 requests the addition of a winter may-be-announced moose season in the portion of Unit 18 in the Goodnews River drainage and south to the Unit 18 boundary. *Submitted by: Togiak National Wildlife Refuge.*
Proposed Regulation	**Unit 18—Moose** *Unit 18—Goodnews River drainage and south to the Unit 18 boundary—1 antlered bull by State registration permit. Any needed closures will be announced by the Togiak National Wildlife Refuge Manager after consultation with BLM, ADF&G, and the Chair of the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council* — *Sep. 1 – Sep. 30* ***or*** ***1 moose by State registration permit*** — ***A season may be announced between Dec. 1 and the last day of Feb.***
OSM Conclusion	**Support with modification** to remove the unit specific language referencing closures and delegate authority to the Togiak National Wildlife Refuge Manager to close the fall season and to open and close the "may be announced" winter season, and to set harvest quotas and restrictions via a delegation of authority letter only. The modified regulation should read: **Unit 18—Moose** *Unit 18—Goodnews River drainage and south to the Unit 18 boundary—1 antlered bull by State registration permit. ~~Any needed closures will be announced by the Togiak National Wildlife Refuge Manager after consultation with BLM, ADF&G, and the Chair of the Yukon-Kuskokwim Delta~~* — *Sep. 1 – Sep. 30*

WP18–28 Executive Summary	
	~~*Subsistence Regional Advisory Council*~~ ***or*** ***1 moose by State registration permit*** ***A season may be announced between Dec. 1 and the last day of Feb.***
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	**Support**
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	**Take no action**

WP18–28 Executive Summary	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Support with modification to change the bag limit to one moose so as to be in alignment with State opportunity**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-28

ISSUES

Proposal WP18-28, submitted by the Togiak National Wildlife Refuge (Refuge), requests the addition of a winter may-be-announced moose season in the portion of Unit 18 in the Goodnews River drainage and south to the Unit 18 boundary.

DISCUSSION

The proponent notes that the moose population in the Goodnews drainage has grown substantially in recent years, from less than 10 moose in 2002, to an estimated 600 moose in 2017. It reports that the bull:cow and calf:cow ratios are adequate, and that the combined State/Federal quota of 20 bulls has not been met in the fall season for several years. This hunt is administered by State registration permit, which ensures good reporting and harvest management, with permit distribution occurring in the communities of Goodnews Bay and Platinum, which limits participation. The proponent reports that access to moose hunting during fall is limited in this area, and that the addition of a winter season will increase opportunities for Federally qualified subsistence users to harvest moose.

The proponent's written request is to establish a may-be-announced season between December 1 and the last day of February, with a harvest limit of one antlered bull. However, after additional correspondence with the proponent, the request was amended to include a harvest limit of one moose, rather than one antlered bull for the winter season. It believes this allows maximum flexibility in managing the dynamic moose population, which may become increasingly important considering the rapid growth Unit 18 moose populations are experiencing. It also notes that it will reduce regulatory complexity between State and Federal regulations, simplifying use of the State registration permit and improving opportunity for parallel in-season management.

Existing Federal Regulation

Unit 18—Moose

Unit 18—Goodnews River drainage and south to the Unit 18 boundary—1 antlered bull by State registration permit. Any needed closures will be announced by the Togiak National Wildlife Refuge Manager after consultation with BLM, ADF&G, and the Chair of the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council	*Sep. 1 – Sep. 30*

Proposed Federal Regulation

Unit 18—Moose

Unit 18—Goodnews River drainage and south to the Unit 18 boundary—1 antlered bull by State registration permit. Any needed closures will be announced by the Togiak National Wildlife Refuge Manager after consultation with BLM, ADF&G, and the Chair of the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council	*Sep. 1 – Sep. 30*
or	
1 moose by State registration permit	***A season may be announced between Dec. 1 and the last day of Feb.***

Existing State Regulation

Unit 18—Moose

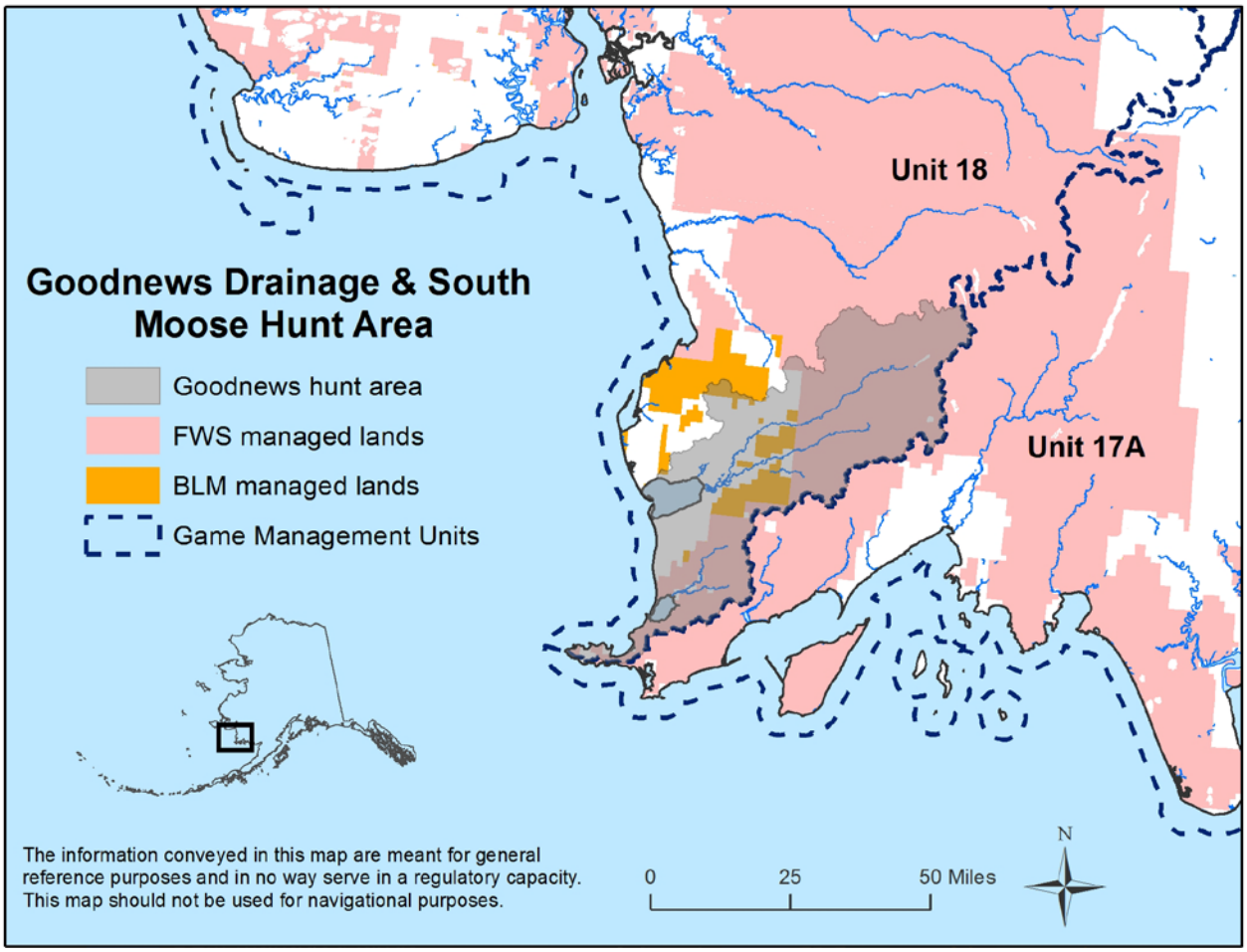
Unit 18—South of and including the Goodnews drainage—One antlered bull by permit available in person in Goodnews Bay and Platinum Aug. 1 – 25. Season closed by emergency order when 20 bulls are taken.	*RM620*	*Sep. 1 – Sep. 30*
or		
One moose by permit available in person in Goodnews Bay and Platinum – may be announced.	*RM621*	*May be announced*

Extent of Federal Public Lands

Federal public lands comprise approximately 68% of the portion of Unit 18 in the Goodnews drainage and south to the Unit 18 boundary and consist of 62% U.S. Fish and Wildlife Service (USFWS) managed lands and 6% Bureau of Land Management (BLM) managed lands (**Map 1**).

Customary and Traditional Use Determinations

Residents of Unit 18, Upper Kalskag and Lower Kalskag have a customary and traditional use determination for moose in the Unit 18 remainder customary and traditional use area, which includes the Goodnews drainage hunt area.



Map 1. The Unit 18 moose hunt area described as the Goodnews River drainage and south to the Unit 18 boundary.

Regulatory History

Federal public lands south of and including the Goodnews River drainage were closed to all moose harvest until 2008. However, under State regulation, a Sep. 1 – 30 moose season remained open on lands outside of Federal jurisdiction until 2004. This season was closed by emergency order in 2004 and 2005. By 2006, there was agreement among USFWS, the Alaska Department of Fish and Game (ADF&G), and the communities of Goodnews Bay and Platinum to impose a moratorium on moose harvest. The moratorium began in 2006 and was intended to remain in place for 3 years, or until 100 moose were counted within the Goodnews River drainage (Aderman 2014).

By 2008, the moose population had exceeded 100 moose and Proposal WP08-34 was adopted with modification by the Federal Subsistence Board (Board). This action established a Federal moose season in the Goodnews River hunt area. The Alaska Board of Game (BOG) also established a moose season in 2008. Both Federal and State seasons were open Aug. 25 – Sep 20, had a harvest limit of one antlered bull, and required the use of a State registration permit (BOG 2017; OSM 2017).

In 2009, the BOG adopted Proposal 1, which shifted the State season to Sep. 1 – 30. This change became effective in regulatory year 2010. In 2012, the Board adopted WP12-46. This action shifted the Federal season to Sep. 1 – 30, resulting in realignment of State and Federal seasons (BOG 2017; OSM 2017).

In January 2017, the BOG established an additional may-be-announced season with the adoption of Proposal 21. This hunt requires the use of a registration permit and has a harvest limit of one moose. Intended as a winter hunt, the BOG gave ADF&G the authority to determine the length and timing of the opening, and to establish harvest quotas for the hunt. There was some concern by members of the BOG that, although the moose population is increasing, additional harvest opportunity may result in high harvest rates relative to the current population size. However, the BOG ultimately agreed that there was a realistic possibility that this population would be able to support additional harvest prior to 2020, the next time they will consider proposals for this region, and agreed that it was prudent to give ADF&G the authority to manage the harvest (BOG 2017).

Biological Background

Prior to the early 2000s, moose were not reliably observed in the Goodnews River drainage. Early population growth is attributed to emigration from adjacent Unit 17A, with high calf recruitment sustaining growth (Aderman 2014). Population estimates, obtained by the Togiak National Wildlife Refuge as part of their Refuge-wide moose monitoring program, show substantial growth of the moose population in this area (**Figure 1**). In 2004, the population within this hunt area was estimated to be just 10 moose. By 2012, it had exceeded a minimum count of at least 200 moose (Aderman 2014).

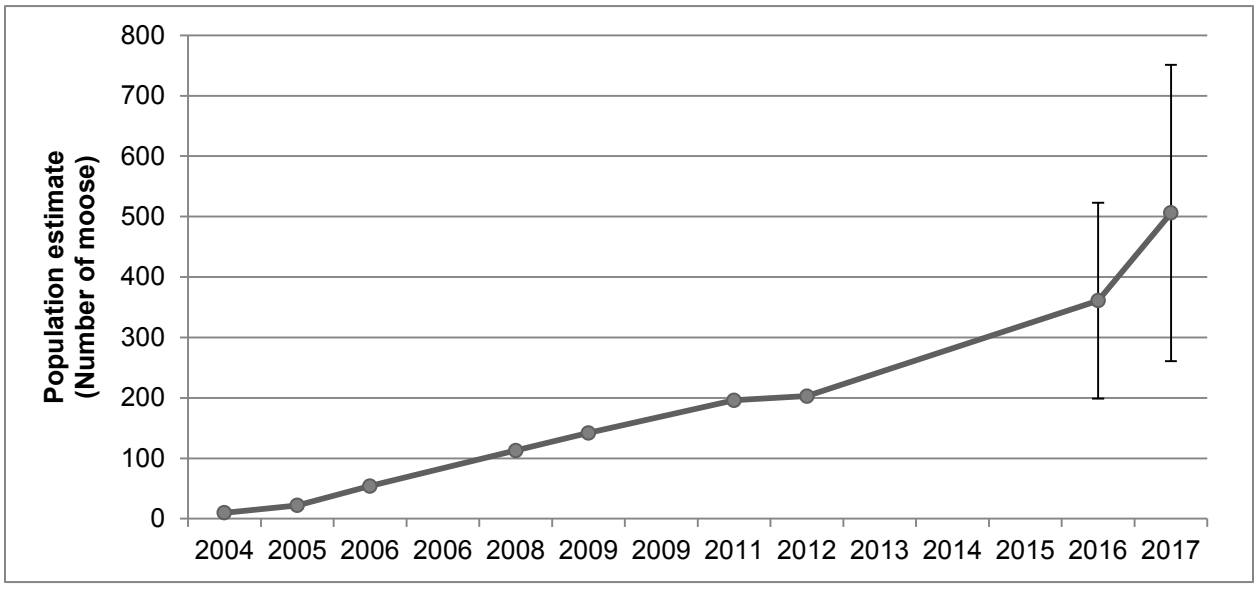


Figure 1. Estimated moose population size in the Goodnews River drainage hunt area, 2004 – 2017. 2004 – 2012 estimates are minimum counts. 2016 – 2017 estimates are derived from GSPE surveys. Error bars represent 95% confidence intervals (Aderman 2014, Aderman 2017, pers. comm.).

More recently, the Refuge has begun using a geospatial population estimator technique (GSPE) to estimate abundance. This approach results in a statistical estimate of abundance, taking into account spatial

correlation among moose on the landscape (Kellie and DeLong 2006). Using these methods, abundance of the Goodnews River drainage moose population was estimated to be 361 moose in October 2016 and 505 moose in March 2017. Corrected for sightability, the 2017 estimate is 607 moose. While the precision of these estimates is poor, the population is believed to have grown since 2012 (Aderman 2017, pers. comm.).

A survey in October 2016 indicated that there were 47 bulls:100 cows and 43 calves:100 cows in this population (Aderman 2017, pers. comm.). Refuge-wide, for the 1998 – 2013 time period, calf production averaged 128 calves:100 cows and yearling recruitment averaged 60 calves:100cows, which has been sufficient for steady growth in this population. Average weight of 10 month old female calves for 2002 – 2013 was 190 – 216 kg, indicating a high plane of nutrition relative to some other parts of the State (Aderman 2014).

Harvest History

Moose hunting has been legal in the Goodnews hunt area since 2008, when the moose population exceeded 100 animals and the BOG and the Board established moose hunting seasons. Since then, reported harvest has averaged 13.5 moose annually (**Table 1)**. The harvest quota has been set at 20 bulls since 2011. In every year since, reported harvest has remained below this threshold, without the use of closures by Emergency Order (BOG 2017; ADF&G 2017).

Since 2008, moose in the Goodnews hunt area have been harvested exclusively by Federally qualified subsistence users, with the exception of a single moose taken in 2009 by a resident of Dillingham. Seventy-five percent of the reported harvest has been by residents of Goodnews Bay, while residents of Platinum have taken 15% of the harvest. The residency of successful moose hunters in 2014 who harvested 8% of the total harvest since 2008 is unknown. However, it is expected that residency patterns in 2014 are consistent with other years. If so, residents of Goodnews Bay and Platinum, the two communities within the hunt area, account for approximately 98% of the total harvest in this area (ADF&G 2017).

Table 1. Reported moose harvest in the Goodnews hunt area 2008 – 2016, by resident community (ADF&G 2017)

Resident Community	2008	2009	2010	2011	2012	2013	2014	2015	2016
Bethel	-	-	-	1	-	-	-	-	-
Dillingham	-	1	-	-	-	-	-	-	-
Goodnews Bay	10	8	10	15	11	10	-	13	14
Platinum	3	1	1	2	2	4	-	2	3
Quinhagak	-	-	-	0	-	1	-	-	-
Unknown	-	-	-	0	-	-	10	-	-
Total Harvest	13	10	11	18	13	15	10	15	17

Effects of the Proposal

If this proposal is adopted, Federally qualified subsistence users will have additional opportunities to harvest moose in the portion of Unit 18 in the Goodnews River drainage south to the Unit 18 boundary. The addition of a winter season is not expected to affect the moose population in this area because it does not expand the pool of eligible users, all of whom can participate in State's winter hunt. The use of quotas and registration permits further guards against overharvest.

The addition of a Dec. 1 – last day of Feb. may-be-announced season does not align fully with recent changes in State regulation. However, the aim of the State's recent regulation change was to give local managers the flexibility to open a winter hunt, consistent with the aim of this proposal. Adoption of this proposal will improve opportunity for parallel State and Federal in-season management and will reduce regulatory complexity.

OSM CONCLUSION

Support Proposal WP18-28 **with modification** to remove the unit specific language referencing closures and delegate authority to the Togiak National Wildlife Refuge Manager to close the fall season and to open and close the "may be announced" winter season, and to set harvest quotas and restrictions via a delegation of authority letter only (**Appendix A**).

The modified regulation should read:

Unit 18—Moose

Unit 18—Goodnews River drainage and south to the Unit 18 boundary—1 antlered bull by State registration permit. ~~Any needed closures will be announced by the Togiak National Wildlife Refuge Manager after consultation with BLM, ADF&G, and the Chair of the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council~~	*Sep. 1 – Sep. 30*
or	
1 moose by State registration permit	***A season may be announced between Dec. 1 and the last day of Feb.***

Justification

Establishing a winter season provides an additional opportunity for Federally qualified subsistence users to harvest moose if they are unsuccessful in the fall. Relative to a preset season, a may-be-announced season poses little risk to the moose population in the area, since it allows local managers to be responsive to changing population and harvest dynamics. Setting the winter harvest limit at one moose, and delegating

authority to the Federal manager to set harvest restrictions, provides maximum flexibility. This is an important consideration when managing dynamic populations such as this one, particularly in a region experiencing rapid moose population growth like Unit 18. Administration of this hunt though registration permits, and use of harvest quotas, provides additional protection against overharvest.

Moose harvest within the Goodnews drainage hunt area occurs almost exclusively by local hunters, all of whom are eligible to harvest moose during the State's resident season. Consequently, the addition of a Federal season, while it represents additional opportunity, is not expected to have any realized effect on the moose population in the area. However, this proposal does improve the ability of State and Federal managers to jointly implement in-season management, which will simplify compliance for local users.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Yukon-Kuskokwim Delta Subsistence Regional Advisory Council

Support. The Council supports this additional subsistence opportunity. The Council concurred with the feedback from local residents of Goodnews Bay and Quinhagak that if they were not able to get the moose on their permit during the fall hunt season, a winter season would be beneficial to give them another opportunity to harvest a moose for their family. Council Chair, Lester Wilde, Sr. noted that all in the region had worked very hard during the moose moratorium on the Kuskokwim River to get the moose population back up to where everyone in the region has an opportunity for the much needed protein moose provides. He noted this increased opportunity is a very good thing to see.

Western Interior Alaska Subsistence Regional Advisory Council

Take no action. The Council deferred to the home region, justifying its position to take no action because it is highly unlikely that anyone from the region would ever go that far to harvest moose.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-28: This proposal, submitted by the Togiak National Wildlife Refuge, would add a winter may-be-announced moose season in the portion of Unit 18 in the Goodnews River drainage and south to the Unit 18 boundary.

Introduction: The moose population in the Goodnews River drainage has grown to an estimated 600 moose (2017 survey). Currently there is a September state/federal hunt managed by quota. The quota of 20 bulls is not met in most years. This hunt is administered by state registration permit, with permit distribution limited to the communities of Goodnews Bay and Platinum. The addition of a winter season will increase opportunities for moose harvest.

Impact on Subsistence Uses: Adoption of this proposal would increase opportunity for federally qualified subsistence users to harvest a moose.

Impact on Other Uses: If adopted this proposal would not affect other nonfederally qualified users.

Opportunity Provided by State:

State customary and traditional use finding: The Alaska Board of Game has made a positive C&T finding for moose in Unit 18.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The Board of Game has found that 200–400 moose are reasonably necessary for Unit 18.

		Open Season	
Unit/Area	Bag Limit	Resident	Nonresident
GMU 18	One antlered bull	September 1-September 30 (RM620)	No open season
south of and including the Goodnews River drainage	One moose	May be announced (RM621)	No open season

Special hunt instructions for RM620:

- PERMIT AVAILABILITY: Permits will be issued August 1 through August 25 in the villages of Goodnews Bay and Platinum.
- WHEN: Open season is September 1-September 30. Hunt areas will be closed by emergency order when harvest quota is reached. Quota: Unit 18 Goodnews = 30 bulls.
- WHERE: Unit 18 Goodnews (that portion south of and including the Goodnews River drainage).
- BAG LIMIT: One (1) antlered bull.
- SPECIMENS REQUIRED: None.

- REQUIREMENTS: You may only kill one (1) moose per regulatory year. If you have killed a moose anywhere in Alaska during the current regulatory year, this permit is invalid.
- REPORTING: Successful hunters must report their harvest within 3 days of kill, either in person; or by telephone (907) 543-2839 or (800) 425-2979 (you can leave a recorded message); or by leaving the harvest report card in the drop box outside the Bethel ADF&G office. Unsuccessful hunters and those who did not hunt must submit their hunt report by October 15 in person, or by pre-paid mail, or in the outside drop box in Bethel, or online at http://hunt.alaska.gov.
- WHO QUALIFIES: Alaska residents only.
- PENALTY FOR FAILURE TO REPORT: If you fail to report you will not be eligible to receive any permits [drawing, Tier II, or registration (including Tier I Nelchina caribou)] during the next regulatory year. In addition, your name will be turned over to Alaska Wildlife Troopers for enforcement action.
- SIGNATURE: You must sign your permit and comply with the permit hunt conditions and any additional restrictions found in the Alaska Hunting Regulations. You must carry your signed permit while hunting or transporting moose within the registration permit area and you must show it to any person authorized to enforce state or federal laws who requests to see it.

Conservation Issues: Adoption of this proposal will have little to no effect on the population.

Enforcement Issues: Currently the state regulation has a bag limit of one moose. This proposal is asking for one antlered bull. If the regulations could be aligned there would possibly be less enforcement issues due to divergent regulations.\

Recommendation: The State of Alaska **SUPPORTS WITH MODIFICATION** to change the bag limit to one moose so as to be in alignment with state opportunity.

APPENDIX A

Refuge Manager
Togiak National Wildlife Refuge
P.O. Box 270 MS 569
Dillingham, Alaska 99576

Dear Refuge Manager:

This letter delegates specific regulatory authority from the Federal Subsistence Board (Board) to the Togiak National Wildlife Refuge Manager to issue emergency or temporary special actions if necessary to ensure the conservation of a healthy wildlife population, to continue subsistence uses of wildlife, for reasons of public safety, or to assure the continued viability of the population. This delegation only applies to the Federal public lands subject to Alaska National Interest Lands Conservation Act (ANILCA) Title VIII jurisdiction within Unit 18, Goodnews River drainage and south to the Unit 18 boundary, for the management of moose on these lands.

It is the intent of the Board that actions related to management of moose by Federal officials be coordinated, prior to implementation, with the Alaska Department of Fish and Game (ADF&G) and the Chair of the Yukon Kuskokwim Delta Subsistence Regional Advisory Council and the Chair of the Western Interior Alaska Subsistence Regional Advisory Council to the extent possible. Federal managers are expected to work with managers from the State and other Federal agencies, the Council Chairs, and applicable Council members to minimize disruption to subsistence resource users and existing agency programs, consistent with the need for special action.

DELEGATION OF AUTHORITY

1. Delegation: The Togiak National Wildlife Refuge Manager is hereby delegated authority to issue emergency or temporary special actions affecting moose on Federal lands as outlined under the **Scope of Delegation**. Any action greater than 60 days in length (temporary special action) requires a public hearing before implementation. Special actions are governed by regulation at 36 CFR 242.19 and 50 CFR 100.19.

2. Authority: This delegation of authority is established pursuant to 36 CFR 242.10(d)(6) and 50 CFR 100.10(d)(6), which state: "The Board may delegate to agency field officials the authority to set harvest and possession limits, define harvest areas, specify methods or means of harvest, specify permit requirements, and open or close specific fish or wildlife harvest seasons within frameworks established by the Board."

3. Scope of Delegation: The regulatory authority hereby delegated is limited to the following authorities within the limits set by regulation at 36 CFR 242.26 and 50 CFR 100.26:

- Close the Sep. 1 – 30 season for moose on Federal public lands within the portion of Unit 18 in the Goodnews River drainage and south to the Unit 18 boundary.

- Open and close a season between December 1 and the last day of February for moose on Federal public lands within the portion of Unit 18 in the Goodnews River drainage and south to the Unit 18 boundary and set harvest restrictions for this season.

- Set harvest quotas for moose on Federal public lands within the portion of Unit 18 in the Goodnews River drainage and south to the Unit 18 boundary.

This delegation may be exercised only when it is necessary to conserve moose populations, to continue subsistence uses, for reasons of public safety, or to assure the continued viability of the population.

All other proposed changes to codified regulations, such as customary and traditional use determinations, adjustments to methods and means of take, or closures and restrictions for take by only non-Federally qualified users shall be directed to the Federal Subsistence Board.

The Federal public lands subject to this delegated authority are those within Unit 18 in the Goodnews River drainage and south to the Unit 18 boundary.

4. Effective Period: This delegation of authority is effective from the date of this letter and continues until superseded or rescinded.

5. Guidelines for Delegation: You will become familiar with the management history of the wildlife species relevant to this delegation in the region, with current State and Federal regulations and management plans, and be up-to-date on population and harvest status information. You will review special action requests or situations that may require a special action and all supporting information to determine: (1) consistency with 36 CFR 242.19, (2) if the request/situation falls within the scope of authority, (3) if significant conservation problems or subsistence harvest concerns are indicated, and (4) what the consequences of taking an action or no action may be on potentially affected subsistence users and non-Federally qualified users. Requests not within your delegated authority will be forwarded to the Federal Subsistence Board for consideration. You will maintain a record of all special action requests and rationale for your decision. A copy of this record will be provided to the Administrative Records Specialist in the Office of Subsistence Management (OSM) no later than sixty days after development of the document.

You will notify OSM and coordinate with local ADF&G managers and the Chairs of the Yukon Kuskokwim Delta Subsistence Regional Advisory Council and Western Interior Alaska Subsistence Regional Advisory Council regarding special actions under consideration. You will issue decisions in a timely manner. Before the effective date of any decision, reasonable efforts will be made to notify the public, OSM, affected State and Federal managers, law enforcement personnel, and Council representatives. If an action is to supersede a State action not yet in effect, the decision will be communicated to the public, OSM, affected State and Federal Managers, and the local Council representatives at least 24 hours before the State action would be effective. If a decision to take no action is made, you will notify the proponent of the request immediately. A summary of special action requests and your resultant actions must be provided to the coordinator of the appropriate Subsistence Regional Advisory Council(s) at the end of each calendar year for presentation to the Council(s).

You may defer a special action request, otherwise covered by this delegation of authority, to the Federal Subsistence Board in instances when the proposed management action will have a significant impact on a large number of Federal subsistence users or is particularly controversial. This option should be exercised judiciously and may be initiated only when sufficient time allows for it. Such deferrals should not be considered when immediate management actions are necessary for conservation purposes. The Federal Subsistence Board may determine that a special action request may best be handled by the Board, subsequently rescinding the delegated regulatory authority for the specific action only.

6. Support Services: Administrative support for regulatory actions will be provided by the Office of Subsistence Management, U.S. Fish & Wildlife Service, Department of the Interior.

Sincerely,
Anthony Christianson

Chair, Federal Subsistence Board

cc:: Commissioner, Alaska Department of Fish and Game
Assistant Regional Director, Office of Subsistence Management
Deputy Assistant Regional Director, Office of Subsistence Management
Chair, Yukon Kuskokwim Delta Subsistence Regional Advisory Council
Chair, Western Interior Alaska Subsistence Regional Advisory Council
Federal Subsistence Liaison Team Leader, Alaska Department of Fish and Game
Subsistence Council Coordinator, Office of Subsistence Management
Federal Subsistence Board
Interagency Staff Committee
Administrative Record

WP18–30 Executive Summary	
General Description	Proposal WP18–30 requests that the season for ptarmigan harvest be shortened from Aug. 10-May 30 to Aug. 10-Mar. 31 and that the harvest limit be reduced from 50 ptarmigan per day and 100 in possession, to 15 ptarmigan per day and 30 in possession in Unit 18. *Submitted by: Orutsararmiut Native Council.*
Proposed Regulation	**Unit 18— Ptarmigan (Rock and Willow)** *Unit 18—~~50~~ **15** per day,~~100~~ **30** in possession* *Aug. 10 – ~~May 30~~ **Mar. 31***
OSM Conclusion	**Support** Proposal WP18-30 **with modification** to leave the season unchanged.
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	**Support** WP18-30 **with modification** to change the season to Aug. 10 – May 15 and change the season bag limit to 20 per day and 40 in possession. The modified regulation should read: **Unit 18— Ptarmigan (Rock and Willow)** *Unit 18—~~50~~ **20** per day, ~~100~~ **40** in possession* *Aug. 10 – May ~~30~~ **15***
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	**Support as modified by OSM**

WP18–30 Executive Summary	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Neutral**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-30

ISSUES

Proposal WP18-30, submitted by the Orutsararmiut Native Council, requests that the season for ptarmigan harvest be shortened from Aug. 10-May 30 to Aug. 10-Mar. 31 and that the harvest limit be reduced from 50 ptarmigan per day and 100 in possession, to 15 ptarmigan per day and 30 in possession in Unit 18.

DISCUSSION

The proponent requests that the harvest limit be decreased and the season shortened due to declines in willow ptarmigan populations as reported by local users. The proponent states that Federally qualified subsistence users are reporting the need to travel longer distances to harvest ptarmigan and that users are noticing much smaller flocks than those observed in the past. The proponent also states that ptarmigan are an important subsistence resource to the people who reside in the Yukon-Kuskokwim Delta and that ptarmigan were once the first bird to migrate through the area during the late winter season. The early spring/late winter migration would bring flocks of thousands of ptarmigan, which would help to sustain local residents until spring weather arrived. The proponent believes that the high harvest of ptarmigan is due to a decrease in other available resources, such as Chinook Salmon, and that this has contributed to population declines in the area. The proponent contends that decreasing the harvest limit and shortening the harvest season will allow ptarmigan populations to rebound and will reduce hunting pressure during the active breeding season in April.

Existing Federal Regulation

Unit 18—Ptarmigan (Rock and Willow)

Unit 18 —50 per day, 100 in possession	*Aug. 10 – May 30*

Proposed Federal Regulation

Unit 18— Ptarmigan (Rock and Willow)

*Unit 18— ~~50~~ **15** per day, ~~100~~ **30** in possession*	*Aug. 10 – ~~May 30~~* ***Mar. 31***

Existing State Regulation

Unit 18— Ptarmigan

Unit 18	*fifty per day, one hundred in possession*	*Aug. 10 – May 15*

Extent of Federal Public Lands

Federal public lands comprise approximately 66.74% of Unit 18, and consist of 63.97% U.S. Fish and Wildlife Service (USFWS) managed lands and 2.77% Bureau of Land Management (BLM) managed lands (**Figure 1**).

Customary and Traditional Use Determinations

The Federal Subsistence Board (Board) has not made a customary and traditional use determination for ptarmigan in Unit 18. Therefore, all Federally qualified subsistence users may harvest this species in this unit.

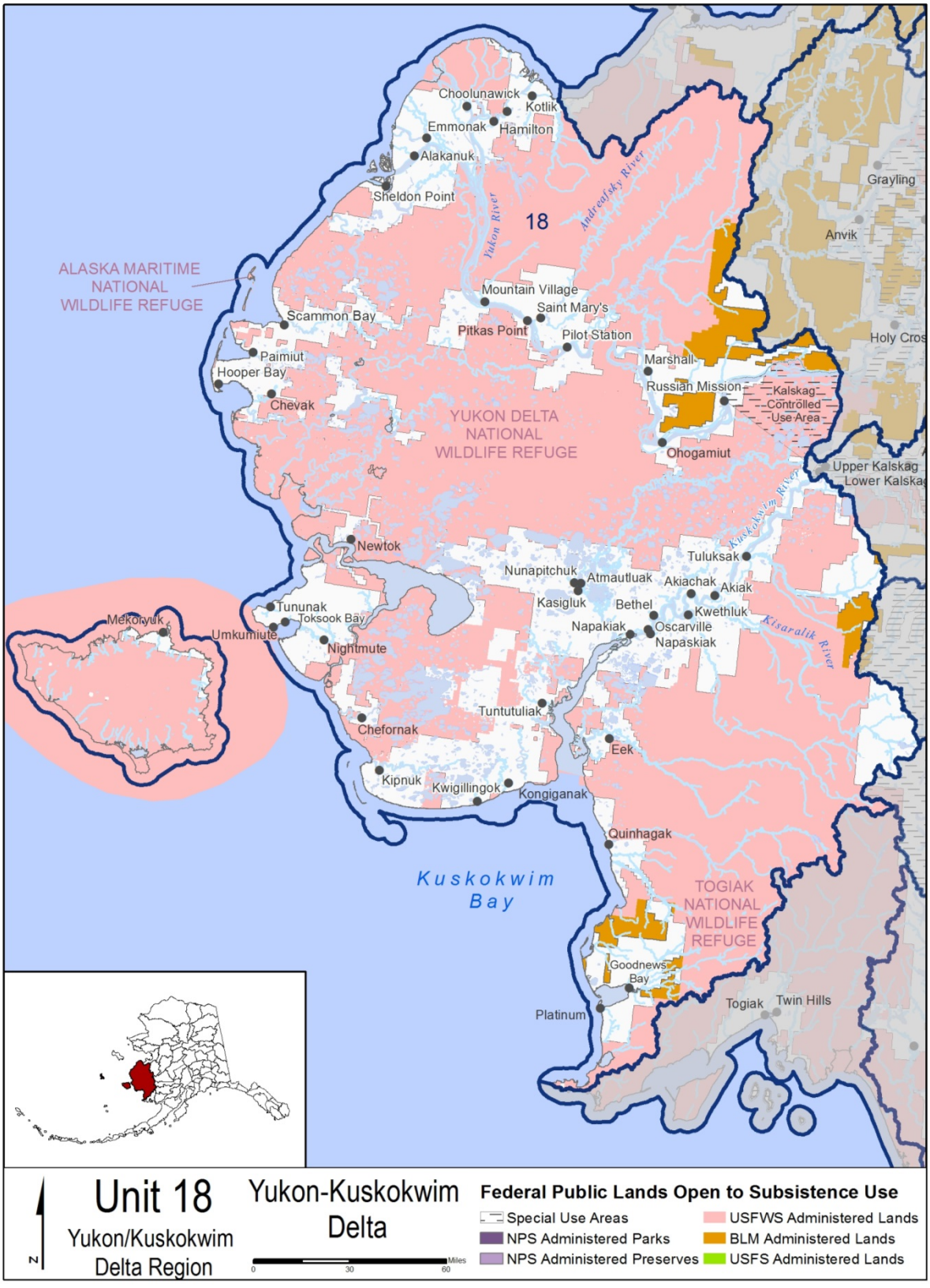


Figure 1. Federal public lands in Unit 18.

Regulatory History

In 1990, the Board adopted subsistence regulations for ptarmigan that aligned with State regulations. Federal regulations set the harvest limit at 20 ptarmigan per day and 40 in possession and a season from Aug. 10–Apr. 30.

WP93-47, submitted by the Paimiut Corporation, requested the ptarmigan season in Unit 18 be extended from Aug. 10–Apr. 30 to Aug. 10–May 30 to allow Federally qualified subsistence users more harvest opportunity in the spring. The Board adopted this proposal.

In 2012, the Yukon Delta National Wildlife Refuge submitted a proposal (WP12-51) to the Board to extend the ptarmigan season and increase the harvest limit in Unit 18. The proponent stated that ptarmigan in Unit 18 are locally migratory and migrate from the interior westward and that the season that was currently in place closed before migrating ptarmigan reached coastal areas, therefore limiting Federally qualified subsistence users from harvesting this resource. It was also stated that daily harvest and possession limits restricted Federally qualified subsistence users' ability to harvest as many ptarmigan as were needed. Due to limited data on the ptarmigan population in Unit 18, proposal WP12-51 was adopted with modification by the Board to maintain the harvest season already in place and to increase the harvest limit to 50 ptarmigan per day and 100 in possession.

A similar proposal was adopted with modification at the November 2011 Alaska Board of Game (BOG) meeting. Proposal 20 requested a harvest limit increase from 20 ptarmigan daily/40 in possession to 50 ptarmigan daily/100 in possession and a season extension from Aug. 10–Apr. 30 to Aug. 10–Jun. 15. The adopted modified proposal included the 50 ptarmigan daily/100 in possession limit, but reduced the season extension to May 15 due to concerns about harvesting during the breeding season.

Biological Background

There are no current population surveys being conducted for willow ptarmigan in Unit 18. Ptarmigan abundance may fluctuate along with snowshoe hare populations, as predators use alternative food sources when hare abundance is low (Hannon et al. 1998). Similarly, specialist predator populations, such as gyrfalcons, show slight delayed population fluctuations relative to the ptarmigan abundance cycle and often accelerate the decline in ptarmigan populations during the low phase of the ptarmigan cycle (Nielson 1999). Ptarmigan experience a complete population cycle over approximately a ten year period, similar to snowshoe hares (Nielson 1999). However, Alaska Department of Fish and Game (ADF&G) staff observations near Bethel and Dillingham show that ptarmigan populations in this area may be much lower than in the past (Carroll and Merizon 2017, Jones 2017, pers. comm.). Part of this decline is thought to be caused by warmer weather in the area and little or no snow in recent years, which would help to camouflage these birds (Carroll and Merizon 2017). This change in climate may have an impact on flock size and movements (Carroll and Merizon 2017).

Willow ptarmigan are locally migratory, overwintering in the interior of Unit 18 and breeding closer to the coast. Males are sometimes observed on breeding grounds beginning in April, where they establish breeding territories (Carroll and Merizon 2017, Weeden 1965). Breeding ptarmigan typically do not fully

arrive to the coastal areas in Unit 18 until around May (Carroll and Merizon 2017, Jones 2017, pers. comm., Weeden 1965).

Willow ptarmigan migration often follows the snow line as it melts from the interior out toward the coastline (Jones 2017, pers. comm.). Ptarmigan typically have white feathers during the winter season and brown coloration in the summer months. This change in color allows the ptarmigan to blend with their surroundings in any season even when congregating in large flocks. By following the snowline, ptarmigan are better able to maintain camouflage through the spring molt. In recent years, snow cover has been minimal in Unit 18 which has led to ptarmigan mismatching their surroundings during winter months and has made these populations more susceptible to predation (Jones 2017, pers. comm.). Behavioral changes have been observed in conjunction with the lack of snow; ptarmigan are more spread out on the landscape, congregate in much smaller flocks, and migrate through areas at a quicker rate (Jones 2017, pers. comm.).

The diet of willow ptarmigan is highly specialized, with up to 94% of their diet consisting of the buds and twigs of willows in the winter months (Weeden 1965, West and Meng 1966). In summer months the average ptarmigan diet becomes more varied as herbaceous vegetation availability increases (Weeden 1965, West and Meng 1966). Availability of food resources is primarily based on the height of plants and the level of snow cover (West and Meng 1966). Ptarmigan often feed during daylight hours and were found to fill their crop during the minimal daylight in winter and digest during hours when it was dark, whereas in the summer they were found to feed at more regular intervals without needing to fill their crops (West and Meng 1966).

Regulations do not differentiate between willow ptarmigan and rock ptarmigan harvest. Rock ptarmigan are the second most abundant ptarmigan species in Alaska and can be found throughout the state (Carroll and Merizon 2017). Declines in rock ptarmigan numbers in interior regions of Alaska led to increased monitoring of populations in interior and southern units (Carroll and Merizon 2017). Similar to willow ptarmigan, male rock ptarmigan begin defending breeding territories in April (Carroll and Merizon 2017). Currently, there are no population estimates for rock ptarmigan in Unit 18, but staff observations suggest that numbers appear to be quite low near Bethel and Dillingham (Carroll and Merizon 2017).

The diet of rock ptarmigan often consists of dwarf birch and willow buds in winter months, but becomes more varied in summer months as they begin to consume new growth vegetation, insects, berries, and seeds (Weeden 1965).

Habitat

The dominant habitat in Unit 18 consists of tundra and wetlands with patches of spruce corridors near major rivers (Carroll and Merizon 2017). Willow ptarmigan are well adapted to live in treeless arctic areas that contain open shrub habitats in summer months and willow/shrub thickets with few scattered trees during the winter season (Weeden 1965). In Alaska, male and female willow ptarmigan are often segregated in separate areas during the winter season (Weeden 1965); a behavior that is also observed in Norwegian willow ptarmigan (Pederson et al. 1983). Breeding territories are located in transitional shrub habitat in or near stands of willows and occur in most subalpine and alpine habitats across the state (Carroll and Merizon 2017).

Rock ptarmigan typically inhabit more exposed slopes and higher elevation ridges with abundant dwarf birch (Carroll and Merizon 2017, Weeden 1965). Male breeding territories occur above tree-line and tend to have a higher proportion of open habitat area with little shrub cover (Weeden 1964, 1965) as compared to willow ptarmigan. Similar to willow ptarmigan, male and female rock ptarmigan often separate into different flocks and/or habitat types in the winter, often wintering just below tree-line (Weeden 1964, 1965). Although rock ptarmigan are not typically as migratory as willow ptarmigan, they have been observed migrating 10-50 miles from breeding sites to over-wintering sites in portions of interior Alaska (Weeden 1965).

Cultural Knowledge and Traditional Practices

Subsistence users residing in Unit 18 distinguish between the two species of ptarmigan found in the unit: willow ptarmigan *aqesgiq* (Yukon delta), *qangqiiq* (coastal and lower Kuskokwim areas), and rock ptarmigan *ellciayuli* (Andrews 1989, Andrews and Peterson 1983, Pete 1986). Residents of inland communities, such as Russian Mission, Kwethluk, Akiachak, and Tuluksak, harvest both species throughout winter (Andrews and Peterson 1983, Coffing 1991, Coffing et al. 1998, Pete 1986). For residents of coastal communities, such as Kwigillingok, Hooper Bay, Nunam Iqua, Scammon Bay, and Alakanuk, willow ptarmigan are scarce near the villages for most of the winter (Stickney 1983, Fienup-Riodan 1986). Then in late winter or spring, willow ptarmigan flock up and large numbers return to coastal areas to forage in newly-exposed tundra. The timing of return is variable depending on snow cover and weather and is expected any time in late winter or spring.

During house to house harvest surveys conducted in ten Unit 18 communities in the 1980s and 1990s, at least 48% of households in each community reported harvesting ptarmigan during a 12-month study period (ADF&G 2011). The range was from a low of 48% in Kwethluk in 1986 to a high of 93% in Kotlik in 1980. Estimated harvests ranged from a high of 5,450 ptarmigan in Akiachak in 1998 to a low of 578 ptarmigan in Nunam Iqua (formally Sheldon's Point) in 1980 (**Table 1**). Snow cover that lasts later in the spring is more conducive for users to travel and more ptarmigan are likely harvested under these conditions (OSM 2012). Ptarmigan are often harvested opportunistically as they are encountered in Unit 18 (OSM 2012), so higher harvest levels may be associated with higher ptarmigan abundance or more suitable travel conditions.

Harvest seasons and methods for ptarmigan in Unit 18 are variable and based on the location of individual villages. For example, coastal areas such as the area between Kwigillingok and Hooper Bay have sparse willow patches and ptarmigan migrate inland in winter to take advantage of more abundant food in large clusters of willow trees. Inland and along rivers, ptarmigan may be abundant during winter months. Coastal areas experience an influx of flocks of ptarmigan in spring as ptarmigan migrate to the coast to forage in newly-exposed tundra (Stickney 1983).

Once seasonally nomadic, by about 1950 most people were living in permanent communities while visiting seasonal camps (Andrews 1989). Shotguns and .22-caliber rifles had become more common and the majority of ptarmigan were now harvested with these methods (Andrews 1989, Stickney 1983). Some people continue to snare ptarmigan (Wolfe and Ellana1983). In the 1980s, based on research mentioned

above, ptarmigan were sometimes preserved in freezers, but many continued to dry ptarmigan for later consumption (Coffing et al. 2001, Stickney 1983).

Before 1930, .22-caliber rifles were not in common use in the Yukon Kuskokwim Delta area (Andrews 1989). Residents herded molting, flightless migratory waterfowl and took them with specially-designed, pronged spears (Andrews 1989). Upland birds, such as ptarmigan, were harvested with snares, bow and arrow, and spears (Andrew 1989). Snares were set by older women and boys and girls (Fienup-Riordan 1989, Oswalt 1990, Pete 1986). For the majority of villages, ptarmigan figured prominently in the spring as food stores were running low and animals such as ptarmigan and hares became available in large numbers (Fienup-Riordan 1986, Stickney 1983). Of the smaller wildlife, ptarmigan were most likely to be dried (Coffing et al. 2001, Pete 1986). Ptarmigan were eaten fresh in soups or dried for later consumption (Stickney 1983). The birds were skinned and the breasts and wings removed and hung outside on horizontal poles where the meat dried. Once dried, the meat was eaten without further preparation and was a favorite food at summer fish camps (Coffing et al. 2001, Fienup Riordan 1986).

Table 1. The use and harvest of ptarmigan based on household surveys, Unit 18 communities (ADF&G 2011).

		Percentage of Households					Ptarmigan Harvest				
Community	Study Year	Using Ptarm (%)	Hunting Ptarm (%)	Harvesting Ptarm (%)	Giving Ptarm (%)	Receiving Ptarm (%)	Reported (Number)	Expanded to House-holds Not Surveyed (Number)	Lower Estimate (Number)	Higher Estimate (Number)	95% Confidence Interval (+/- %)
Akiachak	1998	93	84	84	54	35	3741	5450	4825	6074	11
Alakanuk	1980	-	-	81	-	-	1078	4620	-	-	-
Emmonak	1980	-	-	56	-	-	194	1078	-	-	-
Kotlik	1980	-	-	93	-	-	384	1536	-	-	-
Kw ethluk	1986	-	55	48	35	25	-	3712	-	-	-
Mountain Village	1980	-	-	81	-	-	451	2706	-	-	-
Nunam Iqua	1980	-	-	86	-	-	176	578	-	-	-
Nunapitchuk	1983	-	-	88	-	-	770	3171	1827	4515	42
Quinhagak	1982	-	-	58	-	-	226	1846	568	3124	69
Tununak	1986	97	82	82	30	33	994	1928	1434	2422	25

Harvest History

The number of ptarmigan harvested in Unit 18 each year is variable, but the majority of the harvest takes place in the spring (Wentworth 2007). Harvest estimates, based on household surveys conducted for the purposes of monitoring migratory bird subsistence harvests, between 1986 and 2001, averaged 15,901 (range 8,923 to 30,685) ptarmigan in Unit 18, and 90% of the harvest took place between April 8 and May 20 (**Table 2**; Wentworth 2007).

Table 2. Ptarmigan harvest by survey season in the Yukon-Kuskokwim Delta Region from 1986-2001 (Wentworth 2007).

Year	Spring	Early Summer	Mid-Summer	Late Summer	Fall	Total
1986	6,771	1,579	174	60	339	8,923
1987	12,553	1,016	8	505	1,011	15,093
1988	-	-	-	-	-	-
1989	11,785	617	12	5	952	13,371
1990	11,222	98	11	350	898	12,579
1991	27,748	1,355	428	490	664	30,685
1992	14,929	359	37	85	238	15,648
1993	18,748	639	12	27	130	19,556
1994	8,176	685	4	92	501	9,458
1995	15,416	535	56	57	31	16,095
1996	13,198	1,310	0	150	136	14,794
1997	11,873	607	3	119	419	13,021
1998	14,840	601	27	142	635	16,245
1999	18,938	1,842	0	440	282	21,502
2000	14,335	490	0	6	124	14,955
2001	16,165	212	84	36	97	16,594

Recently (2015 and 2016), hunter effort and harvest was low due to the decline in the population and changes in behavior of willow ptarmigan in Unit 18 (Jones 2017, pers. comm.). From 2002 to 2015, harvest estimates averaged 12,298 (range 4,667-33,882), with 92% of the harvest occurring between April 1 and June 30 (**Table 3**; Naves 2014, 2015a, b, 2016; OSM 2012). The highest reported harvest was in 2013 (33,882), no data was collected in 2014, and reported ptarmigan harvest was low again in 2015 (9,928).

Table 3. Ptarmigan harvest by season in the Yukon-Kuskokwim Delta Region from 2002-2015 (Naves 2012, 2014, 2015a, b, 2016; Wentworth 2007).

Year	Spring	Summer	Fall	Total
2002	18,756	159	108	19,023
2003	-	-	-	-
2004	9,750	46	2,111	11,907
2005	16,162	110	611	16,883
2006	17,780	1,538	1,115	20,433
2007	5,291	104	N/A	5,395
2008	4,355	120	192	4,667
2009	20,033	1,474	1,440	22,947
2010	13,302	248	282	13,832
2011	10,946	843	1,483	13,272
2012	-	-	-	-
2013	32,725	93	1,064	33,882
2014	-	-	-	-
2015	9,201	38	689	9,928

Current harvest estimates for ptarmigan in Unit 18 have limited utility for assessing impacts of management decisions such as season lengths or harvest limits. Harvest estimates from the Alaska Migratory Bird Subsistence Harvest Estimates household survey may have high levels of variation because of (1) annual changes in ptarmigan abundance, (2) hunter access (e.g., snow conditions), (3) annual variation in hunting effort due to the availability of other resources (e.g., salmon, caribou), (4) inadequate sampling coverage (e.g., variable household/village participation, bias toward "high" or active hunting households, political climate influence, unknown under or over reporting), (5) variability of survey methodology over the years, and (6) heterogeneity of harvest patterns within villages (Naves 2009, 2015a, 2016; Wentworth 2007). In addition, the harvest seasons defined in the survey were designed for migratory birds and do not align with the current Federal ptarmigan season in Unit 18 (Aug. 10 – May 30).

The Yukon-Kuskokwim Delta Region is split into seven subregions for the purpose of the Alaska Migratory Bird Subsistence Harvest surveys, of which six are located primarily within Unit 18 (**Figure 2**; Naves 2016, Wentworth 2007). Bethel is considered its own subregion and therefore this village is surveyed whenever the subregion is surveyed unlike specific villages in other subregions (Naves 2015, 2016; Wentworth 2007). Harvest is highly variable across years within each subregion (**Table 4**; Naves 2015a, 2016). In 2013, the most harvest was reported overall since 2004, although only the Y-K Delta South Coast, Y-K Delta North Coast, and Lower Kuskokwim showed harvest values greater than other years during this timeframe (Naves 2015a, b, 2016).

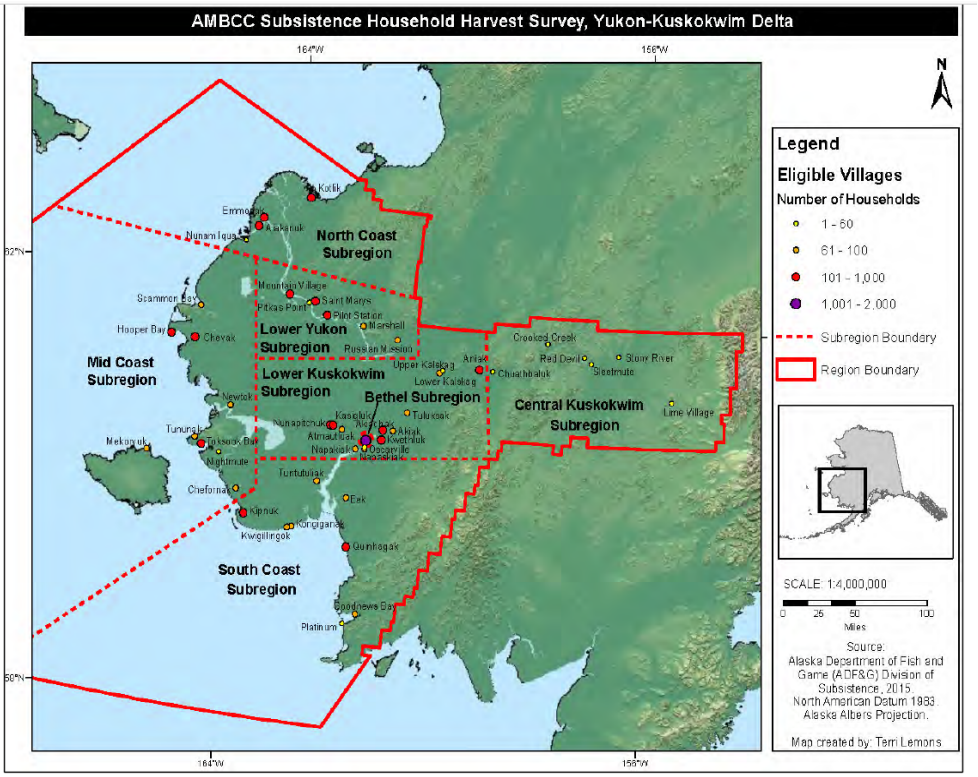


Figure 2. Subregions within the Yukon-Kuskokwim Delta Region for subsistence bird harvest surveys (figure from Naves 2016).

Table 4. Ptarmigan harvest by year in each subregion of the Yukon-Kuskokwim Delta Region located within in Unit 18 according to Alaska Migratory Bird Subsistence Harvest surveys (Naves 2015a, b, 2016)

Subregion	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Y-K Delta South Coast	2,362	2,857	3,149	142	1,463	1,730	3,516	3,146	-	10,218	-	2,637
Y-K Delta Mid Coast	2,402	3,343	9,351	2,218	1,099	12,110	5,697	3,637	-	9,860	-	3,401
Y-K Delta North Coast	164	717	323	0	0	369	727	-	-	1,892	-	761
Lower Yukon	519	129	41	0	0	196	110	-	-	456	-	884
Lower Kuskokwim	5,212	1,656	7,080	2,787	997	6,798	3,556	3,469	-	11,455	-	850
Bethel	0	6,010	489	49*	1,006	1,242	150	198	-	-	-	1,159
Total	**10,659**	**14,712**	**20,433**	**5,196**	**4,565**	**22,445**	**13,756**	**10,450**	**-**	**33,881**	**-**	**9,692**

*denotes that data was not collected for fall harvest; - denotes that no surveys were completed

Sandercock et al. (2011) found that in Norway, harvest levels of willow ptarmigan above 15% could be additive to natural mortality rather than compensatory and that a harvest above 30% of the post breeding population could be "superadditive" (harvest could cause additional natural mortality). It is important to consider these findings when determining harvest limits for willow ptarmigan. Due to the current

population of willow ptarmigan being unknown, limited utility of harvest estimates, and reported harvest not distinguishing between species of ptarmigan, it is difficult to understand how ptarmigan harvest impacts the overall population in Unit 18.

Effects of the Proposal

If adopted, this proposal would reduce harvest opportunity for Federally qualified subsistence users near the coast of Unit 18. Willow ptarmigan often do not arrive to the coast until late April/early May. Closing the season on March 31 would end the season before these populations arrived to the coastal areas and restrict local users from harvesting this resource.

This proposal would also not provide subsistence priority to Federally qualified subsistence users in Unit 18, as it would make the Federal subsistence regulations more restrictive than the State regulations. The proponent stated that subsistence users are responsible for a majority of the harvest and this proposal would limit these users and allow the population to rebound. However, if this proposal were adopted, Federally qualified subsistence users could still harvest ptarmigan under State regulations and therefore there may be no positive impact on the ptarmigan population.

It is unknown what effect current harvest is having on the ptarmigan population in Unit 18. Although the general consensus of biologists in Unit 18 is that the ptarmigan population is declining due to climatic changes, it is uncertain what the cumulative effects caused by additional mortality due to harvest may be. It is possible that more that 15% harvest or harvest greater than 30% may have additive and superadditive impacts to the population, respectively (Sandercock et al. 2011). Without an estimate of ptarmigan populations in Unit 18, it is not possible to know the impacts caused by current harvest levels.

OSM CONCLUSION

Support Proposal WP18-30 **with modification** to leave the season unchanged.

The modified regulation should read:

Unit 18— Ptarmigan (Rock and Willow)

*Unit 18—~~50~~ **15** per day,~~100~~ **30** in possession*	*Aug. 10 – May 30*

Justification

Local residents indicate that willow ptarmigan numbers are declining in Unit 18. Although it is expected that this decrease is likely caused by climatic changes impacting levels of natural predation over the last few years, human harvest could have an additive or superadditive effect on the already declining population. It may be important to limit harvest until ptarmigan numbers rebound to maintain this resource for local users. A proposal would need to be submitted to the BOG to similarly modify State regulations in order for this regulatory change to have an impact on overall harvest.

Willow ptarmigan do not migrate through coastal areas of Unit 18 until late April/early May. Shortening the season would greatly limit opportunity for users who live in these areas, as ptarmigan would not reach these regions until after the season was closed. Maintaining the current season dates maintains a Federal subsistence priority and provides more opportunity than what is currently available under State regulations.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Bristol Bay Subsistence Regional Advisory Council

Support WP18-30 **with modification** to change the season to Aug. 10 – May 15 and change the season bag limit to 20 per day and 40 in possession. The modification will align the season with current State regulations for ptarmigan and the harvest limit with the adjacent hunt area in Unit 17. The ptarmigan population has decreased in Unit 18 and the proposal as amended will reduce regulatory complexity between Federal and State hunting regulations. The Council agreed action is needed now and reducing the harvest limit is a starting point. Reducing the harvest limit will address the conservation concern and bring the population level back up for subsistence users' future needs. Some subsistence users harvest ptarmigan out of real need, and this action will benefit future subsistence harvest.

The modified regulation should read:

Unit 18— Ptarmigan (Rock and Willow)

*Unit 18—~~50~~ **20** per day, ~~100~~ **40** in possession Aug. 10 – May ~~30~~ **15***

Yukon-Kuskokwim Delta Subsistence Regional Advisory Council

Support WP18-30 **as modified by OSM.** Council members discussed at length personal observations of a decline in the ptarmigan population, noting that over the last ten years or so there have been fewer ptarmigan along the Kuskokwim River. The Council stressed that even if there was a lack of data on the declines, local hunters observe populations every year and see what is going on with animals and the environment and local hunter observations should be considered as just as valid. Overall the Council shared the importance of ptarmigan for subsistence in the region and expressed great concern for its decline. The Council voted to support efforts to help the population rebound by reducing subsistence hunting pressure. The Council discussed that as hunters they have noticed the decrease and expressed that "the future of this very important subsistence resource should be cared for our people that are going to be coming after us."

The Council voted to maintain the current season upon consideration of the disparate impact the shortened season would have on the coastal communities since the ptarmigan migrate there later in the season as the snow recedes.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-30: This proposal, submitted by Orutsaramiut Native Council, would shorten the ptarmigan hunting season by 60 days from August 10–May 30 to August 10–March 31 in Unit 18. This proposal would also reduce the daily bag limit from 50 ptarmigan per day and 100 in possession to 15 ptarmigan per day and 30 in possession.

Introduction: Ptarmigan are an important food source, especially in winter and early spring, when other sources are scarce or non-existent. Historically, March and April tended to be "hungry times" when winter stores of food were low (Ikuta and Balivet 2011:1).

Based on observations from local residents as well as ADF&G staff in Bethel, it is believed that rock and willow ptarmigan move to breeding grounds near the coast, which led to the current season that provides opportunity for coastal residents to harvest ptarmigan before the season closure.

Table 1. Subsistence harvest and use of ptarmigan surveyed in GMU 18, 2008–2013.

		Percentage of households							Estimated pounds harvest	
Community	Study year	Using	Attempting	Harvesting	Giving	Receiving	Estimated total harvest	Units	Total	Per capita
Akiak	2010	60.3	47.6	46.0	19.0	17.5	725.0	ind.	725.0	1.9
Bethel	2012	42.3	30.0	29.0	18.2	16.1	14,425.7	ind.	14,425.7	2.5
Eek	2013	62.5	53.1	51.6	31.3	10.9	2,099.5	ind.	1,469.7	4.2
Emmonak	2008	64.2	58.7	55.0	30.3	23.9	2,878.9	ind.	2,878.9	3.7
Kwethluk	2010	25.8	23.7	21.5	10.8	6.5	809.0	ind.	809.0	1.1
Marshall	2010	41.3	34.8	32.6	19.6	15.2	413.9	ind.	413.9	1.2
Mountain Village	2010	52.2	40.9	40.0	27.0	22.6	1,671.0	ind.	1,671.0	2.1
Napakiak	2011	64.3	51.8	50.0	32.1	19.6	1,807.3	ind.	1,807.3	5.7
Napaskiak	2011	62.5	50.0	50.0	28.6	14.3	1,551.2	ind.	1,551.2	3.2
Oscarville	2010	66.7	50.0	50.0	25.0	25.0	130.0	ind.	130.0	2.1
Pilot Station	2013	34.0	20.2	20.2	14.9	14.9	356.8	ind.	249.7	0.4
Quinhagak	2013	71.6	54.1	52.3	23.9	24.8	3,673.5	ind.	2,571.5	3.5
Russian Mission	2011	39.1	39.1	39.1	6.5	6.5	490.7	ind.	490.7	1.2
Scammon Bay	2013	70.9	53.5	53.5	32.6	19.8	2,383.3	ind.	1,668.3	2.7

Tuluksak	2010	57.4	47.1	47.1	16.2	19.1	913.0	ind.	913.0	2.0
Tuntutuliak	2013	73.1	52.2	50.7	20.9	28.4	1,544.0	ind.	1,080.8	2.6

Alaska Department of Fish and Game (ADF&G). 2017. Community Subsistence Information System (CSIS). http://www.adfg.alaska.gov/sb/CSIS/ accessed on January 5, 2018.

Note: Selected communities represent the most recently available, and most representative datasets available from the CSIS.

Research and spring breeding surveys in Game Management Units 7, 13, 14, 15, 20, and 25 suggest that the spring breeding season traditionally occurs between mid-April and mid-May. Allowing hunting during the breeding season can decrease the population's productivity to some degree and may be contributing to the perceived declines that have been noted by local residents and ADF&G staff. Additionally, highly conspicuous male breeding displays increases their vulnerability to human harvest from mid-April through mid-May.

Impact on Subsistence Uses: If adopted this proposal would shorten the ptarmigan hunting season and reduce the daily bag limit for anyone hunting ptarmigan under federal regulations in Unit 18. However, federally qualified subsistence users would still be authorized to hunt under state regulations until May 15.

Impact on Other Uses: If adopted this proposal would have no effect on other non-federally qualified users.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made a positive C&T finding for ptarmigan in Unit 18.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few. The Board of Game has found that 3,000–23,000 ptarmigan are reasonably necessary for subsistence in Unit 18.

		Open Season	
Unit/Area	Bag Limit	Resident	Nonresident
18	50/day	August 10 – May 15	August 10 – May 15

Special instructions: None for this hunt.

Conservation Issues: Currently there are no abundance estimates or population productivity estimates for Unit 18 rock and willow ptarmigan populations, and no research projects are being conducted. However, local ADF&G staff and Unit 18 residents have observed changes in the ptarmigan population that indicate the rock and willow ptarmigan populations are low, and in some locations much lower than the long-term average.

Enforcement Issues: There would be no enforcement concerns since all users could still hunt under more liberal state regulations.

Recommendation: ADF&G is **NEUTRAL** on this proposal because hunting opportunity for federally qualified users will still be provided under state regulations until the state season closes on May 15. However, the discrepancy between state and federal ptarmigan hunting regulations in Unit 18, which would be created by the adoption of this proposal, is not desirable.

Currently the state has no abundance or productivity monitoring efforts for rock or willow ptarmigan in Unit 18, making the evaluation of this proposal and its effects on the ptarmigan population difficult. However, current state and federal regulations (season closure date May 15) allow hunting during the entire breeding season when human harvest is considered additive mortality and has the greatest impact on annual productivity. Highly conspicuous male rock and willow ptarmigan breeding displays also increase their vulnerability to human harvest during the breeding season. These factors could contribute to a decrease in ptarmigan populations depending on the amount of harvest that occurs.

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Ikuta, Hiroko, and B. Balivet. 2011. *Customary and traditional use worksheet, ptarmigans, Game Management Unit 18*. State of Alaska Department of Fish and Game Division of Subsistence Special Publication No. BOG 2011-04 Fairbanks.

WP18–31 Executive Summary	
General Description	Proposal WP18–31 requests that the caribou season in Unit 18 be shortened from Aug. 1 – Mar. 15 to Aug. 1 – Feb. 28. *Submitted by: Orutsararmiut Native Council.*
Proposed Regulation	**Unit 18—Caribou** *Unit 18—that portion to the east and south of the Kuskokwim River—2 caribou by State registration permit* — *Aug. 1 – ~~Mar. 15~~* ***Feb. 28*** *Unit 18, remainder—2 caribou by State registration permit* — *Aug. 1 – ~~Mar. 15~~* ***Feb. 28***
OSM Conclusion	**Oppose**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	**Oppose**
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	**Support**

WP18–31 Executive Summary	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	**Oppose**
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Oppose**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-31

ISSUES

Wildlife Proposal WP18-31, submitted by the Orutsararmiut Native Council (ONC), requests that the caribou season in Unit 18 be shortened, from Aug. 1 – Mar. 15 to Aug. 1 – Feb. 28.

DISCUSSION

The range of the Mulchatna caribou herd (MCH) includes all or parts of Units 9, 17, 18 and 19. ONC, whose constituents are based in the Unit 18 community of Bethel, relayed a variety of observations and concerns about the MCH within their local hunting areas. They report that local users have observed a scarcity of caribou in their area, compared to the past. They noted that changing environmental conditions make caribou harvest more difficult, and expressed concerns that changing climatic conditions may also be detrimental to caribou populations. Some hunters reported that caribou were skinnier than in the past, and that wolf predation appears to have increased. ONC notes that hunting pressure on caribou is high, which is related to the reduced Chinook harvest in recent years, and has resulted in some hunters exceeding established harvest limits. In sum, they believe that the population will decline if the current season persists, and therefore request that it be shortened by 15 days.

Existing Federal Regulation

Unit 18—Caribou

Unit 18—that portion to the east and south of the Kuskokwim River—2 caribou by State registration permit	*Aug. 1 – Mar. 15*
Unit 18, remainder—2 caribou by State registration permit	*Aug. 1 – Mar. 15*

Proposed Federal Regulation

Unit 18—Caribou

Unit 18—that portion to the east and south of the Kuskokwim River—2 caribou by State registration permit	*Aug. 1 – ~~Mar. 15~~* ***Feb. 28***
Unit 18, remainder—2 caribou by State registration permit	*Aug. 1 – ~~Mar. 15~~* ***Feb. 28***

Existing State Regulation

Unit 18—Caribou

Residents: Unit 18—Two caribou by permit available online at http://hunt.alaska.gov and in person in Anchorage, Bethel, Dillingham, Fairbanks, Homer, King Salmon, McGrath, Palmer, Soldotna, and at local license vendors beginning July 12	*RC503*	*Aug. 1 – Mar. 15*

Extent of Federal Public Lands

Federal public land comprise approximately 67% of Unit 18 and consists of 64% U.S. Fish and Wildlife Service (USFWS) managed lands and 3% Bureau of Land Management (BLM) managed lands (See **Unit Map**).

Customary and Traditional Use Determinations

Residents of Unit 18, Manokotak, St. Michael, Stebbins, Togiak, Twin Hills, Upper Kalskag, and Lower Kalskag have a customary and traditional use determination for caribou in Unit 18.

Regulatory History

As a result of the dramatic population increase the MCH experienced during the 1990s, harvest regulations were liberalized throughout the range of the herd. By 1997, both State and Federal seasons in portions of Units 9, 17 and 19 extended from fall through spring and had generous harvest limits and restrictions. The subsequent population decline resulted in the implementation of more restrictive regulations. Following is a summary of State and Federal regulatory changes since 2006.

At their spring 2006 meeting, the Alaska Board of Game (BOG) implemented more restrictive regulations for both resident and non-resident hunters. For resident hunters, they established an Aug. 1 – Mar. 15 season throughout the range of the herd. Previously, resident seasons ended on March 31 or April 15. They also reduced the harvest limit throughout much of the range to three caribou, with only one caribou allowed Aug. 1 – Sep. 30. Nonresident seasons, which previously extended fall through spring, were reduced to Aug. 1 – Sep. 30 (Woolington 2009).

The BOG further restricted harvest from the MCH in 2007. At that time, they reduced the resident harvest limit to 2 caribou with the restriction that no more than one bull could be taken and not more than one caribou could be taken Aug. 1 – Jan. 31. In addition, same day airborne harvest was eliminated for Units 9B, 17B and 17C. The non-resident seasons were reduced to Sep. 1 – 15 at this time as well (Woolington 2009).

The Federal Subsistence Board (Board) considered Proposal WP07-23 in 2007, which requested the Federal regulations for caribou in Units 9B and 17 be modified to reflect the recent changes in State regulation. Following the recommendation of several Subsistence Regional Advisory Councils, the Board

adopted this proposal with modification to include Units 18, 19A and 19B (OSM 2017). However, this proposal was submitted prior to the BOG's 2007 regulatory changes and the Federal Subsistence Board's modification did not accommodate the recent changes in State regulation. Consequently, Federal regulations were aligned with the State's 2006 regulations rather than the 2007 regulations.

Following the continued decline of the MCH, the BOG adopted Proposal 57 in 2009, which eliminated the non-resident caribou season throughout the range of the herd (Woolington 2011).

The Board considered three proposals in 2010, all of which proposed further restriction on harvest of the MCH. Proposal WP10-51 requested that the Federal caribou seasons Units 9A, 9B, 17B, a portion of 17C, 18, 19A, and 19B be changed to Aug. 1–Mar. 31. The Board adopted this proposal with modification to end the seasons on March 15, as recommended by several Subsistence Regional Advisory Councils. Proposal WP10-53 requested that the harvest limit for caribou be set at two caribou throughout the range of the MCH, with the restriction that no more than one bull may be taken and no more than one caribou may be taken Aug. 1 – Jan. 31. The Board adopted this proposal. Proposal WP10-60 requested that the harvest limit for caribou in Unit 18 be reduced from 3 caribou to 2 caribou. This proposal was adopted by the Board with a modification to include the restriction that no more than one bull may be taken and no more than one caribou may be taken Aug. 1 – Jan. 31, consistent with action taken on WP10-53 (OSM 2017). The result of the Board's actions in 2010 was that State and Federal regulations for caribou within the range of the MCH were largely aligned.

The BOG initiated intensive management for predator reduction within the range of the MCH in 2011. At its spring 2011 meeting, it established a predation management area in Units 9B, 17B and 17C. At its spring 2012 meeting, it added Units 19A and 19C to the predation management area (Woolington 2013).

In 2012, the Board considered Proposal WP12-42, which requested that, in Unit 18, the harvest limit be reduced from two caribou to one caribou and the season be reduced from Aug. 1 – Mar. 15 to Aug. 1 – Sep. 3- and Dec. 20 – last day of Feb. The Board adopted the proposal with modification, which resulted in the establishment of two separate hunt areas in Unit 18. For the portion of Unit 18 east and south of the Kuskokwim River, the season was adjusted as proposed while the harvest limit remained at 2 caribou, with the restriction that not more than one caribou may be taken Aug. 1 – Sep. 30 or Dec. 20 – Jan. 31. For the remainder of Unit 18, there were no changes to regulations (OSM 2017).

Shortly after the Board's decision on WP12-42, it received two Emergency Special Action Requests to make similar changes for the remainder of the 2011 regulatory year. WSA11-10 requested that the caribou season in Unit 18 be shortened by 2 weeks, to end on February 29 rather than March 15. WSA11-11 requested that Federal public lands in the portion of Unit 18 south and east of the Kuskokwim River be closed to the harvest of caribou by all users beginning March 1. The Board rejected both requests on the grounds that it would be detrimental to subsistence users and that there was insufficient evidence that the situation required immediate action (OSM 2017).

In February 2013, the BOG adopted Proposal 45A, which required use of a registration permit (RC503) in Units 9A, 9B, portions of 9C, 17, 18, 19A and 19B. Previously, MCH harvest was allowed with just a

harvest ticket. These changes were aimed at improving harvest management and assessment of the MCH's response to the ongoing intensive management program (ADF&G 2017a).

The Board considered two Special Action Requests in 2013. The first, Temporary Special Action WSA13-02, requested alignment of Federal permit requirements and season dates with the recently modified State regulations. As a result of the Board's approval of this request, Federally qualified subsistence users hunting under Federal regulations were required to obtain a State registration permit in Units 9A, 9B, 9C, 17A, 17B, 17C, 18, 19A and 19B. The Board's action also shortened the to-be-announced season in Units 17A remainder and 17C remainder from Aug. 1–Mar. 31 to Aug. 1–Mar. 15. These changes were valid for the remainder of the 2013 regulatory year. The second request, Temporary Special Action WSA13-03, sought the closure of Federal public lands in Units 9A, 9B, 9C, 17A, 17B, 17C, 18, 19A, and 19B to the harvest of caribou, except by Federally qualified subsistence users. The Board rejected WSA13-03 on the grounds that the MCH population was within State management objectives, and composition metrics were showing improvement (OSM 2017).

In 2014, the Board adopted Proposal WP14-22 with modification, which resulted in the requirement of a State registration permit for Federally qualified subsistence users hunting under Federal regulation in Units 9A, 9B, 9C, 17A, 17B, 17C, 18, 19A and 19B. It also resulted in a shortening of the to-be-announced season in Units 17A remainder and 17C remainder, from Aug. 1 – Mar. 31 to Aug. 1 – Mar 15. Finally, it delegated authority to the Togiak National Wildlife Refuge Manager to take specific in-season management actions in portions of Units 17 A and 17C. This included the authority to open and close seasons, establish harvest limits and restrictions, and identify hunt areas. These changes were meant to align Federal and State regulations across the range of the MCH, while providing improved harvest reporting (OSM 2017).

In February 2015, the BOG adopted Proposal 47 with an amendment to accommodate the request made in Proposal 48. As a result of this action, the caribou season in Units 9B and 17 was changed from Aug. 1 – Mar. 15 to Aug. 1 – Mar 31. This change was made to accommodate hunters who reported that travel conditions often prohibited caribou hunting until the last day of March (ADF&G 2017a).

In March 2016, members of the Western Interior Alaska, Yukon Kuskokwim Delta and Bristol Bay Subsistence Regional Advisory Councils met at the All Council Meeting for an informal discussion focused on Proposal 134, which was considered by the BOG later in same month. The BOG adopted this proposal, which resulted in liberalization of the harvest restrictions for caribou harvested within the range of the MCH. Specifically, the harvest limit remained at 2 caribou, but the restrictions that no more than one bull may be taken and no more than one caribou may be taken from Aug. 1 Jan. 31 were eliminated. By 2016, the bull:cow ratio had reached the management threshold and conservation of bulls had become less critical compared to 2007, when the restrictions were implemented. Fewer restrictions also resulted in a less complicated regulatory structure and were not expected to result in unsustainable levels of harvest (ADF&G 2017a).

The same spring, the Board considered Proposal WP16-29/30, which requested that caribou seasons in Unit 9B and portions of Unit 17 be extended from Aug. 1 – Mar. 15 to Aug. 1 – Mar. 31. This proposal was intended to provide additional subsistence opportunity and to align Federal and State regulations for

caribou hunting within the range of the MCH. The Board approved this request with modification to move in-season management language from regulation to a delegation of authority letter. However, this proposal was submitted prior to the BOG's 2016 regulatory changes and the Board's modification did not accommodate the recent changes to State regulation. Consequently, Federal regulations were aligned with the State's RY2016 regulations rather than the RY2017 regulations (OSM 2017).

Biological Background

Currently, the MCH range covers approximately 60,000 square miles, primarily within Units 9B, 9C, 17A, 17B, 17C, 18, 19A and 19B. However, this population has experienced dramatic changes in population size and distribution in the past 40 years. In the early 1980s, the population was estimated to include ~20,000 caribou and its range was mostly limited to the area east of the Mulchatna River between the Bonanza Hills and Iliamna Lake. By the mid-1990s, the herd had grown to its peak size of ~200,000 caribou and had begun wintering in southern Unit 18 and southwestern Unit 19B. Subsequently, the herd began a period of decline that persisted until recently (Woolington 2013).

In 2013, population estimate for the MCH was 18,308 caribou, the lowest estimate in over 30 years and well below the lower bound of the State's population objective of 30,000 – 80,000 caribou (**Table 1)**. Since then, the population appears to have grown. Surveys indicate that the population has varied between 26,000 and 31,000 caribou for the past three years. The most recent estimate, in 2016, was 27,242 caribou (Barten 2016).

The MCH has experienced a steady increase in the bull:cow ratio since 2010, when there were only 17 bulls:100 cows (**Table 1)**. In 2016, the ratio was 39 bulls:100 cows, which is the highest estimate since 2000 and is in excess of the State's management objective of 35 bulls:100 cows. The proportion of bulls classified as large in 2016 was 28%, which is among the highest estimates on record and is well above the long-term average of 19% (Barten 2016). Calf:cow ratios have been variable, which is typical of caribou herds occupying interior and southwest Alaska. In 2016, the calf:cow ratio was 22 calves:100 cows, a decrease relative to 2014 and 2015, but within the range of variability observed in recent years (Barten 2016).

Customary Practices and Traditional Knowledge

The customary and traditional use determination for caribou in Unit 18 encompasses about 26,000 people living in 45 communities of which about 6,000 live in Bethel (**Table 2**). The population has almost tripled in the 50 years since 1960 (ADCCED 2017). Twenty six are villages with less than 500 people. Over 1,000 people reside in only two: Bethel and Hooper Bay. Culturally, residents of these communities are primarily Yup'ik sharing a common language. The majority of the 45 communities are situated in the lower Yukon and lower Kuskokwim River drainages and nearby coastal villages within Unit 18. Residents contribute to a mixed cash-subsistence economy. The seasonal round of harvesting a wide variety of wild resources for home use is the basis of the subsistence economy. The seasonal round includes hunting trips to harvest caribou and moose, often on one-day or overnight trips to harvest furbearers and gather berries and wood. Otherwise, hunters travel to places where they expect, by experience, to find caribou, or places where they know other hunters have been successful (Coffing 1998).

Caribou are depicted in masks, art, and as totems (Fienup-Riordan 1996). Caribou hides are desired and used in the making of parkas and leggings and were frequently given away in ceremonies. In addition to eating the meat, the tallow is rendered as a dip for food and was used for lamp fuel (Fienup-Riordan 1988).

Table 1. Mulchatna Caribou Herd composition counts and population estimates, 1975 – 2016 (Barten 2016).

Year	Bulls: 100 cows	Calves: 100 cows	% of Total bulls			Composition sample size	Population Estimate
			Small bulls	Medium bulls	Large bulls		
1975	55	35	-	-	-	1,846	14,000
1978	50	65	-	-	-	758	7,500
1980	31	57	-	-	-	2,250	-
1981	53	45	-	-	-	1,235	20,600
1986	56	37	-	-	-	2,172	-
1987	68	60	-	-	-	1,858	52,500
1988	66	54	-	-	-	536	-
1993	42	44	-	-	-	5,907	150,000[a]
1996	42	34	49	29	22	1,727	200,000[a]
1998	41	34	28	43	29	3,086	-
1999	30	14	60	26	14	4,731	175,000[b]
2000	38	24	47	33	20	3,894	-
2001	25	20	32	50	18	5,728	-
2002	26	28	57	30	13	5,734	147,000[b]
2003	17	26	36	45	19	7,821	-
2004	21	20	64	29	7	4,608	85,000[b]
2005	14	18	55	33	12	5,211	-
2006	15	26	57	34	9	2,971	45,000[b]
2007	23	16	53	36	11	3,943	-
2008	19	23	47	36	17	3,728	30,000[b]
2009	19	31	40	44	16	4,595	-
2010	17	20	30	44	26	4,592	-
2011	22	19	32	41	27	5,282	-
2012	23	30	38	38	24	4,853	22,809[c]
2013	27	19	39	36	25	3,222	18,308[c]
2014	35	30	44	31	25	4,793	26,275[c]
2015	35	29	35	43	22	5,414	30,736[c]
2016	39	22	43	29	28	5,195	27,242[c]

[a]Estimate derived from photo-counts, corrected estimates, subjective estimate of number of caribou in areas not surveyed, and interpolation between years when aerial photo surveys were not conducted.

[b]Estimate of minimum population size base on July photo census.

[c]Estimate based on Rivest et al. (1998) caribou abundance estimator.

From 1900 to the 1930s, introduced reindeer were herded, an event with its own complicated history. Caribou were shot on sight to prevent them luring reindeer from the herd. However, after 1940, reindeer and caribou herds had mostly integrated with some notable exceptions (e.g. the herd owned by the Stebbins tribal council, cf. Wolfe and Pete 1984).

Table 2. The 2010 population of communities that have a customary and traditional use determination for caribou in Unit 18 (ADCCED 2017).

Community	2010 population	2010 number of households
Seward Peninsula		
Saint Michael	401	96
Stebbins	556	134
Lower Yukon River Drainage		
Alakanuk	677	160
Emmonak	762	185
Kotlik	577	128
Marshall	414	100
Mountain Village	813	184
Nunam Iqua	187	43
Pilot Station	568	121
Pitkas Point	109	31
Russian Mission	312	73
Saint Mary's	507	151
Coastal Area		
Chefornak	418	92
Chevak	938	209
Hooper Bay	1,093	256
Kipnuk	639	153
Kongiganek	439	94
Kwigillingok	321	82
Mekoryuk	191	70
Newtok	354	70
Nightmute	280	59
Scammon Bay	474	96
Toksook Bay	590	125
Tununak	327	84

Community	2010 population	2010 number of households
Continued from previous column.		
Lower Kuskokwim River Drainage		
Akiachak	627	183
Akiak	346	90
Atmauthluak	277	63
Bethel	6,080	1,896
Eek	296	91
Kalskag	210	60
Kasigluk	569	113
Kwethluk	721	192
Lower Kalskag	282	75
Napakiak	354	96
Napaskiak	405	94
Nunapitchuk	496	124
Oscarville	70	15
Tuluksak	373	92
Tuntutuliak	408	96
South Kuskokwim Bay		
Goodnews Bay	243	76
Platinum	61	19
Quinhagak	669	165
Bristol Bay		
Manokotak	442	121
Togiak	817	231
Twin Hills	74	29
TOTAL	**25,767**	**6,717**

Snowmachines were generally considered less reliable than sleds pulled by dogs, but by the early 1970s, with improvements in reliability, the snow machine had largely replaced the dog team (Andersen et al. 2011). Contemporary hunting methods and means have been described by hunters in the region. Hunters from some lower Yukon River villages described hunting in the Andrefsky Mountains in the 1980s. It was unclear if the group was hunting caribou or reindeer from the nearby herd at Stebbins. Caribou/reindeer roamed in small groups, difficult to approach by snowmachine. Several hunters attempted to herd a group to locations where shots could be taken, such as, up a cul-de-sac or toward a heavy brush line. In this description, the high speed chase was considered "a relatively risky, dare-devil technique" (Wolfe and Pete 1984:9). Kwethluk hunters in the 1980s hunting with snowmachines reported hunting in upper Kwethluk and Kisaralik River valleys. "The high hills and low mountains scattered throughout the area . . . provided lookouts where hunters can watch for caribou" (Coffing 1991: 157). "Harvest timing varies year to year

and is largely dependent on caribou distribution and abundance, weather factors such as water levels in tributary streams used to access harvest areas and snow conditions throughout the winter months" (Coffing 1998:81).

Based on community household surveys conducted with selected communities 1980–2013, the harvest and use of caribou in these communities is highly variable from year to year in terms of total caribou harvested and the rate of harvest measured in pounds (lbs) of edible weight of caribou per person, likely reflecting the presence or absence of caribou in the area, among other factors (**Table 3**).

Table 3. The harvest and use of caribou at communities that have a customary and traditional use determination for Unit 18, based on household harvest surveys (ADF&G 2017b and Weekley et al. 2011).

		% of households		Harvest		
Community	Study year	Use caribou	Harvest caribou	Estimated harvest (caribou)	95% CI (%)	Per person (lbs)
Akiachak	1998	95	83	374	11	86
	2010	78	37	55	21	19
Alakanuk	1980		0	0	0	0
	2009	5	0	0	0	0
Bethel	2011	55	16	446	20	9
	2012	55	13	374	27	9
Chevak	2009	2	3	8		1
Eek	2013	61	27	47	28	17
Emmonak	1980		0	0	0	0
	2008	7	0	0	0	0
Kalskag	2003	53	35	42	49	22
	2004	30	6	4	24	3
	2005	26	15	16	98	8
	2009	15	2	1	605	1
Kotlik	1980		7	8		4
	2009	10	2	2		1
Kwethluk	1986		2	3		1
	2010	87	39	111	21	20
Lower Kalskag	2003	35	29	47	67	20
	2004	10	5	7	60	4
	2005	13	0	0	0	0
	2009	22	3	4	59	2
Marshall	2009	16	4	6		3
	2010	7	2	6	136	2
Manokotak	1985	89	32	44	13	22
	1999	88	49	130	10	49
	2001	88	42	68	17	28
	2008	49	8	20	5	8

Table 3 (continued).

Community	Study year	% of households		Harvest		
		Use caribou	Harvest caribou	Estimated harvest (caribou)	95% CI (%)	Per person (lbs)
Mountain Village	1980		0	0	0	0
	2009	8	2	9		2
	2010	6	0	0	0	0
Napakiak	2011	75	32	45	27	20
Napaskiak	2011	86	41	60	24	18
Nunam Iqua	1980		14	7		10
	2009	8	2	9		2
Oscarville	2010	92	50	10	28	22
Pilot Station	2013	6	1	3	102	1
Quinhagak	1982		25	196	124	62
	2013	65	29	125	21	22
Russian Mission	2009	28	0	0	0	0
	2011	11	4	5	96	2
Saint Mary's	2009	0	0	0	0	0
Saint Michael	2003	68	18	48	22	16
Scammon Bay	2009	13	0	0	0	0
	2013	20	4	10	64	2
Stebbins	2002	5	0	0	0	0
	2013	9	3	26	75	6
Togiak	1999	71	47	178	23	37
	2001			106	27	23
	2008	83	30	136	23	26
Tuluksak	2010	68	22	29	26	8
	2013	19	8	12	54	4
Twin Hills	1999	92	75	25	32	54
	2001			8	31	16

Harvest

Reported harvest of the MCH has decreased significantly since the early 2000s, when the herd was near its peak size (**Figure 1**). Total reported caribou harvest declined from 3,949 caribou in 2000 to 306 caribou in 2016. Harvest among all user groups declined during this period, but the decline was especially pronounced among non-local residents and nonresidents. Reduction of the State harvest limit in 2006 and elimination of the non-resident season in 2009 were influential in this decline (ADF&G 2017c).

Local users, defined here as those with a customary and traditional use determination, have reported less harvest in recent years as well. Since 2000, local users have reported harvesting an average of 432 caribou annually, with harvest exceeding 300 caribou in every year through 2012. Since 2013, reported harvest among local users has averaged 166 caribou annually and has remained below 300 caribou every year

(ADF&G 2017c). Underreporting is a known problem in this area (Woolington 2011) and it is likely that reported harvest underestimates total harvest by local users. Reported harvest of the MCH is not evenly distributed across the herd's range, with 49% of local harvest occurring in Unit 18 for the 2000 – 2012 time period.

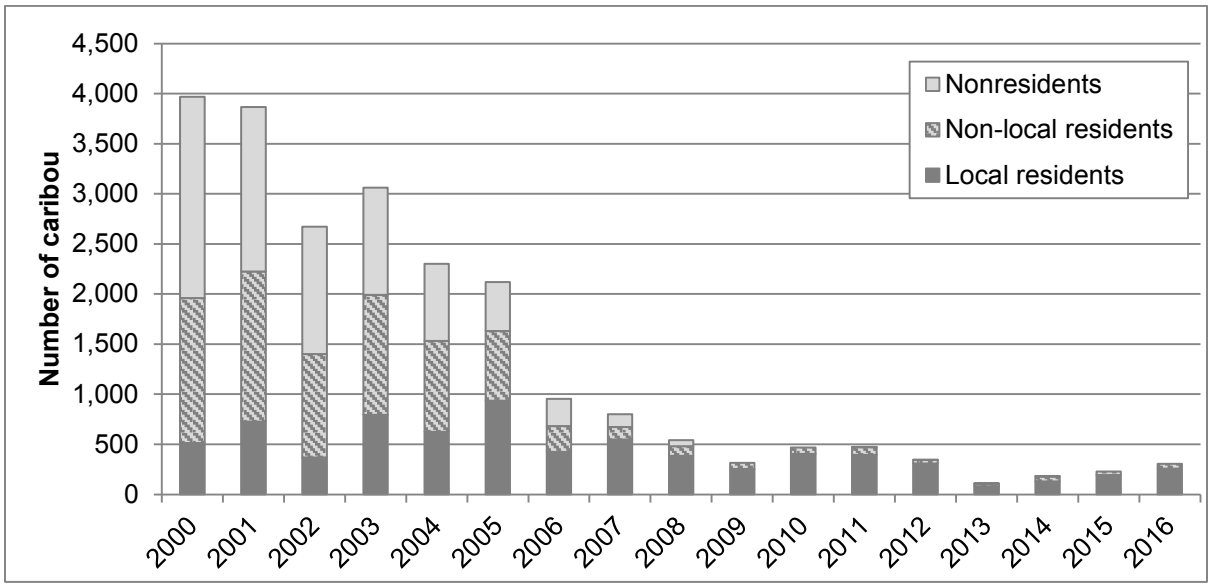


Figure 1. Total reported harvest from the Mulchatna Caribou Herd for regulatory years 2000 – 2016, by user group (ADF&G 2017c).

Until the mid-2000s, most of the harvest occurred during the fall, but an increasing proportion of harvest now occurs during spring (**Table 4**). Considering all users, an average of 65% of the harvest for 2000 – 2006 occurred in August and September. For 2007 – 2016, only 25% of the harvest has occurred during these months. Harvest during February and March averaged 18% of the total harvest 2000 – 2006 but increased to 45% for 2007 – 2016. This trend appears to be driven largely by the shift in user base from predominantly non-locals to predominately locals, subsequent to State regulatory changes. Harvest among local users tends to be more evenly distributed through the season, with some interannual variability (ADF&G 2017c). These patterns likely reflect movement and distribution of the MCH, as well as local environmental factors such as weather and snow and ice conditions that affect subsistence users' ability to successfully access and harvest caribou.

Other Alternatives Considered

There are two caribou hunt areas in Unit 18. Historically, multiple hunt areas were necessary to accommodate distribution and movement patterns of distinct caribou populations. Currently however, the MCH is the only caribou population present in Unit 18. This is reflected in the identical harvest regulations in the two areas. Consequently, consolidating the two Unit 18 caribou hunt areas into a single hunt area will have no effect on seasons, harvest limits, or harvest restrictions for caribou within Unit 18. This change will result in simplified regulations and in hunt area boundaries that are consistent with those described in State regulation, effectively reducing regulatory complexity.

Table 4. Total reported harvest from the Mulchatna Caribou Herd for regulatory years 2000 – 2016, by month (ADF&G 2017c).

	Caribou Harvest (Number of caribou)												
Year	**Total**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**
2000	3,968	11	1,042	2,128	234	14	16	89	139	236	55	1	3
2001	3,866	7	876	1,840	117	50	81	98	173	439	183	2	
2002	2,671	6	615	1,503	121	17	41	99	58	151	55	4	1
2003	3,060	10	599	1,380	113	16	136	180	157	386	78	3	2
2004	2,301	6	439	1,075	59	25	82	83	52	248	227	4	1
2005	2,119	4	313	698	45	90	53	117	134	517	143	4	1
2006	953		120	356	12	39	53	57	101	209	4	2	
2007	799		20	208	12	12	49	56	231	207	4		
2008	540		15	120	15	29	23	43	141	152		2	
2009	315		22	35	24	61	15	30	34	91	1	2	
2010	468		14	33	7	17	67	35	92	201	1	1	
2011	474		11	47	9	23	11	88	85	199	1		
2012	347		11	22	5	6	38	24	62	177		2	
2013	109		16	30	9	18	13	9	8	6			
2014	183		35	58	18	7	32	4	19	10			
2015	235		36	50	12	23	39	23	40	10	1	1	
2016	307		27	35	15	6	25	26	59	114			

Effects of the Proposal

If this proposal is adopted, the Federal caribou season throughout Unit 18 will be shortened by 15 days, resulting in an Aug. 1 – Feb. 28 season. Consequently, the Federal season will be 15 days shorter than the State season, which can be viewed as a reduction in subsistence opportunity. However, there is expected to be no realized effect on subsistence harvest or on the MCH, since local users will be able to continue harvest through March 15 under State regulation. Differing State and Federal seasons, both of which require a State registration permit, may result in confusion among those hunting under Federal regulation.

OSM CONCLUSION

Oppose Proposal WP18-31.

Justification

This proposal is not expected to address the proponent's conservation concerns. Because harvest will remain legal through March 15 under State regulation, and because Federally qualified subsistence users may hunt on both State and Federal lands under State regulation throughout Unit 18, it will have negligible effects on subsistence harvest or on population dynamics of the MCH. The requirement that Federally qualified subsistence users obtain a State registration permit further decreases the likelihood that this change will result in reduced harvest, since the longer State season will be printed on the permit. In

addition, the misalignment of State and Federal seasons may result in confusion among Federal users, which is unnecessary in the absence of a conservation benefit.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Bristol Bay Subsistence Regional Advisory Council

Oppose. Although the herd is not growing as desired, there appears to be enough bulls to support the harvest. The proposal will have a detrimental effect on other subsistence users and the timing involved where the users from the Bristol Bay region typically use the resource later in the season and it will affect their ability to access the resource if the later season dates are taken away.

Yukon-Kuskokwim Delta Subsistence Regional Advisory Council

Support. The Council discussed that the proposal specifically requested to shorten the caribou hunt at the end of the season in the spring and felt that would be supported by communities since the fall hunt was more important time to be out. Some Council members noted that the overlap of the fall moose and caribou hunt allowed the opportunity to harvest caribou if they were not able to get a moose at that time. They felt a reduction in the season at the tail end would help reduce pressure on the caribou without overly impacting subsistence communities in the region.

A couple council members did express concern that with the reduction in salmon fishing opportunity in recent years they are in need of fresh food come spring and the caribou harvest at the end of the current season is very important to meet communities subsistence needs. However, overall the Council concurred with observations and concern for a decline in the Mulchatna caribou herd and voted in support of this proposal in an effort to help the population be sustained for future generations.

Seward Peninsula Subsistence Regional Advisory Council

Oppose. The Council opposed this proposal because it would only shorten the Federal season by 15 days and likely have no appreciable impact on conserving caribou in this area. All hunters can use a State registration permit to hunt the Mulchatna caribou herd, therefore changing the Federal season would also create confusion as the State and Federal seasons are currently aligned.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-31: This proposal, submitted by Orutsararmiut Native Council, shortens the federal caribou season for Mulchatna caribou in Unit 18 by 15 days from August 1– March 15 to August 1– February 28.

Introduction: The authors point to concerns about how climate change, wolf predation, and overharvest may have affected the Mulchatna caribou herd (MCH). The MCH is below management objectives for abundance and harvest, and the amount necessary for subsistence (ANS) is not being attained. By shortening the caribou season, the authors believe more caribou will survive to breed and help the herd recover.

Impact on Subsistence Users: Shortening the federal caribou hunting season would not reduce opportunity for federally qualified subsistence users to harvest caribou on federal lands because the proposal does not change the hunting opportunity on federal lands provided under state regulations to the same users.

Impact on Other Users: This change would have little effect on the opportunity provided to other non-federally qualified users; however, there may be some decrease in the number of hunters competing for caribou on federal lands in early March due to the adoption of this proposal.

Opportunity Provided by State:

State customary and traditional use finding: The Alaska Board of Game has made a positive customary and traditional use finding for the Mulchatna caribou herd in units 9A, 9B, 17, 18, 19A south of the Kuskokwim River, and 19B.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The Board of Game has found that that 2,100–2,400 Mulchatna caribou are reasonably necessary for subsistence**.**

Existing State Regulation

Unit 18—Caribou	Residents only
Residents: Unit 18——2 caribou by permit (RC503)	August 1 – March 15

Special instructions: None for this hunt.

Conservation Issues: No conservation concerns associated with this proposal have been identified. The reported harvest on MCH is well below the harvestable surplus, indicating that this herd could increase under the present seasons and bag limits. The abundance estimate that was estimated at about 18,308 animals in 2013, improved to an estimated 27,242 in 2016. Parturition surveys reveal a small portion of the 2 year olds and a high proportion of 3 year old females are pregnant which is indicative of very healthy animals. These parturition rates give us confidence that the reproductive potential for this herd is really high at this time. Additionally the bull:cow ratios have exceeded our objectives 2 of the past 3 years which is an important metric for caribou management that indicates that harvest is not too excessive at this time.

Enforcement Issues: The state season for caribou hunting in Unit 18 would no longer be in alignment with the federal season were this proposal to pass, which could lead to some confusion by hunters and result in illegal hunting activity.

Recommendation: ADF&G is **OPPOSED** to WP18-31 because it does not provide any clear benefit to the population biology of the MCH or to federally qualified subsistence users. If the federal regulations are shortened, they will be out of alignment with state regulations and add to regulatory complexity while allowing a resident to still hunt the longer period under state regulations.

The reported harvest on MCH is well below the harvestable surplus, indicating that this herd could increase under the present seasons and bag limits. Harvest is likely not meeting ANS because the herd has migrated to a more-inaccessible part of its range, not because of hunting regulations. Therefore, ADF&G does not see this change as necessary for an increasing population or to achieve harvest objectives in the future. Additionally, federally qualified subsistence hunters will still be able to hunt on federal lands in Unit 18 under state regulations until the close of the state season.

WP18–34 Executive Summary	
General Description	Proposal WP18–34 requests that the lynx trapping season in Unit 24A be lengthened from Nov. 1-Feb. 28 to Nov. 1-March 31. *Submitted by: Jack Reakoff of Wiseman.*
Proposed Regulation	**Units 19, 21, and 24—Lynx** *Units 19, 21, ~~and 24~~* ***24B, 24C, and 24D****—no limit* *Nov. 1-Feb. 28* ***Units 24A—no limit*** ***Nov. 1-March 31***
OSM Conclusion	**Support**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	**Support**

WP18–34 Executive Summary	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	**Support**
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Oppose**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-34

ISSUES

Proposal WP18-34, submitted by Jack Reakoff of Wiseman, requests that the lynx trapping season in Unit 24A be lengthened from Nov. 1-Feb. 28 to Nov. 1-March 31.

DISCUSSION

The proponent states that the lynx population is currently under-utilized in Unit 24A, and that snowshoe hare and lynx populations are rapidly increasing. The proponent also states that fur prices are low and that lengthening the trapping season for lynx would provide increase harvest opportunities for Federally qualified subsistence users. The proponent also mentions that this proposal would align the lynx trapping season with the wolverine trapping season in Unit 24A and with the lynx trapping season in Unit 25. The proponent claims that this would decrease user confusion and allow Federally qualified subsistence users to avoid incidental take of lynx while targeting wolves and wolverine.

Existing Federal Regulation

Unit 19, 21, and 24—Lynx

Units 19, 21, and 24—no limit	*Nov. 1-Feb. 28*

Proposed Federal Regulation

Units 19, 21, and 24—Lynx

Units 19, 21, ~~and 24~~ ***24B, 24C, and 24D****—no limit*	*Nov. 1-Feb. 28*
Units 24A—no limit	***Nov. 1-March 31***

Existing State Regulation

Units 24, 25A, 25B, and 25D—Lynx

Units 24, 25A, 25B, and 25D	
No limit	*Nov. 1 – Feb. 28*

Extent of Federal Public Lands

Federal public lands comprise approximately 72% of Unit 24A, and consist of 59% Bureau of Land Management (BLM) managed lands, 11% National Park Service (NPS) managed lands, and 2% U.S. Fish and Wildlife Service (USFWS) managed lands (**Figure 1**).

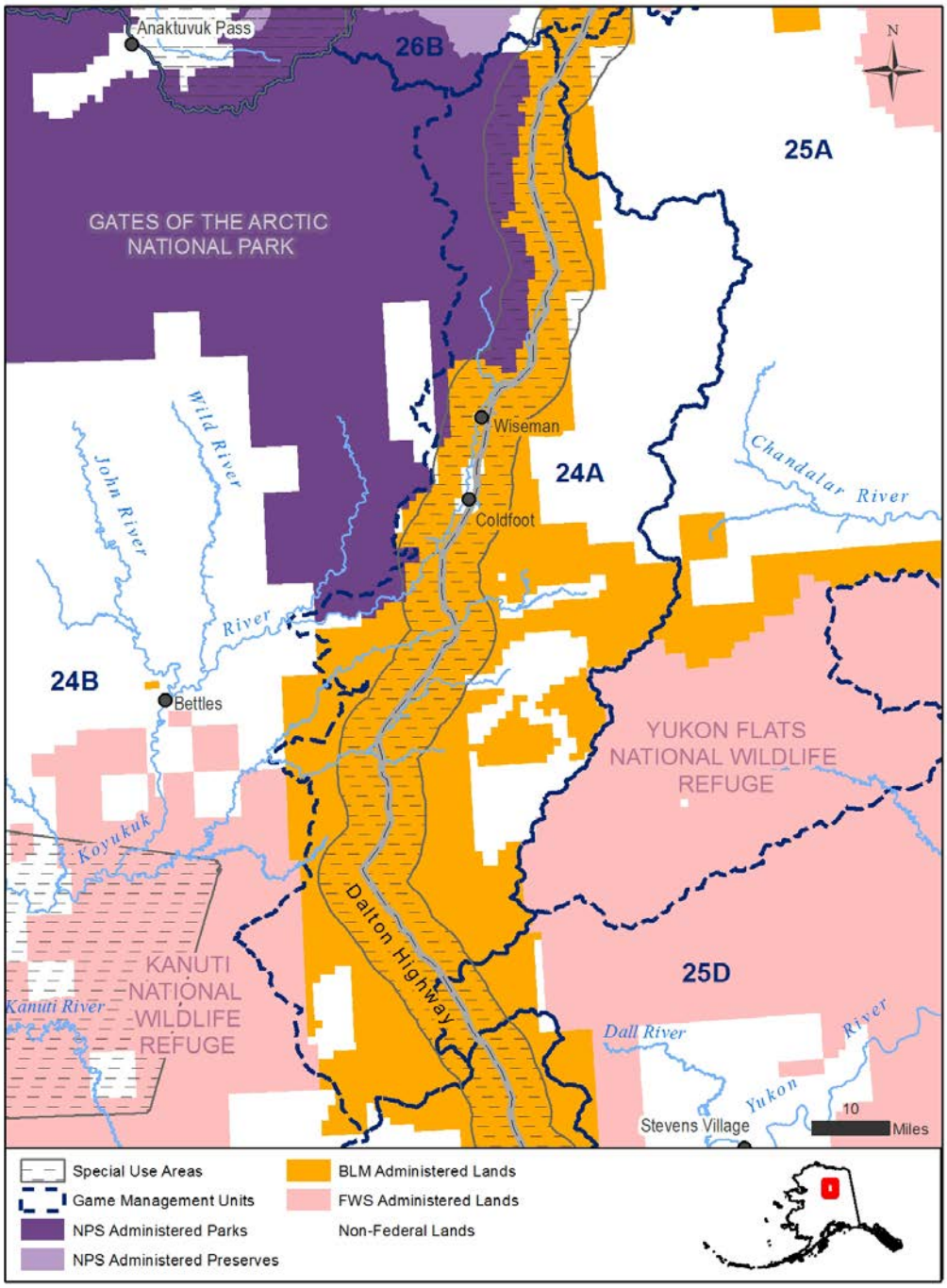


Figure 1. Federal public lands in Unit 24A.

Customary and Traditional Use Determinations

The Federal Subsistence Board (Board) has not made a customary and traditional use determination for lynx in Unit 24. Therefore, all Federally qualified subsistence users may harvest this species in this unit.

Regulatory History

In 1987, the Alaska Board of Game (BOG) adopted a "tracking harvest strategy" to manage lynx trapping seasons in the road-connected game management units of Interior and Southcentral Alaska. Under this strategy, lynx seasons were reduced and liberalized in response to cyclical fluctuations in lynx populations via emergency orders (Hollis 2010). In 1995, the Board endorsed the harvest tracking concept and temporarily adjusted the lynx trapping season via Special Action WSA95-05 to match the Emergency Order (6/30/95) put in place by the State.

In 2001, the Board adopted Statewide Proposal WP01-44, and issued a Delegation of Authority Letter allowing the Assistant Regional Director for the Office of Subsistence Management (OSM) to adjust lynx trapping regulations through the use of the Alaska Department of Fish and Game (ADF&G) tracking harvest strategy. This delegated authority required coordination with ADF&G and consultation with appropriate Federal land management agencies.

Both the State and Federal lynx trapping seasons in Unit 24 have remained unchanged for over a decade, with the exception of a slight modification in 2010 to include Feb. 29 in the State regulations to address user confusion related to leap years (Pamperin 2013).

Biological Background

State management goals for lynx in Unit 24A include to "protect, maintain, and enhance the furbearer populations and their habitats in concert with other components of the ecosystems" and to "provide for continued use of furbearers by local Alaska residents who have customarily and traditionally depended on these populations" (Pamperin 2013). Similarly, the State's management objectives and activities are to "manage furbearer populations to maintain populations at levels sufficient to provide for sustained consumptive and nonconsumptive uses", "to monitor harvest through fur sealing records and trapper questionnaires", and to "monitor furbearer populations by reconnaissance surveys, trapper questionaires, and trapper interviews" (Pamperin 2013).

Lynx are common in Alaska (USFWS 2013, Yom-Tov et al. 2007). Snowshoe hare are the predominant prey of lynx and are believed to comprise up to 83% of the species' diet (Mowat and Slough 2003, O'Donoghue et al. 1997, USFWS 2013, 2017a, b; Yom-Tov et al. 2007). As a result, lynx populations fluctuate in direct response to changes in hare abundance (Yom-Tov et al. 2007). Snowshoe hare have a cyclical population trend that lasts from 8-11 years and lynx population numbers fluctuate in tandem with this trend with a lag of 1-2 years (O'Donoghue et al. 1997, USFWS 2013, 2017b; Yom-Tov et al. 2007).

Lynx populations in Unit 24 peaked in 2000 and reached a low in 2005, with the population beginning to increase again in 2006 (Hollis 2010). Continuation of this cycle would mean that lynx populations most

likely reached their peak again in 2010, reached their low around 2015, and began to increase in numbers around 2016 with the next population peak expected around 2020. This pattern was confirmed in an NPS study that found that snowshoe hare populations in the Wiseman area reached a peak between 2009-2011 (DiFolco et. al. 2017). Work in the Wiseman area showed that snowshoe hares have what is known as a "super peak", or abnormally high population spike, every other peak cycle (Churchwell 2017, pers. comm., DiFolco et al. 2017). Due to lynx populations typically following the snowshoe hare population cycle, it is expected that lynx also have modest population peaks between "super peak" cycles (Churchwell 2017, pers. comm., DiFolco et al. 2017). According to data in the Wiseman area, showshoe hare populations are currently rebounding, and the region is approaching a "super peak" cycle (Churchwell 2017, pers. comm., DiFolco et al. 2017). The snowshoe hare population is expected to crash within the next 2-3 years, which will be followed by a crash in the lynx population in the area as well (Churchwell 2017, pers. comm, USFWS 2017b).

Lynx typically breed in March and April (USFWS 2013). Kittens are born from late April to mid-June, with litter sizes ranging from 1 to 6 kittens (USFWS 2013). Typically, females produce one litter per year, but may breed a second time if the litter is lost shortly after birth. Both male and female lynx are reproductively capable in their first year, though they rarely breed at that age. If yearling females do breed, they consistently produce smaller litters than older females. Reproductive output slows during the low phase of the hare cycle and there is some evidence that females may not produce a litter every year when hares are scarce (O'Donoghue et al. 1997, USFWS 2013).

Currently, the USFWS is conducting lynx capture operations and working with partners to monitor population fluctuations, habitat use, and movements at Tetlin National Wildlife Refuge (NWR), Koyukuk/Nowitna/Innoko NWRs, Yukon Flats NWR, Fairbanks, Wiseman, and Kluane National Park and Preserve (Bertram 2017, USFWS 2017a, b). This study is also meant to determine if trapping of lynx is additive or compensatory to provide a basis for future lynx management strategies and recommendations (USFWS 2017a, b). Snowshoe hare population monitoring has taken place in Gates of the Arctic National Park since 1997 (DiFolco et al. 2017) and the lynx trapping and collaring portion of this study was initiated in 2008 and then extended to Tetlin NWR, Kanuti NWR, Koyukuk NWR, and Yukon Flats NWRs in 2014 (USFWS 2017b).

Habitat

Lynx inhabit areas that are suitable for high density snowshoe hare survival (USFWS 2013). Lynx and hares typically inhabit boreal forest areas with gently rolling terrain and dense understory vegetation and persistent powdery snow (USFWS 2013). Mowat and Slough (2003) found that lynx in southern Yukon preferred regenerating habitats over mature spruce stands. This could suggest that previously burned areas provide favored habitat for lynx. Wildfire (the primary driver of boreal forest succession and habitat heterogeneity) frequency is forecast to increase as the Arctic climate warms (Joly et al. 2012), which could lead to more lynx and hare habitat in the region.

Cultural Knowledge and Traditional Practices

Unit 24A is situated primarily within the traditional boundaries of the Koyukon Athabascan cultural group. Among Koyukon Athabascans, lynx are called *kaazina* meaning "black tail" in English (Jones 1978, Nelson 1983). This species is considered to have a great spirit power, and women are taught that they must speak indirectly of them using the term *nodooya* meaning "something going around" (Jones 1978, Nelson 1983). The Koyukon considered lynx an excellent food source, but women were strictly forbidden from eating it as it was thought that they would lose one or more living children or experience a miscarriage.

Lynx are not considered a relative of any other animal and are said to have a type of spirit called *biyeega hoolaanh* meaning "they are shadows" (Jones 1978, Nelson 1983). This spirit is thought to be rivaled only by those of wolverine, bear, and wolves. If lynx are disrespected in any way, it was thought that the antagonist would either become ill or never be able to harvest another lynx. A short story reiterates this belief (Nelson 1983):

> In the Distant Time, the bear and lynx were talking. The bear said that when humans began hunting him they would have to treat him right. If he was mistreated by someone, that person would get no bears until he had gray hairs on his head. But the lynx said that people who mistreated him would never get a lynx again in their lives.

Koyukon trappers generally consider lynx fairly easy to catch using steel snares or traps (Nelson 1983). Traditionally trappers would use small wooden dolls on each side of a baited snare to represent two women that were killed in a cultural legend pertaining to this species. Trappers also often draw a face on a tree near the traps. Use of lynx pelts among the Koyukon was limited since only men were permitted to wear clothes made from it. Koyukon stories tell of ancient lynx that suffered from stiff joints; if boys were allowed to wear lynx boots they were thought to later develop arthritis. Upon skinning a lynx, the leg joints would be partially severed and the carcass (including organs that were not typically eaten) was taken to a remote place and burned.

Today, Unit 24 is transected along its length by the James W. Dalton Highway (Dalton Highway) and encompasses two communities, Wiseman and Coldfoot, though some residents of the unit reside in outlying areas. Construction of the Dalton Highway was completed in 1974 but was not open to the general public until December of 1994 (ADCCEA 2017). Coldfoot was established in the late 1890s as the result of nearby discoveries of gold (Holen et al. 2012). The community was originally named Slate Creek but was changed to Coldfoot in 1900, reportedly as a result of prospectors getting cold feet and returning home (Holen et al. 2012). The population of the area was recorded as 20 in 1900 and peaked at 350 between 1902 and 1904 (Holen et al. 2012). The community was completely abandoned by 1930. There were few intermittent residents following the abandonment but it was re-established in the 1970s as a result of the construction of the Dalton Highway and the Trans-Alaska Pipeline. As of 2010 there were 10 reported full-time residents of Coldfoot (ADCCEA 2017).

The original village site of Wiseman was established at the confluence of Wiseman Creek and Middle Fork Koyukuk River in 1908 and was formerly known as Wright's City and Nolan (Holen et al 2012, ADCCEA 2017). At the beginning of the 20th century gold production near Coldfoot was in decline and gold was

found at Nolan Creek in 1907; this shifted mining activity to the Wiseman area (Holen et al 2012, ADCCEA 2017). Wiseman's population was 320 in 1916 but following a decline in gold mining, the population declined to 53 by 1939 and to 14 by 2010 (Holen et al. 2012, ADCCEA 2017).

ADF&G's Division of Subsistence conducted comprehensive household subsistence surveys in both Coldfoot and Wiseman in 2011 (Holen et al. 2012). While no households in Coldfoot reported use of small land mammals in the study year, approximately 60% of Wiseman households reported use of one or more of these species. Approximately 60% of households reported using and harvesting lynx specifically and approximately 13 individual lynx were harvested by Wiseman residents in 2011. Lynx were included in the top 10 resources used by Wiseman residents. Timing of small land mammal harvest is variable and dependent on snow depth.

Holen et al. (2012) reported that small land mammals and furbearers are very important to Wiseman residents for both personal use and as a source of income. Most of these animals were harvested for furs, but one key respondent noted that some residents consume lynx for food. The harvest of small land mammals for food consumption was less than 1% of the total harvest in 2011. Harvest of these species occurred in the study year along the Middle Fork Koyukuk River south of Coldfoot to the vicinity of Dietrich Camp landing strip, in an area east of Coldfoot toward South Fork Flats, and in an area northeast of Wiseman near Bob Johnson Lake.

Harvest History

In 2016, lynx were ranked as the third most important species by trappers in State Region III (Interior) and fur quality was reported as prime (Parr 2016). In Unit 24, harvest of lynx fluctuated with the lynx population cycle over the years (**Figure 2**; Pamperin 2013). During the "super peak" in 2000, harvest (based on lynx sealing records) was reported as 286 individuals, whereas the harvest dropped to 10 individuals during the population low in 2005 and reached 93 during the moderate peak in 2008 (Pamperin 2013). A majority of harvest consisted of adult lynx (**Table 1**; Pamperin 2013, Stout 2017 pers. comm.). Harvest was low between 2012 and 2016, corresponding to a low in the lynx population cycle during this time and lower trapper participation in recent years (Stout 2017, pers. comm.).

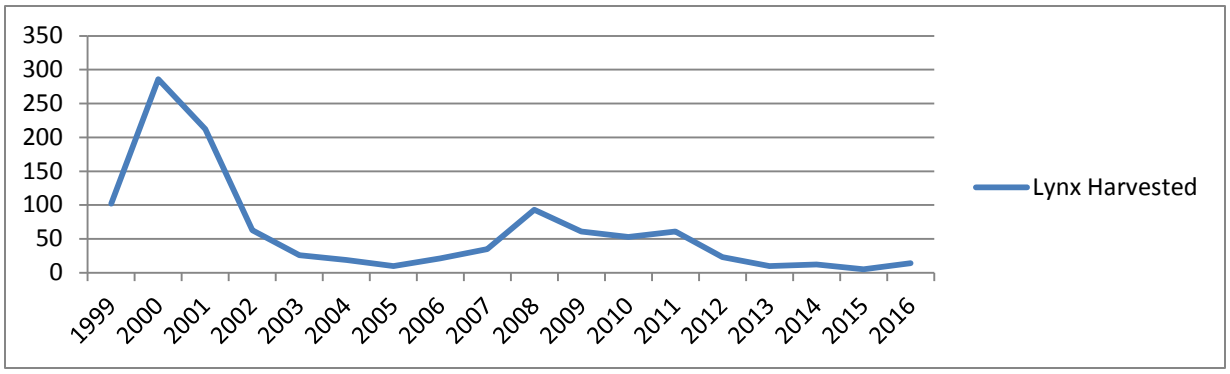


Figure 2. Lynx harvest in Unit 24 based on lynx sealing records provided to the State (Pamperin 2013, Stout 2017, pers. comm.). Data for 2016 is still being submitted, so 2016 data shown on this graph is preliminary and subject to change (Stout 2017, pers. comm.).

Table 1. Lynx harvest in Unit 24 based on lynx sealing records provided to the State (Pamperin 2013, Stout 2017, pers. comm.). Data for 2016 is still being submitted, so 2016 data shown in this table is preliminary and subject to change (Stout 2017, pers. comm.).

Unit 24 Reported Harvest of Sealed Lynx				
Year	Lynx Harvested	Adults Harvested	Juveniles Harvested	Unknown Harvested
1999	102	101	0	1
2000	286	244	24	18
2001	212	184	25	3
2002	63	60	2	1
2003	26	25	1	0
2004	19	19	0	0
2005	10	10	0	0
2006	21	18	1	2
2007	35	31	4	0
2008	93	86	6	1
2009	61	51	6	4
2010	53	50	1	2
2011	61	55	3	2
2012	23	22	0	1
2013	10	9	0	1
2014	12	9	0	3
2015	5	5	0	0
2016	15	14	1	0

Effects of the Proposal

If adopted, this proposal would add an additional 31 days to the Federal lynx trapping season in Unit 24A, providing Federally qualified subsistence users with additional harvest opportunities.

This proposal would align the lynx trapping season with the wolverine trapping season in all of Unit 24A, which would simplify Federal subsistence regulations. Lynx and wolverine are often trapped in the same types of sets (Parr 2016). This would allow Federally qualified subsistence users to harvest lynx and wolverines in the same trap line and would reduce the potential of incidental take of lynx out of season while targeting wolverine.

Some data shows that trapping could harvest a large portion of the lynx population (USFWS 2017b). One recent study reported that 100% of lynx fitted with radio collars near Fairbanks were trapped within a year (USFWS 2017b). It is currently unknown if trapping of lynx in Unit 24A represents additive (i.e. in addition to natural mortality) or compensatory (i.e. does not add to what would have died naturally during that year) mortality. It is also difficult to determine a population estimate for lynx due to the cyclical

nature of the population, although currently there are no indications of any biological concerns (Stout 2017, pers. comm., USFWS 2017b).

OSM CONCLUSION

Support Proposal WP18-34.

Justification

Aligning the wolverine and lynx seasons in Unit 24A, as requested by the proponent, would provide more opportunity for Federally qualified subsistence users and would decrease regulatory complexity. This would also decrease the potential of illegal incidental take for trappers who use the same style trap for both species, who may incidentally take lynx whether or not the regulations are modified.

The State (Stout 2017, pers. comm.) expressed that there is currently no biological concern pertaining to lynx in Unit 24A. Harvest and trapper effort varies with the lynx cycle. This proposal will allow trappers to harvest more lynx during the highs in the population cycle, which may help compensate for trapping years when the lynx population is low or declining.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Western Interior Alaska Subsistence Regional Advisory Council

Support WP18-34. The Council supported the proposal, reflecting that there would be increased opportunity, there were no conservation concerns, and that the fur is still in good condition in March – in fact, better than the condition of fur in November.

Eastern Interior Alaska Subsistence Regional Advisory Council

Support WP18-34. The Council noted that the lynx population cycle follows the hare population cycle and that lynx taken in March have the best fur. Also, the Council noted that aligning the lynx and wolverine season dates in Unit 24A will make it less confusing for the users and will allow trappers to keep lynx caught in wolverine sets. Finally, the Council recognized that there is no biological concern pertaining to lynx in Unit 24A.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-34: This proposal, submitted by Jack Reakoff, would extend the lynx season closing date to March 31 in Unit 24A.

Introduction: Currently the state and federal regulations are aligned for lynx trapping in Unit 24A. This proposal would align the lynx trapping season with the wolf and wolverine trapping seasons in Unit 24A and would align with the lynx trapping season in Unit 25. The proposal would allow federally qualified subsistence users to avoid incidental take of lynx while targeting wolves and wolverine.

Impact on Subsistence Uses: Lengthening the trapping season for lynx would provide increased harvest opportunities and supplement income for federally-qualified subsistence users.

Impact on Other Uses: Other users would not be directly affected by the proposed change.

Opportunity Provided by State:

State customary and traditional use finding: The Alaska Board of Game has made positive customary and traditional use findings for furbearers in all units, outside nonsubsistence areas.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for furbearers is 90 percent of the harvestable portion in all units, outside nonsubsistence areas.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
24A	No Limit	November 1- Last day of February	

Special instructions: The Dalton Highway Corridor Management Area (DHCMA) extends 5 miles from each side of the Dalton Highway and is closed to hunting lynx, except by bow and arrow. Trapping, including use of firearms as a legal trapping method, is allowed. In addition, the use of snowmachines for any purpose (including trapping) is prohibited within the corridor if the use begins or ends within the corridor or right-of-way of the highway or if the use is for travel within the corridor that is parallel to the right-of-way of the highway.

Conservation Issues: ADF&G has not identified any biological concerns for the lynx population in Unit 24A. On average, 17 lynx are taken each year in Unit 24A by trappers and hunters, typically in small, isolated areas that provide better access. The majority of Unit 24A receives little or no hunting or trapping pressure for lynx.

Enforcement Issues: No law enforcement issues have been identified.

Recommendation: ADF&G is **OPPOSED** to this proposal because the state and federal seasons would be misaligned. This change would likely lead to confusion among trappers. The proposed change will not result in a biological concern for the lynx population in Unit 24A. The minimal additional harvest is expected to be within sustainable limits.

WP18–37 Executive Summary	
General Description	Proposal WP18–37 requests that the Federal public lands closure in the Unit 22A remainder moose hunt area be rescinded Sep. 1 – Sep. 30. *Submitted by: Lance Kronberger.*
Proposed Regulation	**Unit 22—Moose** *Unit 22A, remainder—1 bull. However, during the period Jan.1–Feb. 15, only an antlered bull may be taken. Federal public lands are closed to the taking of moose* ***Oct. 1 – Aug. 31,*** *except by residents of Unit 22A hunting under these regulations.* — *Aug. 1– Sep. 30* *Jan. 1 – Feb. 15*
OSM Conclusion	**Support** Proposal WP18-37 **with modification** to open Federal public lands only to Federally qualified subsistence users. The modified regulation should read: **Unit 22—Moose** *Unit 22A, remainder—1 bull. However, during the period Jan.1–Feb. 15, only an antlered bull may be taken. Federal public lands are closed to the taking of moose except by* ~~*residents of Unit 22A hunting under these regulations*~~ ***Federally qualified subsistence users****.* — *Aug. 1 – Sep. 30* *Jan. 1 – Feb. 15*
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	

WP18–37 Executive Summary	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	**Support as modified by OSM**
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	

WP18–37 Executive Summary	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Support**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-37

ISSUES

Wildlife Proposal WP18-37, submitted by Lance Kronberger of Eagle River, requests that the Federal public lands closure in the Unit 22A remainder moose hunt area be rescinded Sep. 1 – Sep. 30, to coincide with the State's nonresident season. The intent of this proposal was clarified with the proponent by telephone.

DISCUSSION

The proponent requests that Federal moose regulations in the Unit 22A remainder moose hunt area be changed to remove the restriction on non-Federally qualified users, coinciding with the season established by the Alaska Board of Game (BOG). The proponent was contacted to clarify the intent of the proposal, which is to rescind the Federal public lands closure in this hunt area Sep. 1 – Sep. 30, to coincide with the State's nonresident moose season. The proponent notes that closed Federal lands in Unit 22A remainder are adjacent to Unit 18, where moose densities are high.

Existing Federal Regulation

Unit 22—Moose

Unit 22A, remainder—1 bull. However, during the period Jan.1–Feb. 15, only an antlered bull may be taken. Federal public lands are closed to the taking of moose except by residents of Unit 22A hunting under these regulations.	*Aug. 1 – Sep. 30* *Jan. 1 – Feb. 15*

Proposed Federal Regulation

Unit 22—Moose

Unit 22A, remainder—1 bull. However, during the period Jan.1–Feb. 15, only an antlered bull may be taken. Federal public lands are closed to the taking of moose ***Oct. 1 – Aug. 31,*** *except by residents of Unit 22A hunting under these regulations.*	*Aug. 1– Sep. 30* *Jan. 1 – Feb. 15*

Existing State Regulation

Unit 22A remainder—Moose

Residents: One bull	*Aug. 1 – Sep. 30*
OR	
Residents: One antlered bull	*Jan. 1 – Jan. 31*
Nonresidents: One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side	*Sep. 1 – Sep. 30*

Extent of Federal Public Lands

Federal public lands comprise approximately 50% of the Unit 22A remainder hunt area and consist of 43% U.S. Fish and Wildlife Service (USFWS) managed lands and 7% Bureau of Land Management managed lands (**Map 1**).

Customary and Traditional Use Determinations

Residents of Unit 22 have a customary and traditional use determination for moose in Unit 22.

Regulatory History

Prior to 1995, Federal public lands in Unit 22A were open to moose harvest by all users. In 1995, the Seward Peninsula Subsistence Regional Advisory Council (Council) submitted Proposal P95-42, requesting that the 1995 fall moose season in Unit 22A be extended from Aug. 1 – Sep. 30 to Aug. 1 – Oct. 10. The Federal Subsistence Board (Board) adopted this proposal with modification to extend the season, as proposed, and to close Federal public lands for the Oct. 1 – Oct. 10 portion of the season to all users except residents of Unit 22A (FSB 1995a).

The Alaska Department of Fish and Game (ADF&G) subsequently submitted a Request for Reconsideration, R95-11, asserting that the Oct. 1 – Oct. 10 Federal public lands closure was not substantiated and that the season extension violated established principles of wildlife management. The Board reversed their decision on P95-42, concurring that the season extension was not consistent with the maintenance of a healthy moose population. The Board recognized that residents of Unit 22A traditionally harvested moose in October, but were concerned that the October season extension overlapped the rut and could have led to an unsustainable harvest. As a result of the Board's decision, the fall moose season was open Aug. 1 – Sep. 30. The Board also took action to close Federal public lands in Unit 22A to the harvest of moose to all users except residents of Unit 22A during the Dec. 1 – Jan. 31 season (FSB 1995b).

Proposal 50 was submitted by the Council in 1996 to ensure continuation of the Aug. 1 – Sep. 30 season in Unit 22A, as well as to request closure of Federal public lands to the harvest of moose except by Federally qualified subsistence users during this season. The Board rejected this proposal (FSB 1996) but retained the Aug. 1 – Sep. 30 season.

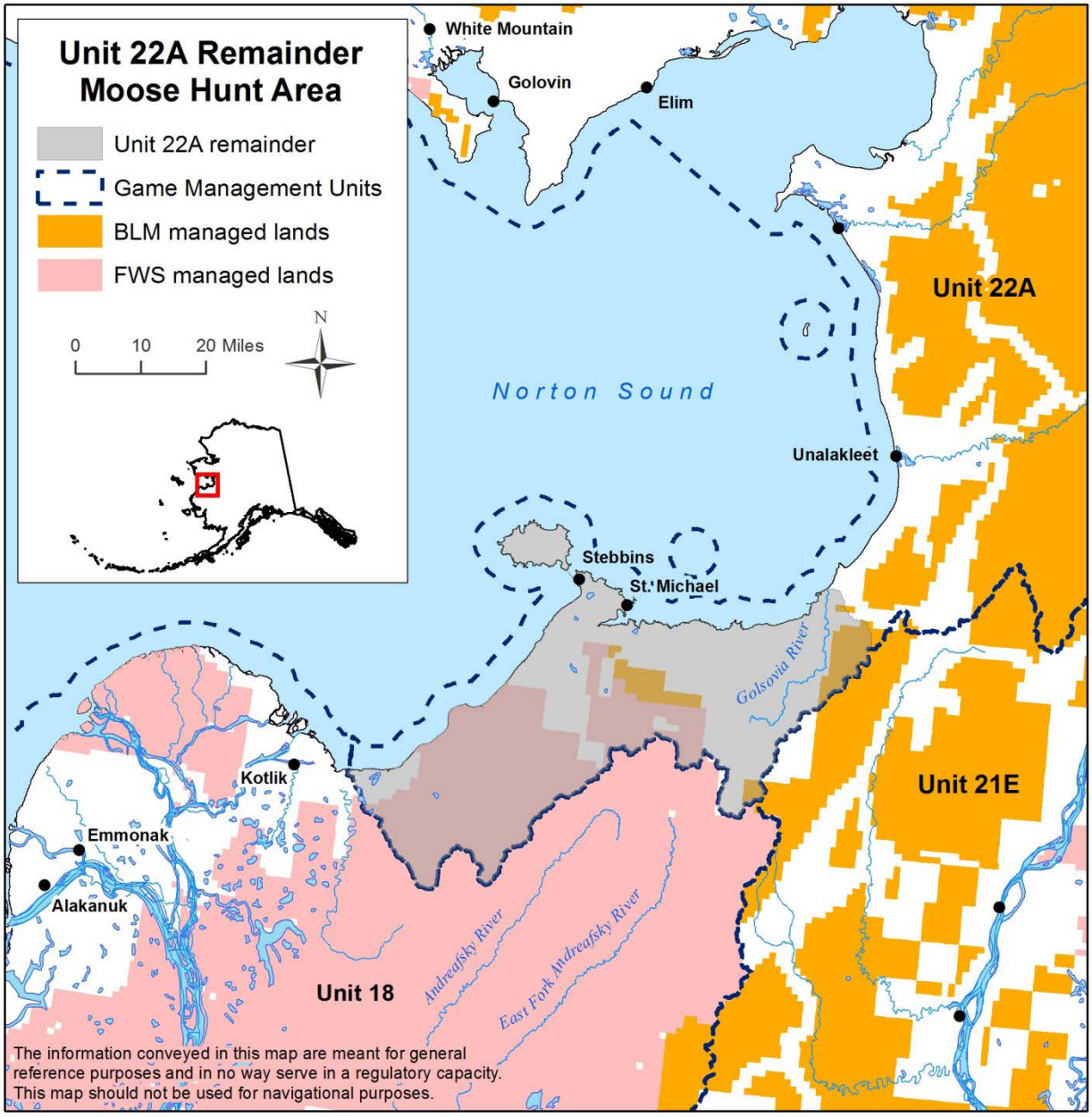
Proposal P98-86, submitted by the Council, requested the harvest limit be changed from one antlered bull to one moose for the Aug. 1–Sep. 30 and Dec. 1–Jan. 31 seasons. The Board adopted this proposal with modification to change the harvest limit to one bull, which provided additional harvest opportunity, particularly during the winter season when many bulls are antlerless, while protecting cows (OSM 1998).

In 2003, the BOG made a number of regulatory changes for moose in Unit 22. In Unit 22A, three distinct hunt areas were established, and seasons and harvest limits were adjusted to account for localized patterns of harvest. Prior to these changes, the State resident season was Aug. 1 – Sep. 30 and Dec. 1 – Jan. 31 and the harvest limit was one bull throughout Unit 22A. The BOG's action 1) closed the winter season in North Unit 22A (north of and including the Tagoomenik and Shaktoolik River drainages); 2) shortened the fall season to Aug. 15 – Sep. 25 and closed the winter season in Central Unit 22A (Unalakleet River drainage area); and 3) shortened the winter season to Dec. 1 – Dec. 31, and changed the harvest limit for the winter season to one antlered bull in Unit 22A remainder (Persons 2004). These changes were scheduled to become effective in regulatory year 2004/05. However, data showing steep declines in the Unit 22A moose population prompted ADF&G to issue Emergency Order 05-05-03 in November 2003, which implemented the new regulations immediately. Due to the timing of the Emergency Order, only the winter seasons were affected. The same changes to the winter seasons were made in Federal regulation through Special Action WSA03-14, approved by the Board in December 2003 (Persons 2004).

In 2004, the Council submitted Proposal WP04-70, requesting, in part, retention of the temporary changes made through Special Action WSA03-14. Specifically, the proposal requested 1) changing the harvest limit from one bull to one antlered moose throughout Unit 22A; 2) eliminating the winter seasons in North and Central Unit 22A; 3) shortening the fall season from Aug. 1 – Sep. 30 to Aug. 15 – Sept. 30 in Central Unit 22A; and 4) closing Federal public lands throughout Unit 22A to the harvest of moose in all seasons, except by residents of Unit 22A (OSM 2004). The Board adopted Proposal WP04-70 with modification to set the harvest limit at one bull for the fall seasons and one antlered bull for the winter season in Unit 22 Remainder, and further reduce the Central Unit 22A season, to Aug. 15 – Sep. 25 (OSM 2016). These changes resulted in alignment of State and Federal moose seasons and harvest limits in Unit 22A. They also resulted in the Federal lands closure, as it currently exists.

Due in part to low population and recruitment estimates, portions of Unit 22A were affected by temporary regulatory changes in 2005 that were subsequently adopted into Federal regulation by Board action in 2006. In Unit 22A remainder, harvest seasons were shifted from Dec. 1 – Dec. 31 to Jan. 1 – Jan. 31 in 2005 with the Board's approval of Special Action WSA05-12/13 and in 2006 with the adoption of Proposal WP06-38 (OSM 2016). These changes provided communities more harvest opportunity, due to more favorable hunting conditions later in the winter, but were not expected to affect the moose population due to the scarcity of mature antlered bulls at this time of year. The modified season in Unit

22A mirrored State regulation changes associated with the adoption of State Proposal 6 and Emergency Order 05-08-05 in 2005, and resulted in reduced regulatory complexity.



Map 1. Unit 22A remainder moose hunt area.

Proposal WP10-80, submitted by the Stebbins Community Association, requested that the winter moose season in Unit 22A remainder be shifted from Jan. 1 – Jan. 31 to Jan. 15 – Feb. 15. The Board adopted the proposal with modification to extend the season to February 15, but keep the January 1 starting date. The proposed modification provided additional harvest opportunity to Federally qualified subsistence users (OSM 2016).

In the past decade, inclement weather has affected winter moose harvest in Unit 22A remainder and resulted in multiple special action requests to extend seasons. Special Action WSA07-08, submitted by the Stebbins Community Association, requested that a Feb. 1 – Mar. 1, 2008 bull season be added in Unit 22A remainder to provide additional harvest opportunity. The Board approved the special action, but modified the season to Feb. 27 – Mar. 5 because a decision could not be made in time to accommodate the original request. Special Action WSA08-17 extended the winter bull moose season on Federal public lands within Unit 22A remainder an additional two weeks (Feb. 7 – Feb. 20) in 2009. The season extension was approved by the Board to provide additional harvest opportunities for Federally qualified subsistence users after a period of inclement weather and high gas prices prevented users from hunting moose (OSM 2016). The winter of 2011/2012 was unusually cold and prevented many Federally qualified subsistence users from harvesting moose during the Jan. 1 – Feb. 15 season in Unit 22A remainder. In February 2012, Special Action WSA11-09 was approved by the Board (OSM 2016) and Emergency Order 05-06-12 was issued by the State to provide a 14-day extension to the winter moose season to provide additional harvest opportunity.

In 2017, Temporary Special Action WSA17-01, submitted by Lance Kronberger of Eagle River, requested that the Federal public lands closure in Unit 22A remainder be rescinded Sep. 1 – 30, 2017. The proponent asserted that the moose population in this hunt area had grown considerably, due in part to the rapid growth of the Unit 18 moose population. The Board rejected this request on the grounds that conservative management of the Unit 22A remainder moose population was still warranted, but acknowledged that continued review of the issue was prudent to ensure that the closure remained justifiable.

Current Events Involving the Species

This Federal public lands closure was last reviewed in Closure Review WCR15-09. At its March 2017 meeting, the Council deliberated WCR15-09 as well as WSA17-01. They voted to maintain the status quo on the closure and to oppose the special action request to open Federal lands for the fall 2017 season. Council members from Unit 22A remainder acknowledged that moose have become more abundant in recent years, but noted that it has taken decades for the population to grow large enough to sustain an annual harvest of more than a few moose per community. They also noted that moose harvest is difficult in this region, given the long travel distances required to access moose, the lack of motorized access due to rough terrain, and increasingly difficult travel conditions associated with changing weather patterns. Thin ice surrounding the communities was specifically identified as an impediment to successful moose hunting. The Council pointed out that guided hunters have an advantage in terms of access, and expressed concern that increased commercial use would deplete the population, with subsistence users suffering as a consequence. Finally, the Council believes that reported harvest underestimates actual harvest. Members of the Council from Unit 22A remainder acknowledged that this is likely true, but reported that because abundance is low and access is limited in Unit 22A, much of the local moose harvest occurs in Unit 18 (SPRAC 2017).

Biological Background

Prior to 1930, moose were scarce on the Seward Peninsula, but became a resident species by the late 1960s. Moose populations increased during the 1970s and peaked during the 1980s (Gorn 2012). There were several severe winters during the 1990s, which may have contributed to population declines during that time (Nelson 1995). Populations within Unit 22 have not recovered to peak levels of the 1980s, with brown bear predation on moose calves suspected to be a contributing factor (Gorn 2012).

Unit 22A remainder is the southernmost of three moose hunt areas in Unit 22A, and is comprised of the portion of Unit 22A south of and including the Golsovia River drainage (**Map 1**). In Unit 22, moose surveys are limited to select drainages. Population estimates do not exist for Unit 22A remainder, and composition data has not been updated since 2003 (Gorn and Dunker 2014). Consequently, this analysis will rely on more recent population estimates in adjacent areas, the Central Unit 22A hunt area to the northeast, Unit 21E to the southeast, and Unit 18 to the south.

Central Unit 22A

Spring surveys were conducted between 1989 and 2017 to estimate the size of the moose population in Central Unit 22A (**Table 1**). The population in this area has been increasing since 2003 and was estimated to be 840 moose (± 11%), or 0.35 moose/mi^2, in 2017. This estimate spans the upper bound of the Unit 22A management goal of 600 – 800 moose and represents a 9% annual growth rate between 2012 and 2017. In addition to estimates of population size, the spring surveys generated age class estimates. The percent short yearlings, or ten month old calves, is an estimate of recruitment, and was 12% in 2017 (**Table 1**). This is lower than recruitment estimates in the past decade, but was characterized as adequate by the Unit 22 Area Biologist (SPRAC 2017).

Table 1. Population and age class estimates for moose in the Central Unit 22A hunt area during spring, 1989–2017 (Gorn and Dunker 2014, SPRAC 2017).

Survey area	Year	Population estimate (moose)	Density estimate (per mi^2)	% Short yearlings	Survey method
Unalakleet drainage	1989	325	0.29	16	Gassaway
	2003	75	0.04	15	Geospatial
	2005	123	0.15	8	Geospatial
	2008	339	0.14	18	Geospatial
	2012	545	0.24	19	Geospatial
	2017	840	0.35	12	Geospatial

Fall composition surveys were conducted between 2003 and 2016 in the Unalakleet drainage (**Table 2**). The bull:cow ratio has increased since the last survey and was 124 bulls:100 cows in 2016. This unusually high bull:cow ratio is well above the minimum population objective and raises questions about the influences of local harvest patterns and moose movements. Local biologists believe that this issue warrants further attention (BOG 2017, SPRAC 2017).

Table 2. Composition estimates for moose in the Central Unit 22A hunt area during fall, 2003 - 2016 (Gorn and Dunker 2014, SPRAC 2017).

Survey Area	Year	Bulls: 100 Cows	Calves: 100 Cows	Total moose observed
Golsovia River	2003	50	67	26
Unalakleet River	2003	69	20	66
	2006	69	34	78
	2016	124	30	250

Unit 21E

Moose are present throughout Unit 21E. Prior to 2000, population trends were difficult to assess due to changing survey areas and methodologies (Boudreau 2002). However, local residents reported declining populations beginning in the mid-1990s, and the Alaska Board of Game established an intensive management plan to reduce predators for Unit 21E in 2010 (ADF&G 2016a).

Surveys conducted between 2000 and 2012 indicate that the population in this area was relatively stable during this period, varying between and 0.9 and 1.2 moose/mi^2 (**Table 3)**. The most recent survey was conducted in 2016, when the moose population was estimated to be 8,372 moose, or 2.0 moose/ mi^2, within the Wolf Control Focus Area (WCFA), which comprises ~80% of the historical survey area. This is the highest observed moose density since 2000. For comparison, the 2012 moose density was estimated to be 1.3 moose/mi^2 within the WCFA, and 1.1 moose/mi^2 within the historical survey area (Peirce 2014; Peirce 2017, pers. comm.). The current estimate is above the intensive management objective of 1.0 moose/mi^2 and to date, wolf control has not been initiated in Unit 21E (ADF&G 2016a).

Table 3. Population estimates for moose in Unit 21E, 2000 - 2016 (Peirce 2014, Peirce 2017, pers comm.).

Survey area	Year	Population estimate ± 90% Confidence Interval (moose)	Density estimate (per mi^2)	Survey method
Unit 21E	**2000**	5,151 ± 13%	1.0	Gassaway
	2005	4,673 ± 17%	0.9	Geospatial
	2009	6,218 ± 17%	1.2	Geospatial
	2012	5,710 ± 16%	1.1	Geospatial (w/ SCF[a])
	2012[b]	5,398 ± 19%	1.3	Geospatial (w/ SCF[a])
	2016[b]	8,372 ± 18%	2.0	Geospatial (w/ SCF[a])

[a]Sightability Correction Factor

[b]Results reported for the WCFA, which is smaller than the historical survey area. The WCFA differed in slightly in size in 2012 and 2016.

Bull:cow ratios in Unit 21E have been high between 2008 and 2011 (**Table 4**), exceeding the management objective of 25 – 30 bulls:100 cows. In 2011, the last time composition surveys were

conducted, the calf:cow ratio was 47 calves:100 cows, exceeding the management objective of 30 – 40 calves:100 cows.

It is unknown to what degree moose dispersal is influencing local moose densities in this area. Given the recent growth of the Unit 21E moose population, dispersal into Unit 22A could be occurring above historical levels and may be contributing to observations by locals and guides that there have been more moose in Unit 22A in recent years.

Table 4. Composition estimates for moose in Unit 21E during fall, 2008 - 2011 (Peirce 2014). Data from the 2009 survey, which was only partially completed, is not shown.

Survey Area	Year	Bulls: 100 Cows	Calves: 100 Cows	Total moose observed
Unit 21E	2008	62	37	186
	2010	61	51	287
	2011	64	47	201

Unit 18

Moose began to immigrate into the Yukon-Kuskokwim Delta during the mid- to late-1940s and have become an important subsistence resource for locals. Most of the Yukon-Kuskokwim Delta is lowland treeless tundra and is not suitable as winter moose habitat. Consequently, much of the region supports only low to very low density moose populations. However, productive habitat does exist along river corridors. The Yukon River population currently occupies most of the available riparian habitat, is at moderate to high density, is growing, and has high calf production and yearling recruitment (Perry 2014). Several moose survey areas exist in Unit 18, with the Lowest Yukon and Adreafsky areas being the most relevant to this analysis.

Between 1988 and 2008, surveys to estimate population size were conducted in the Lowest Yukon survey area of Unit 18 (**Table 5**). At that time, the survey area encompassed the riparian corridor along the main stem of the Yukon River downstream of Mountain Village (Perry 2014). The population grew significantly during that time, coincident with a 6 year harvest moratorium in the area. In February 2017, a survey was conducted in an expanded survey area to accommodate the widening distribution of the moose. The results of that survey estimate the current population to be 8,226 moose in the expanded survey area, or 4.7 moose/mi^2. For the comparison purposes, the moose density within the original survey area was calculated to be 4.8 moose/mi^2 in 2017, compared to 2.4 moose/mi^2 in 2008.

In addition to surveys aimed at estimating population size, composition surveys have been conducted periodically (**Table 6**). In 2013, the bull:cow ratio was 40 bulls:100 cows, exceeding the management objective of 30 bulls:100 cows. The 2013 survey indicated that the calf:cow ratio was 48 calves:100 cows, a notable decline since 2005, when there were 92 calves:100 cows (Perry 2006, 2008, 2014; Rearden 2015).

In the adjacent Adreafsky survey area, which includes the Yukon River from Pilot Village downstream to Mountain Village (Perry 2014), surveys were most recently conducted in 2012 (**Table 5**). At that time, the moose population in this area was an estimated at 3,170 moose (2.0 moose/mi^2), when corrected for sightability. Like the moose population in the Lowest Yukon survey area, the population in the Andreafsky area has grown substantially since the early 2000s, but it remains at lower density compared to the Lowest Yukon population. Bull:cow ratios in the Adreafsky area were similar to those in the Lowest Yukon area, at 40 bulls:100 cows in 2011 (**Table 6**). Calf:cow ratios have increased since the early 2000s and were at 67 calves:100 cows in 2011 (Perry 2006, 2008, 2014; Rearden 2015).

It is unknown the degree to which moose dispersal from Unit 18 is influencing moose density in southern Unit 22. However, given the high moose density and continuing growth of the Yukon and Adreafsky populations, there is a likely effect. Local biologists report that, in Unit 18, moose can be found anywhere there are willows present (Rearden 2017, pers. comm.). This suggests that movement through the riparian corridors of the Andreafsky drainages into Unit 22A is likely.

Table 5. Population estimates for moose in portions of Unit 18, 1988 - 2017 (Rearden 2015, 2017, pers. comm.).

Survey area	Year	Population estimate ± 95% Confidence Interval (moose)	Density estimate (per mi^2)	Survey method
Lowest Yukon	1988	0	NA	Minimum count
	1992	28	0.0	Minimum count
	1994	65	0.0	Minimum count
	2002	674 ± 21%	0.6	Geospatial
	2005	1,342 ± 21%	1.1	Geospatial
	2008	2,827 ± 11%	2.4	Geospatial
	2008	3,319 ± 16%	2.8	Geospatial (w/ SCF[a])
	2017	8,226 ± 11%	4.7	Geospatial
Andreafsky	1995	52 ± 74%	0.0	Gassaway
	1999	524 ± 29%	0.2	Geospatial
	2002	418 ± 22%	0.3	Geospatial
	2012	2,748 ± 19%	1.7	Geospatial
	2012	3,170 ± 24%	2.0	Geospatial (w/ SCF[a])

[a]Sightability Correction Factor

Cultural Knowledge and Traditional Practices

The Seward Peninsula has been inhabited by humans for at least 12,000 years (Magdanz et al. 2007). The Inupiaq Eskimo people of the area have a deeply rooted practice of subsistence hunting, fishing, and gathering of wild resources (National Park Service 2016). Until European contact in the early 19th century, many of these groups were semi-nomadic, moving with the seasons based on the availability of

wild resources. During the winter months, people often lived in permanent villages along the coast where they harvested seals, belugas, other marine mammals, fish and small land mammals. During warmer months they established family fish camps near rivers and lakes to harvest fish and plant resources (National Park Service 2016).

Table 6. Composition estimates for moose in portions of Unit 18, 2004 - 2013 (Perry 2006, 2008, 2014; Rearden 2015).

Survey Area	Year	Bulls: 100 Cows	Calves: 100 Cows
Lowest Yukon	2004	-	64
	2005	37	92
	2010	30	69
	2013	40	48
Andreafsky[a]	2002	-	22
	2005	-	42
	2010	42	64
	2011	40	67

[a]Results include the Andreafsky and Paimiut survey areas. The Paimiut survey area is adjacent to the Adreafsky survey area, extending upstream from Pilot Village to Paimiut Village

Large land mammals were not abundant in the Seward Peninsula area during the 1800s. Moose did not start migrating into the area until the 1940s, and while caribou were hunted traditionally, their numbers declined in the mid-1800s (Dau 2000). Reindeer were introduced from Siberia in 1892 under a Federal program initiated by Sheldon Jackson, in part to provide more meat for the Inupiat people in the area (Dau 2000). As part of the program, local people were trained at the Teller Reindeer Station at Port Clarence to manage the herds (University of Alaska Fairbanks 2016).

Historically, people in the Seward Peninsula area hunted a variety of species. As moose moved into the region, opportunistic harvest of the animals grew. ADF&G provides some information on the harvest of moose from their subsistence harvest surveys, but these surveys are not updated on a regular basis. The most recent Unit 22 surveys were conducted in 2011 and 2012 in the communities of Elim, Golovin, Kivalina, Koyuk, Noatak, Wales, Brevig Mission and Teller (Braem and Kostick 2014; Mikow, Braem, and Kostick 2014). According to the research, most communities harvested more caribou than moose, but moose were still an important part of the subsistence diet for many households in Unit 22. Caribou have seldom been present in the southern portion of Unit 22A in many years (Dau 2011), suggesting that moose may be more important in this area.

There are two communities located within the Unit 22A remainder hunt area, Stebbins and Saint Michael. Both are Central Yup'ik communities with strong family connections to the Yup'ik communities of the Yukon Delta and Lower Yukon River. Along with Elim, they are the only Central Yup'ik communities in the Seward Peninsula area (Magdanz et al. 2007). The economies of Stebbins and Saint Michael are based on various wage labor jobs, fishing, and subsistence.

Stebbins is located on the southern shore of Norton Sound, 120 miles southeast of Nome. The Yup'ik name for the village is Tapraq, while the name Stebbins first appeared in 1900 (Alaska Department of Community and Economic Development 2016). The community is located in the Nome Census Area and encompasses 36 square miles of land and two square miles of water (Alaska Department of Community and Economic Development 2016). The city was incorporated in 1969 and had a population of 556 people in 2010 (American Fact Finder 2016). The community is accessible by air or water, and there is a 10.5 mile road connecting Stebbins with Saint Michael (Magdanz et al. 2007).

Saint Michael is on the southern shore of Norton Sound, on the opposite side of Saint Michael Island from Stebbins, 123 miles southeast of Nome. In 2010, Saint Michael had a population of 401 people (American Fact Finder 2016). A trading post called Redoubt St. Michael was built by the Russian-American Company in 1833 in the area that is now Saint Michael. A U.S. military post was established in 1897. At that time, Saint Michael was an important trading post for local Eskimos to trade and barter for Western goods. This area also became an important area during the gold rush as a gateway to the Yukon River, with as many as 10,000 people living there during the gold rush (Kawerak 2016).

According to a study conducted in 2005 (Magdanz et al. 2007), people from both communities were involved in trading and bartering fish, salmon, caribou, moose, belugas, seals, whales, along with berries and other plant species. Although moose is only one of the subsistence resources available, they do contribute to the subsistence diet of the area.

Harvest History

Local hunters, defined here as residents of Unit 22A, have been responsible for most of the reported moose harvest in Unit 22A. On average, 25 moose were harvested annually between 2005 and 2016 in Unit 22A. During this time period, 72% of the reported moose harvest was taken by local residents, while nonlocal residents of Alaska harvested 11% and nonresidents harvested 17% of the total reported harvest (OSM 2016; ADF&G 2017). These averages do not represent harvest patterns in recent years, however. Since the late 2000s, nonlocal resident and nonresident harvest has increased appreciably, while local harvest has remained relatively stable (**Figure 1**).

Harvest patterns are similar in the Unit 22A remainder hunt area. Total reported harvest averaged 8 moose annually between 2005 and 2016, with local users harvesting 58% of the total harvest. Nonlocal residents harvested 9% and nonresidents harvested 32% of the total harvest during this time (OSM 2016; ADF&G 2017). However, local reported harvest has declined in the past several years, while nonlocal harvest has increased (**Figure 2**), resulting in a reversal in the relative impact of local and nonlocal user groups on reported harvest in this hunt area (OSM 2016; ADF&G 2017). The increase in nonlocal harvest in Unit 22A as a whole is due largely to the increased harvest with the Unit 22A remainder hunt area. It is unknown whether the decline in local harvest is due to lack of access to harvestable moose, poor reporting compliance, or other factors. The evidence suggests that is likely a result of several factors.

Residents of Unit 22A report difficulty accessing moose in Unit 22A due to long distances, rough terrain, and isolation caused by unsafe ice conditions near communities (Mikow 2017; SPRAC 2017). In addition, underreporting of local harvest is common in this area (Gorn 2015, pers. comm.), particularly in

areas where registration permits are not required. As a result, harvest is likely higher than harvest reports reflect.

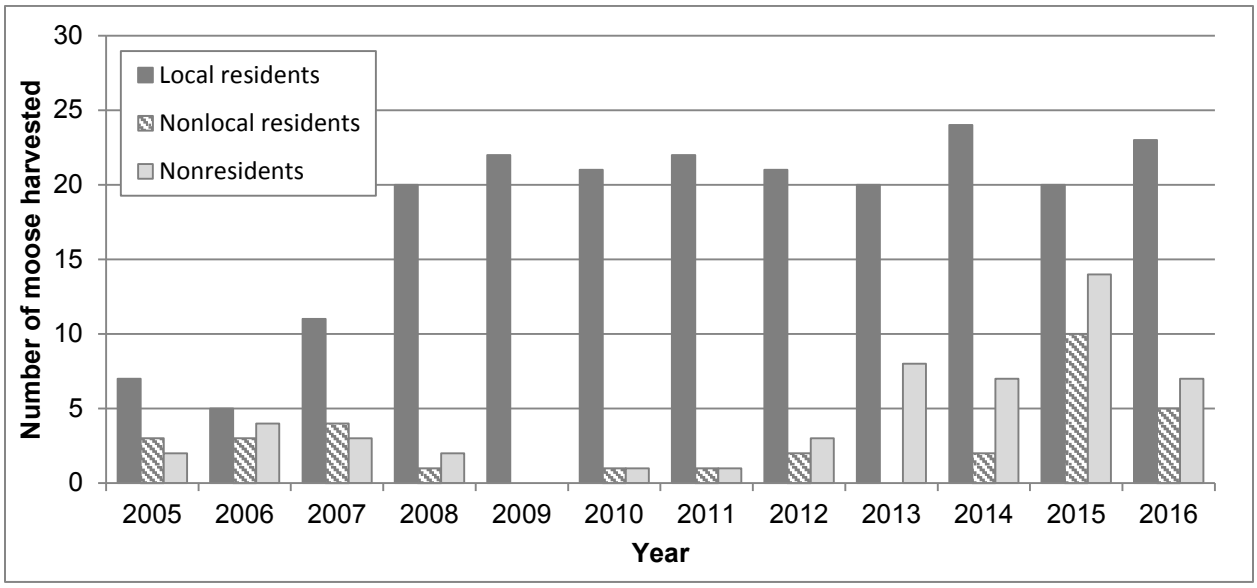


Figure 1. Reported harvest by user group in Unit 22A under Federal and State regulation, 2005 – 2016 (OSM 2016; ADF&G 2017). Local users are defined as residents of Unit 22A.

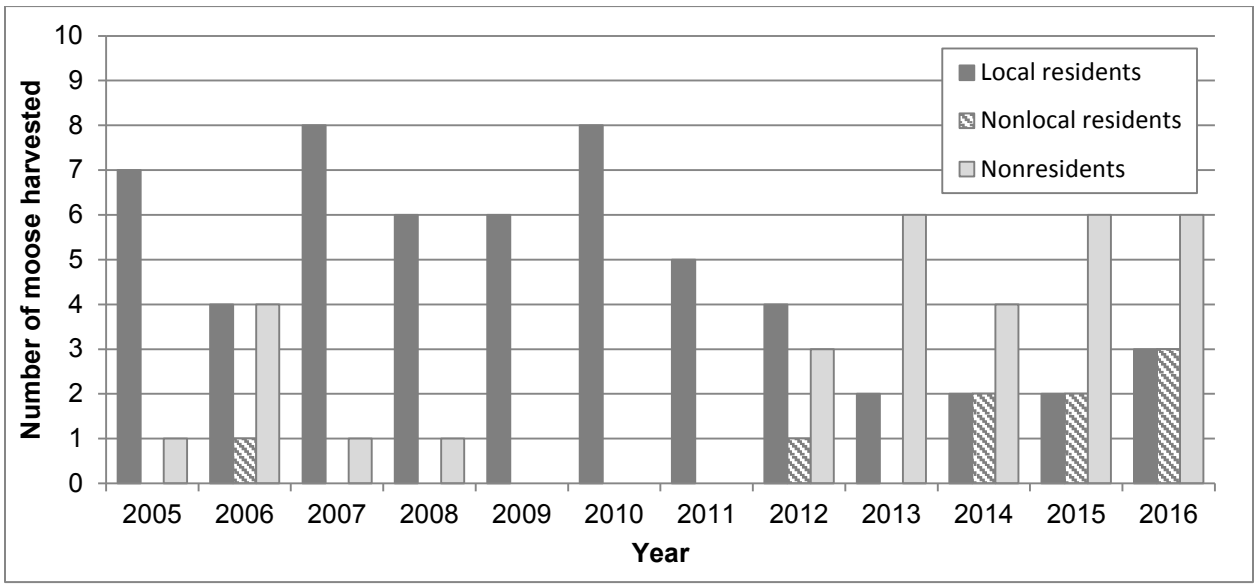


Figure 2. Reported harvest by user group in Unit 22A remainder under Federal and State regulation, 2005 – 2016 (OSM 2016; ADF&G 2017). Local users are defined as residents of Unit 22A.

For instance, in 2005 residents of Stebbins and St. Michael reported harvesting 5 and 2 moose, respectively (ADF&G 2017). However, harvest data obtained from community surveys conducted by Kawerak, the regional Native Association, indicate that 26 moose were harvested by residents of Stebbins and 17 moose were harvested by residents of St. Michael that year (Ahmasuk and Trigg 2007). More

recently, in 2013, Stebbins residents reported no moose harvest but household surveys indicate that 20 moose were taken, primarily in August and September (Mikow 2017). Annual community harvest data is only sporadically available for any given community, but typically exceeds reported harvest for the years it is available. Acknowledging that community harvest data is a snapshot and that trends over time may be more revealing, these community surveys are an important supplement to reported harvest when estimating total harvest.

In addition to tabulating harvest, community surveys are also useful for understanding spatial use patterns of subsistence resources. Residents of Stebbins report hunting moose on primarily in the middle and western portions of Unit 22A remainder, an area that contains most of the Federal public lands in the Unit 22A remainder hunt area. They report using river corridors to access lands in the upper drainages of the hunt area, all the way to the Unit 18 boundary (Mikow 2017). Residents of Stebbins and Saint Michael also have a customary and traditional use determination for moose in the northern portion of Unit 18. Local residents report that they hunt moose in Unit 18, where moose are abundant, the harvest limit is generous, and the season is open from August to March (SPRAC 2017). Community harvest surveys corroborate these reports, suggesting that residents of Stebbins hunt and harvest moose in the vicinity of Emmonak and Alakanuk, and in the Andreafsky River corridor, in particular (Mikow 2017).

Guide Use

The bulk of the Federal public lands within the Unit 22A remainder hunt area are managed by the Yukon Delta National Wildlife Refuge (Refuge) (**Map 1**). The Refuge maintains an exclusive guide concession for the Andreafsky portion of the Refuge, which includes southern Unit 22A and adjacent areas in Unit 18. This concession, which is awarded to a single competitor every ten years, is currently held by the proponent of this proposal. He currently guides clients on Federal and non-Federal lands adjacent to the closed area, and is limited to 6 moose annually. In 2018, the limit will increase to 8 moose annually. Transporters are also authorized to work in the Andreafsky area, and there is no limit on their number. Currently there are six transporters using the area. Each transporter is limited to six hunters annually (Rearden 2017, pers. comm.).

BLM, which has public lands within Unit 22A remainder, also issues permits for guides and transporters. Unlike the Refuge guide use program, the BLM program does not limit the number of permits issued to guides. Currently, six guides are permitted on BLM lands in Unit 21E, where conditions are reported to be crowded. This has generated interest from guides in expanding operations into the adjacent lands in Unit 22A. Under BLM rules, transporters are not required to secure permits prior to operating on public BLM lands (Seppi 2017, pers. comm.).

Effects of the Proposal

If this request is approved, Federal public lands in the Unit 22A remainder moose hunt area will be open to all users Sep. 1 – Sep 30. This has the potential to increase harvest due to an increase in nonlocal use. Harvest rates for guided hunters in Unit 22 may increase if the closure is rescinded. On Refuge lands, this increase is expected to be limited since a single guide is authorized to use this area. On BLM lands, where the number of guides is not limited, the increase might be more significant, though the smaller

amount of BLM land may limit the influx of guides. More uncertain is the effect of unguided nonlocals. Many transporters could be authorized to operate on Federal public lands Unit 22A and it is not unlikely that rescission of the Federal lands closure will result in increased interest by nonlocal users seeking transport, or by those equipped to hunt without professional support.

Given our limited understanding of the population status in the specific area, there is some uncertainty whether additional harvest will have a significant impact on the moose population. However, it is expected that the population in this area is increasing, consistent with those in neighboring areas. Although unquantified, it is also likely that dispersal from neighboring high density populations is occurring. Collectively, this suggests that the population in Unit 22A can sustain at least some additional harvest, without jeopardizing the conservation status of the population.

The effect on local subsistence users is uncertain. Subsistence users' concerns related to their ability to harvest moose in this area are largely related to access to moose, rather than scarcity of moose. However, opening Federal lands does increase the potential for user conflict between local and nonlocal users, particularly considering spatial use patterns and reports that subsistence users are experiencing difficulty harvesting moose.

If this proposal is approved, it would primarily benefit nonresident hunters and guides, who would have access to Federal public lands for the entire 30-day nonresident season. It would also benefit nonlocal resident hunters, who would have access to Federal public lands during the month of September. However, nonlocal residents who wished to hunt Aug. 1 – Aug. 31 or Jan. 1 – Jan. 31, as allowed by State regulation, would be limited to State lands during these time periods. Federally qualified subsistence users who reside in Units 22B, 22C, 22D, and 22E would be among those excluded from hunting on Federal lands during these times.

OSM CONCLUSION

Support Proposal WP18-37 **with modification** to open Federal public lands only to Federally qualified subsistence users.

The modified regulation should read:

Unit 22—Moose

Unit 22A, remainder—1 bull. However, during the period Jan.1–Feb. 15, only an antlered bull may be taken. Federal public lands are closed to the taking of moose except by ~~residents of Unit 22A hunting under these regulations~~ ***Federally qualified subsistence users****.*	*Aug. 1 – Sep. 30* *Jan. 1 – Feb. 15*

Justification

There is a growing body of evidence suggesting that the Unit 22A remainder moose population status is improving. In particular, the Unit 18 and Unit 21E moose populations have shown notable growth in recent years, supporting the supposition that neighboring populations are influencing moose density in Unit 22A through dispersal. This suggests that the population can sustain at least some additional harvest.

However, opening Federal public lands in a manner that primarily benefits non-resident hunters and guides, prior to opening these lands to all Federally qualified subsistence users, may be premature, particularly given the residual uncertainty regarding the population status. Furthermore, fully rescinding the closure is likely to result in increased pressure from non-Federally qualified users, and may result in increased guide and transporter use of the area. Given the spatial use patterns of local moose hunters, increased commercial traffic may result in increased conflict in this area. This may be exacerbated by the challenge local users face in gaining access to harvestable moose. In the absence of clear biological evidence that full rescission of the closure is warranted, an incremental liberalization of harvest regulations that extends opportunity to Federally qualified subsistence users makes sense at this time, and does not preclude reconsideration of this request is subsequent regulatory cycles.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Seward Peninsula Subsistence Regional Advisory Council

Support as modified by OSM. The Council supported this proposal with the OSM modification to open up the area to all Federally qualified subsistence users. Council members believe that the moose population in this region is still too low to allow for non-resident hunters who have better access and could intercept moose that would otherwise move into areas accessible by subsistence users. The Alaska Department of Fish and Game does not currently understand the impact of non-resident hunters on subsistence hunters.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-37: This proposal, submitted by Lance Kronberger, would remove the restriction for non-federally qualified users to hunt moose in Unit 22A Remainder, so that the federal opportunity is the same as the season established by the Alaska Board of Game. The proponent was contacted to clarify the intent of the proposal, which is to rescind the federal public lands closure in this hunt area September 1–30, which is the same as the state's non-resident moose season.

Introduction: There is no population estimate for this hunt area; however, local residents and the proponent of this proposal suggest that moose abundance has increased. Historically, population information from moose surveys conducted in the Unit 22A Central hunt area, which includes the Unalakleet River drainage, has been used to make inferences on moose abundance in Unit 22A Remainder. Moose abundance in Unit 22A Central has increased since 2003 when severe declines were observed, which prompted regulatory changes throughout Unit 22A and the initiation of a moose moratorium in the Unalakleet area. In 2017, the population estimate in Unit 22A Central was 840 observable moose (90% CI: 747-933). Density estimates from Unit 22A Central range from 0.31 to 0.39 moose/mi^2. Fall composition survey estimates from within Unit 22A Central were 124 bulls:100 cows in 2016. These results may have been influenced by local harvest patterns and/or moose movement between adjacent areas and warrants further investigation. Unit 22A Remainder is adjacent to Unit 21E and Unit 18. Density estimates from surveys completed in Unit 21E in 2016 and Unit 18, lower Yukon, in 2017 were 2.0 moose/mi^2 and 4.7 moose/mi^2, respectively. The degree to which these adjoining areas influence moose abundance in 22A Remainder is unclear. The broad spectrum of moose densities in adjoining areas

and the lack of biological information for the Unit 22A Remainder hunt area make it difficult to estimate abundance in this hunt area with any degree of certainty.

Resident and non-resident harvest from the area is monitored using general season moose harvest tickets. Harvest tickets normally do not capture all the harvests by local residents in this area. Results of community harvest assessment surveys do have information about harvest trends and the spatial distribution of harvest for local residents. Surveys to date do not suggest that resident harvest in the area has declined, but they do note that local residents have expressed that environmental conditions have made it increasingly difficult to access the hunt area. Average annual reported harvest from harvest tickets for non-local Alaska residents and non-residents 2012-2016 is 3 moose and 7 moose respectively.

Impact on Subsistence Uses: It is uncertain if opening federal lands to non-federally qualified users will impact federally qualified subsistence users in Unit 22A Remainder if this proposal is adopted. The current federal restriction excludes all but residents of Unit 22A from hunting on federal lands in Unit 22A. Removing this restriction in Unit 22A Remainder would provide additional opportunity for all users living outside of Unit 22A.

Impact on Other Uses: Removing the restriction for non-federally qualified subsistence users in the Unit 22A remainder hunt area would provide additional opportunity for non-local Alaska residents and non-resident hunters.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for moose in Unit 22.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for moose in Unit 22 is 250-300 animals.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
Remainder of 22A	RESIDENT HUNTERS		
	1 bull; or	Aug 1-Sept 30 (GM000)	
	1antlered bull	Jan 1-Jan 31 (GM000)	
	NONRESIDENT HUNTERS		
	1 bull with 50-inch antlers or antlers with 4 or more brow tines on one side		Sept 1-Sept 30 (GM000)

Special instructions: None for this hunt

Conservation Issues: The lack of biological information for this hunt area makes it difficult to estimate the harvestable portion or realized harvest rate. Without this information maintaining harvest at the current level is recommended.

Enforcement Issues: None for this hunt.

Recommendation: ADF&G **SUPPORTS** this proposal because it is unlikely to increase harvest significantly. Despite the lack of biological information for this moose population, there is no reason to believe that there is a conservation concern associated with the current level of harvest. Local observations suggest that the population is increasing, and several adjacent populations are at a medium to high density with good bull:cow ratios. A clear justification by the Federal Subsistence Board about why federal lands should remain closed should be made if this proposal is not adopted.

WP18–38 Executive Summary	
General Description	Proposal WP18–38 requests that the Federal public lands closure for moose harvest in the portion of Unit 22A north of and including the Tagoomenik and Shaktoolik river drainages be rescinded Sep. 1 – Sep. 20. *Submitted by: Lance Kronberger.*
Proposed Regulation	**Unit 22—Moose** *Unit 22A—that portion north of and including the Tagoomenik and Shaktoolik River drainages—1 bull. Federal public lands are closed to hunting* ***Aug. 1 – Aug 31 and Sep. 21 – Sep. 30*** *except by residents of Unit 22A hunting under these regulations* — *Aug. 1– Sep. 30*
OSM Conclusion	**Oppose**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council	

WP18–38 Executive Summary	
Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	**Oppose**
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Support**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-38

ISSUES

Wildlife Proposal WP18-38, submitted by Lance Kronberger of Eagle River, requests that the Federal public lands closure in the portion of Unit 22A north of and including the Tagoomenik and Shaktoolik river drainages, which restricts moose harvest to residents of Unit 22A, be rescinded Sep. 1 – Sep. 20, to coincide with the State's nonresident moose season. The intent of the proposal was confirmed with the proponent by telephone.

DISCUSSION

The proponent requests that Federal moose regulations in the portion of Unit 22A north of and including the Tagoomenik and Shaktoolik river drainages (Unit 22A North) be changed to "remove the Federally Qualified regulation", to coincide with the season established by the Alaska Board of Game. The proponent was contacted and it was clarified that the intent of the proposal is to rescind the Federal public lands closure in this hunt area Sep. 1 – Sep. 20, to coincide with the State's nonresident moose season. The proponent believes that the moose population in this area has recovered, due to increased nonlocal brown bear harvest. He notes high bull:cow ratios and good calf survival. He also states that most of the closed Federal lands are very remote and difficult to access, which concentrates use on non-Federal lands closer to communities.

Existing Federal Regulation

Unit 22—Moose

Unit 22A—that portion north of and including the Tagoomenik and Shaktoolik River drainages—1 bull. Federal public lands are closed to hunting except by residents of Unit 22A hunting under these regulations	*Aug. 1 – Sep. 30*

Proposed Federal Regulation

Unit 22—Moose

Unit 22A—that portion north of and including the Tagoomenik and Shaktoolik River drainages—1 bull. Federal public lands are closed to hunting ***Aug. 1 – Aug 31 and Sep. 21 – Sep. 30*** *except by residents of Unit 22A hunting under these regulations*	*Aug. 1– Sep. 30*

Existing State Regulation

Unit 22—Moose

Residents: Unit 22A north of and including the Tagoomenik and Shaktoolik River drainages—one bull	*Aug. 1 – Sep. 30*
Nonresidents: Unit 22A north of and including the Tagoomenik and Shaktoolik River drainages—one bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side	*Sep. 1 – Sep. 20*

Extent of Federal Public Lands

Federal public lands comprise approximately 78% of Unit 22A North and consist of 78% Bureau of Land Management (BLM) managed lands (**Map 1**).

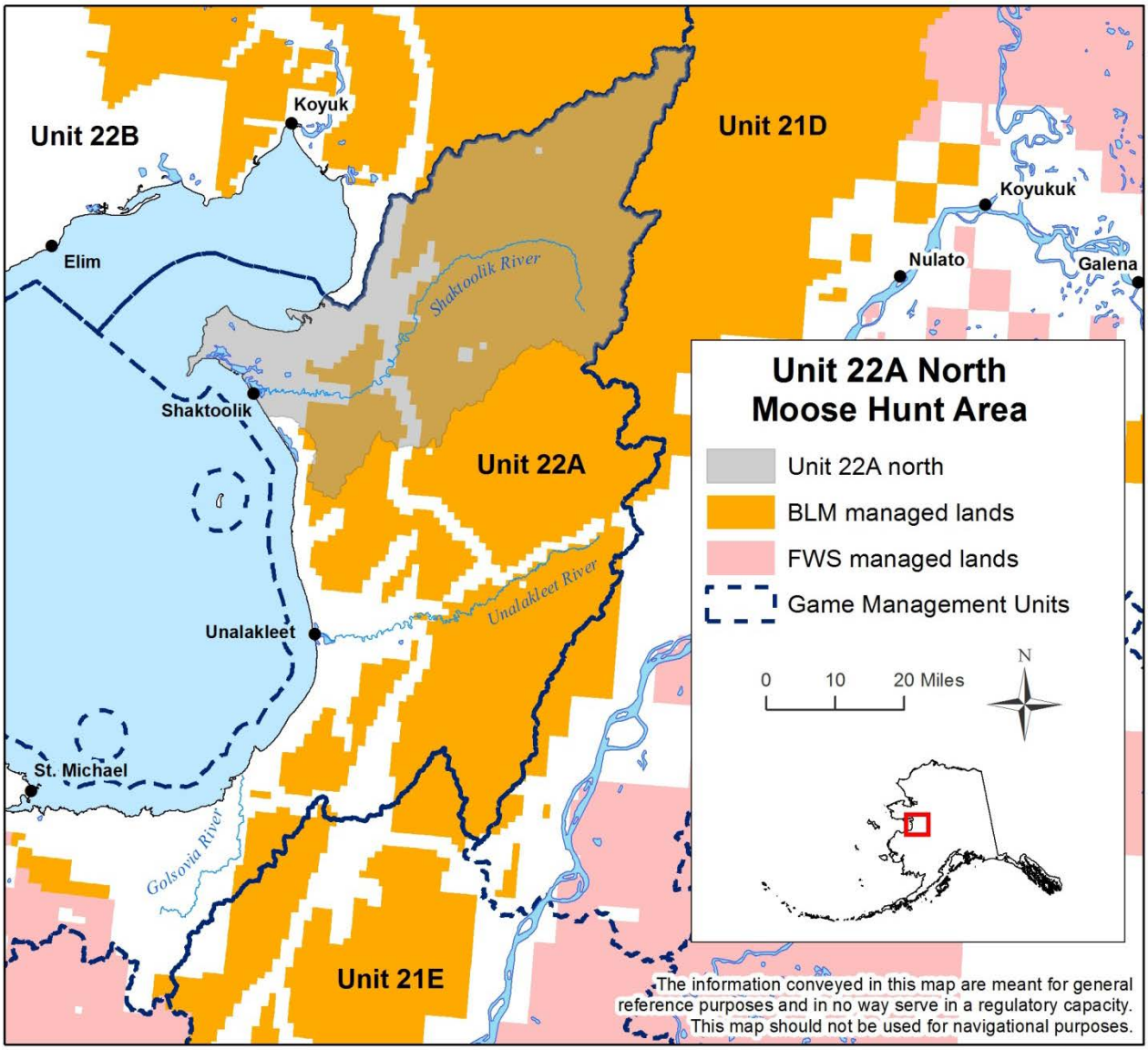
Customary and Traditional Use Determinations

Residents of Unit 22 have a customary and traditional use determination for moose in Unit 22.

Regulatory History

Prior to 1995, Federal public lands in Unit 22A were open to moose harvest by all users. In 1995, the Seward Peninsula Subsistence Regional Advisory Council (Council) submitted Proposal P95-42, requesting that the fall moose season in Unit 22A be extended from Aug. 1 – Sep. 30 to Aug. 1 – Oct. 10. The Board adopted this proposal with modification to extend the season, as proposed, and to close Federal public lands for the Oct. 1 – Oct. 10 portion of the season to all users except residents of Unit 22A (FSB 1995a).

The Alaska Department of Fish and Game (ADF&G) subsequently submitted a Request for Reconsideration, R95-11, asserting that the Oct. 1 – Oct. 10 Federal public lands closure was not substantiated and that the season extension violated established principles of wildlife management. The Board reversed their decision on P95-42, concurring that the season extension was not consistent with the maintenance of a healthy moose population. The Board recognized that residents of Unit 22A traditionally harvested moose in October, but were concerned that the October season extension overlapped the rut and could have led to an unsustainable harvest. As a result of the Board's decision, the fall moose season was open Aug. 1 – Sep. 30. The Board also took action to close Federal public lands in Unit 22A to the harvest of moose to all users except residents of Unit 22A during the Dec. 1 – Jan. 31 season (FSB 1995b). This pool of eligible users is smaller than the pool of Federally qualified subsistence users, defined as those who have a customary and traditional use determination and includes all residents of Unit 22.



Map 1. Unit 22A North moose hunt area.

Proposal 50 was submitted by the Council in 1996 to ensure continuation of the Aug. 1 – Sep. 30 season in Unit 22A, as well as to request closure of Federal public lands to the harvest of moose except by Federally qualified subsistence users during this season. The Board rejected this proposal (FSB 1996) but retained the Aug. 1 – Sep. 30 season.

Proposal P98-86, submitted by the Council, requested the harvest limit be changed from one antlered bull to one moose for the Aug. 1–Sep. 30 and Dec. 1–Jan. 31 seasons. The Board adopted this proposal with modification to change the harvest limit to one bull, which provided additional harvest opportunity, particularly during the winter season when many bulls are antlerless, while protecting cows (OSM 1998).

In 2003, the Alaska Board of Game (BOG) made a number of regulatory changes for moose in Unit 22. In Unit 22A, three distinct hunt areas were established, and seasons and harvest limits were adjusted to

account for localized patterns of harvest. Prior to these changes, the State resident season was Aug. 1 – Sep. 30 and Dec. 1 – Jan. 31 and the harvest limit was one bull throughout Unit 22A. The BOG's action 1) closed the winter season in North Unit 22A (north of and including the Tagoomenik and Shaktoolik River drainages), 2) shortened the fall season to Aug. 15 – Sep. 25 and closed the winter season in Central Unit 22A (Unalakleet River drainage area), 3) shortened the winter season to Dec 1 – Dec. 31, and changed the harvest limit for the winter season to one antlered bull in Unit 22A remainder (Persons 2004). These changes were scheduled to become effective in regulatory year 2004/05. However, data showing steep declines in the Unit 22A moose population prompted ADF&G to issue Emergency Order 05-05-03 in November 2003, which implemented the new regulations immediately. Due to the timing of the Emergency Order, only the winter seasons were affected. The same changes to the winter seasons were made in Federal regulation through Special Action WSA03-14, approved by the Board in December 2003 (Persons 2004).

In 2004, the Council submitted Proposal WP04-70, requesting, in part, retention of the temporary changes made through Special Action WSA03-14. Specifically, the proposal requested 1) changing the harvest limit from one bull to one antlered moose throughout Unit 22A; 2) eliminating the winter seasons in North and Central Unit 22A; 3) shortening the fall season from Aug. 1 – Sep. 30 to Aug. 15 – Sept. 30 in Central Unit 22A; and 4) closing Federal public lands throughout Unit 22A to the harvest of moose in all seasons, except by residents of Unit 22A (OSM 2004). The Board adopted Proposal WP04-70 with modification to set the harvest limit at one bull for the fall seasons and one antlered bull for the winter season in Unit 22 Remainder, and further reduce the Central Unit 22A season, to Aug. 15 – Sep. 25 (OSM 2016). These changes resulted in alignment of State and Federal moose seasons and harvest limits in Unit 22A. They also resulted in the Federal lands closure, as it currently exists.

Since 2004, there have been several regulatory changes and special action requests in the Central and Remainder hunt areas. However, Federal moose harvest regulations in the Unit 22A North hunt area have remained unchanged, with an Aug. 1 – Sep.30 season, a harvest limit of one bull, and a Federal public lands closure.

The State nonresident season in the North hunt area was extended in 2017, from Sep. 1 – Sep. 14 to Sep. 1 – Sep. 20, when the BOG adopted Proposal 27 at their January 2017 meeting in Bethel. The BOG expressed concern about increasing nonresident harvest in an area where subsistence harvest is high, and deliberated the merits of requiring a registration permit, in order to closely monitor harvest. Ultimately, they concluded that that high bull:cow ratio in the area provided sufficient protection against overharvest and adopted the proposal without modification.

Biological Background

Prior to 1930, moose were scarce on the Seward Peninsula, but became a resident species by the late 1960s. Moose populations increased during the 1970s and peaked during the 1980s (Gorn 2012). There were several severe winters during the 1990s, which may have contributed to population declines during that time (Nelson 1995). Populations within Unit 22 have not recovered to peak levels of the 1980s, with brown bear predation on moose calves suspected to be a contributing factor (Gorn 2012). Current

population objectives for Unit 22A, established by ADF&G, are to maintain a population of 600 – 800 moose and maintain a minimum bull:cow ratio of 30:100.

Unit 22A North is the northernmost of three moose hunt areas in Unit 22A, and is comprised of the portion of Unit 22A north of and including the Tagoomenik and Shaktoolik river drainages (**Map 1**). In Unit 22, moose surveys are limited to select drainages (Gorn and Dunker 2014). Consequently, management decisions for moose throughout Unit 22A have typically been made based on surveys conducted in and around the Unalakleet River drainage. This survey area is located in the Central Unit 22A hunt area, adjacent to the southern Unit 22A North boundary, and contains similar habitat.

In this area, geospatial and composition surveys are used to assess moose population status. Spring geospatial surveys were conducted between 2003 and 2017 to estimate the size of the moose population in Central Unit 22A (**Table 1**). The population in this area has been increasing since 2003 and was estimated to be 840 moose (± 11%), or 0.35 moose/mi^2, in 2017. This estimate spans the upper bound of the Unit 22A management goal of 600 – 800 moose and represents a 9% annual growth rate between 2012 and 2017 (SPRAC 2017).

In addition to estimates of population size, spring surveys generated age class estimates. The percent short yearlings, or ten month old calves, is an estimate of recruitment, and was 12% in 2017 (**Table 1**). This is lower than recruitment estimates in the past decade, but was characterized as adequate by the local biologists (SPRAC 2017).

Table 1. Population and age class estimates for moose in Unit 22A during spring, 1989–2017 (Gorn and Dunker 2014, SPRAC 2017).

Survey area	Year	Population estimate (moose)	Density estimate (per mi^2)	% Short yearlings	Survey method
Unalakleet drainage	1989	325	0.29	16	Gassaway
	2003	75	0.04	15	Geospatial
	2005	123	0.15	8	Geospatial
	2008	339	0.14	18	Geospatial
	2012	545	0.24	19	Geospatial
	2017	840	0.35	12	Geospatial

Fall composition surveys were conducted between 2003 and 2016 in the Unalakleet drainage (**Table 2**). The bull:cow ratio has increased since the last survey and was 124 bulls:100 cows in 2016. This unusually high bull:cow ratio is well above the minimum population objective and raises questions about the influences of local harvest patterns and moose movements. Local biologists believe that this issue warrants further attention (BOG 2017, SPRAC 2017).

Table 2. Composition estimates for moose in the Central Unit 22A hunt area during fall, 2003 - 2016 (Gorn and Dunker 2014, SPRAC 2017).

Survey Area	Year	Bulls: 100 Cows	Calves: 100 Cows	Total moose observed
Golsovia River	2003	50	67	26
Unalakleet River	2003	69	20	66
	2006	69	34	78
	2016	124	30	250

Cultural Knowledge and Traditional Practices

The Seward Peninsula has been inhabited by humans for at least 12,000 years (Magdanz et al. 2007). The Inupiaq Eskimo people of the area have a deeply rooted practice of subsistence hunting, fishing, and gathering of wild resources (National Park Service 2016). Until European contact in the early 19th century, many of these groups were semi-nomadic, moving with the seasons based on the availability of wild resources. During the winter months, people often lived in permanent villages along the coast where they harvested seals, belugas, other marine mammals, fish and small land mammals. During warmer months they established family fish camps near rivers and lakes to harvest fish and plant resources (National Park Service 2016).

Large land mammals were not abundant in the Seward Peninsula area during the 1800s. Moose did not start migrating into the area until the 1940s, and while caribou were hunted traditionally, their numbers declined in the mid-1800s (Dau 2000). Reindeer were introduced from Siberia in 1892 under a Federal program initiated by Sheldon Jackson, in part to provide more meat for the Inupiat people in the area (Dau 2000). As part of the program, local people were trained at the Teller Reindeer Station at Port Clarence to manage the herds (University of Alaska Fairbanks 2016).

Historically, people in the Seward Peninsula area hunted a variety of species. As moose moved into the region, opportunistic harvest of the animals grew. ADF&G provides some information on the harvest of moose from their subsistence harvest surveys, but these surveys are not updated on a regular basis. The most recent Unit 22 surveys were conducted in 2011 and 2012 in the communities of Elim, Golovin, Kivalina, Koyuk, Noatak, Wales, Brevig Mission and Teller (Braem and Kostick 2014; Mikow, Braem, and Kostick 2014). According to the research, most communities harvested more caribou than moose, but moose were still an important part of the subsistence diet for many households in Unit 22. Caribou have seldom been present in the southern portion of Unit 22A in many years (Dau 2011), suggesting that moose may be more important in this area.

Harvest History

Local hunters, defined here as residents of Unit 22A, have been responsible for most of the reported moose harvest in Unit 22A. On average, reported harvest was 25 moose annually between 2005 and 2016 in Unit 22A. During this time period, 72% of the reported moose harvest was taken by local residents, while nonlocal residents of Alaska harvested 11% and nonresidents harvested 17% of the total reported

harvest (OSM 2016; ADF&G 2017a). These averages do not represent harvest patterns in recent years, however. Since the late 2000s, nonlocal resident and nonresident harvest has increased appreciably, while local harvest has remained relatively stable (**Figure 1**).

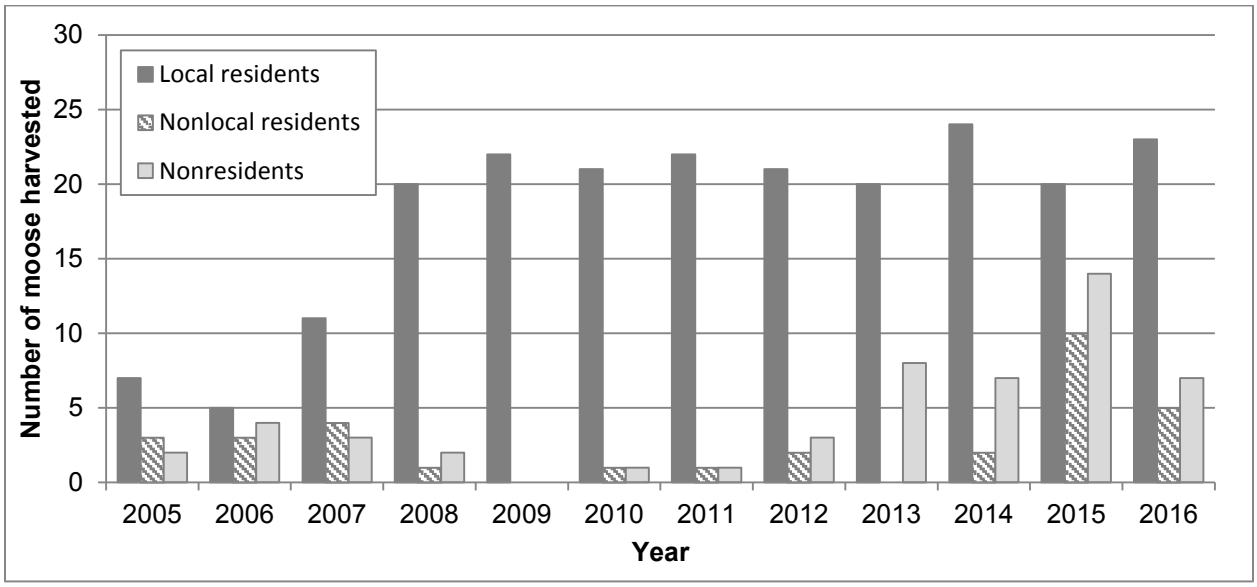


Figure 1. Reported harvest by user group in Unit 22A under Federal and State regulation, 2005 – 2016 (OSM 2016; ADF&G 2017a). Local users are defined as residents of Unit 22A.

In the Unit 22A North hunt area, nonresidents have reported 36% of the total harvest between 2005 and 2016, while nonlocal residents have reported 34% during that time (**Figure 2**). Of the reported harvest attributable to nonlocal residents, 24% was taken by Federally qualified subsistence users who are currently excluded from harvesting moose on Federal public lands. Total nonlocal harvest is low however, averaging two moose per year. Most of the successful harvest since 2013 has been by nonresidents, who harvested 4 bulls in 2015.

In this hunt area, local users have been responsible for only 30% of total reported harvest between 2005 and 2016. Sixty-nine percent of that occurred during the month of September, despite the season beginning on August 1 (OSM 2016; ADF&G 2017a). Hunting occurs primarily along the Shaktoolik River corridor, which provides access well into the eastern portion of the hunt area (BOG 2017), and ninety-two percent of local harvest occurred in the Shaktoolik or Tagoomenik drainages (OSM 2016; ADF&G 2017a).

Underreporting is a known problem among rural Alaskans, particularly in hunts regulated by harvest ticket rather than registration permit, like this one. Results of household surveys show that moose harvest by residents of Shaktoolik, the only community within this hunt area, was 21, 14, and 10 moose in 1998, 1999, and 2003, respectively (ADF&G 2017b). Local biologists estimate total moose harvest within Unit 22A North to be 10 – 15 moose per year, which results in a 2 – 4% harvest rate. They indicate that harvest above 5 – 6% (conservatively, 20 moose) is not recommended without additional information about the moose population (BOG 2017).

Guide Use

All of Federal public lands within the Unit 22A North are managed by BLM, which permits guides to operate on Federal lands. Currently, six guides are permitted to operate on BLM lands in southern Unit 22A and adjacent units. In those areas, conditions are reported to be crowded, which has generated interest from guides in expanding operations into the adjacent lands in Unit 22A. Transporters are also allowed to operate on public BLM lands, but are not required to secure permits prior to commencing operations (Seppi 2017, pers. comm.).

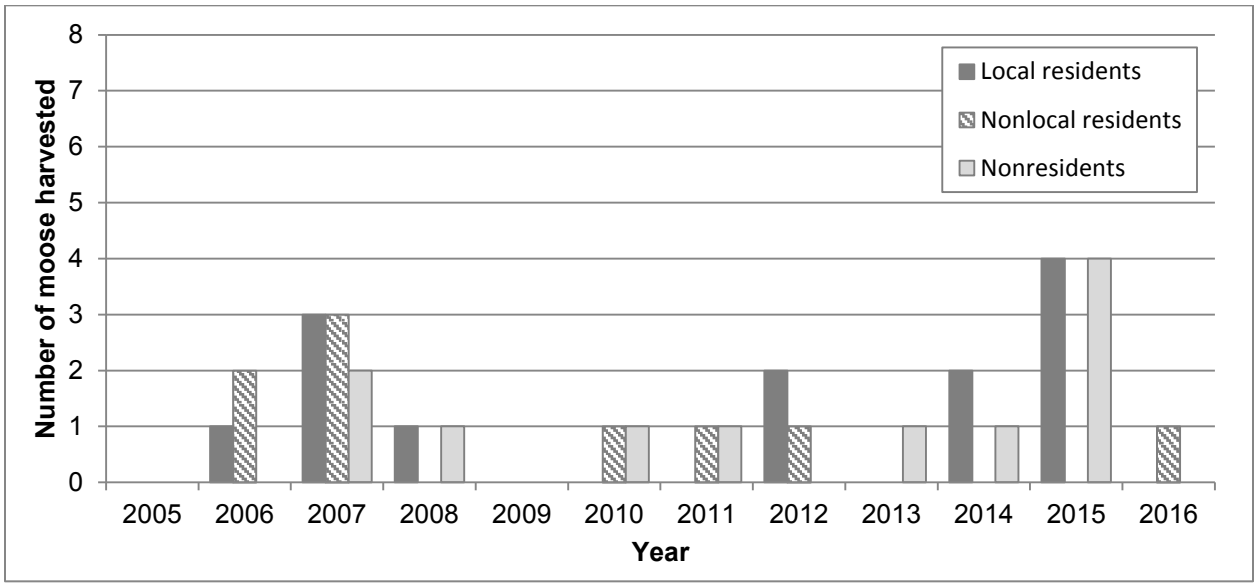


Figure 2. Reported harvest by user group in Unit 22A North under Federal and State regulation, 2005 – 2016 (OSM 2016; ADF&G 2017a). Local users are defined as residents of Unit 22A.

Effects of the Proposal

If this proposal is adopted, Federal public lands within the Unit 22A North moose hunt area will be open to all users Sep. 1 – Sep. 20, a period that coincides with the State's nonresident season. This action may result in additional harvest by nonlocal users. In particular, nonresident hunting pressure may increase, particularly considering the recent addition of 6 days to what was previously a 14 day nonresident State season, combined with the potential for increased guide use. Hunting pressure from nonlocal residents may increase as well, as moose hunting on Federal public lands will be allowable for 20 days of a 61 day resident State season. The Shaktoolik River provides access to Federal public lands, which increases the chances that rescinding the closure will result in additional nonlocal hunting pressure.

Given our limited understanding of the population status in the specific area, there is some uncertainty whether increased harvest will have a significant impact on the moose population. Recent surveys in Unit 22A indicate that the population has increased somewhat but it remains at a low density. High bull:cow ratios suggest that the population can sustain additional bull harvest, although these ratios also raise questions about local population dynamics and patterns of dispersal.

Federally qualified subsistence users in Unit 22A may be affected by rescission of the Federal lands closure. If additional harvest has detrimental effects on the moose population, there will be long-term negative effects for local users. In addition, an increase in nonlocal users may result in increased user conflict in the area, particularly along the Shaktoolik River. While the lower portion of the river is bounded by non-Federal lands and is currently open to all users, most of the upper portion of the river is bounded by Federal lands and is currently open only to residents of Unit 22A. In addition, local harvest is occurs primarily in September, which coincides with the State's nonresident season. Input from the Seward Peninsula Subsistence Regional Advisory Council will be useful in gauging the potential for user conflict in this area.

If this proposal is adopted as submitted, Federal public lands will remain closed to all users except residents of Unit 22A North for the remainder of the Federal season, Aug. 1 – Aug. 31 and Sep. 21 – Sep. 30. While this represents an increase in opportunity for all users who live outside of Unit 22A, many Federally qualified subsistence users will remain unable to harvest moose on Federal public lands for much of the season.

OSM CONCLUSION

Oppose Proposal WP18-38.

Justification

It is unknown what effect rescinding the closure in the Unit 22A North moose hunt area will have on the moose population in the area, or on subsistence users. Moose densities in Unit 22A, while improving, remain low. Local biologists believe that the population can sustain a small amount of additional harvest. However, acknowledging uncertainties in estimates of population size and harvest, the most conservative estimate suggests that a harvest increase of just 5 moose annually will result in maximum harvest levels recommended by ADF&G. Rather than expanding nonlocal opportunity in State and Federal regulation concurrently, OSM's conclusion represents an incremental approach. Retention of the Federal lands closure will allow assessment of the effects of the State's nonresident season on harvest levels. In addition, opening Federal public lands to the harvest of moose by Federally qualified users for the duration of the Federal season, prior to opening Federal public lands to all users, may be warranted.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Seward Peninsula Subsistence Regional Advisory Council

Oppose. The Council opposed this proposal because moose populations in this area are not surveyed, though local biologists and residents believe the moose population has increased. The Council also did not believe it could approve opening up this area to non-resident hunting without surveys and input from potentially impacted communities.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-38: This proposal, submitted by Lance Kronberger, removes the restriction preventing hunters who do not qualify to hunt under federal regulations from hunting moose on federal lands in the portion of Unit 22A north of and including the Tagoomenik and Shaktoolik river drainages (Unit 22A North).

Introduction: The season established by the Federal Subsistence Board for federally qualified users matches the season established by the Alaska Board of Game for Alaska residents in the same area. The intent of the proposal is to rescind the federal public lands closure in this hunt area from September 1–September 20 to coincide with the state's non-resident moose season. It is unclear how much the annual moose harvest will change if the restriction on non-federally qualified users was eliminated. Hunting opportunity for non-local Alaska residents and nonresidents is already provided by state regulations.

Impact on Subsistence Uses: It is uncertain if opening up federal lands to non-Federally qualified users will impact federally qualified subsistence users in Unit 22A North if this proposal is adopted. The current restriction prohibits moose hunting on federal land for everyone except residents of Unit 22A. Removing this restriction in the northern portion of Unit 22A provides additional opportunity for federally qualified subsistence users living in the remainder of Unit 22.

Impact on Other Uses: Allowing non-federally qualified subsistence users to harvest moose on federal land may simply redistribute the current harvest, or it may result in an increase in the total harvest.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for moose in Unit 22.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for moose in Unit 22 is 250-300 animals.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
Unit 22A, that portion north of and including the Tagoomenik and Shaktoolik River drainages			
	1 bull;	Aug 1-Sept 30	
	1 bull with 50-inch antlers or antlers with 4 or more brow tines on one side		Sept 1-Sept 20

Special instructions: None for this hunt

Conservation Issues: ADF&G does not have a moose population estimate for the hunt area, but observations by local residents suggest that moose abundance has increased in recent years. ADF&G also uses survey data from the central portion of Unit 22A to make inferences about moose abundance in the northern portion of Unit 22A because the two areas have similar habitat.

Moose abundance in Unit 22A Central increased since 2003 after severe declines prompted regulatory changes throughout Unit 22A, and a moose moratorium was initiated in the Unalakleet area. In 2017, the population estimate in the central portion of Unit 22A was 840 observable moose (90% CI: 747–933), indicating that the population has grown 9% annually since 2012. Density estimates range from 0.3 to 0.4 moose/mi^2. Using these estimates to extrapolate the moose abundance suggests that there are between 574 and 722 moose in the northern portion of Unit 22A. Fall composition survey estimates from the central portion of Unit 22A were estimated at 124 bulls:100 cows in 2016, but these results may have been influenced by local harvest patterns and/or moose movement between adjacent areas and further investigation is needed.

The reported moose harvest by resident and nonresident hunters averaged 2 moose and 1 moose respectively between RY2006–RY2016. A household subsistence survey conducted in Shaktoolik in 2010 indicated that the community harvested approximately 10–15 moose annually (≤3% harvest rate) from the same area.

Enforcement Issues: None for this hunt

Recommendation: ADF&G **SUPPORTS** this proposal because opening federal lands to hunters should not create a biological concern for the moose population. Based on what is known about the moose population, there is a harvestable surplus of bull moose in the area. Adoption of the proposal may result in a simple redistribution of moose hunting opportunity. A clear justification by the Federal Subsistence Board about why federal lands should remain closed should be made if this proposal is not adopted.

WP18–41/42 Executive Summary	
General Description	Proposal WP18–41 requests that moose seasons be modified throughout Unit 23 to a two month cow season of Nov. 1-Dec. 31, a shortening of the bull season from July 1-Mar. 31 to July 1 – Dec. 31, and alignment of Federal and State hunt areas. *Submitted by: Northwest Arctic Subsistence Regional Advisory Council* Proposal WP18–42 requests that moose seasons be modified throughout Unit 23 to include a winter any moose Federal registration permit hunt with a harvest quota aimed at reducing total cow harvest by 20%, and that the harvest limit be modified from one moose to one bull moose during the rest of the season. *Submitted by: Louis Cusack of Chugiak*
Proposed Regulation	WP18-41 **Unit 23—Moose** *Unit 23—that portion north and west of and including the Singoalik River drainage, and all lands draining into the Kukpuk and Ipewik Rivers—1 moose* ***Bulls may be harvested*** — *July 1~~-Mar.~~**Dec. 31*** ***Cows may be harvested*** — ***Nov. 1 – Dec. 31*** *No person may take a calf or a cow accompanied by a calf* ~~*Unit 23—that portion lying within the Noatak River drainage—1 moose; however, antlerless moose may be taken only from Nov. 1-Mar. 31; no person may take a calf or a cow accompanied by a calf*~~ — ~~*Aug. 1-Mar. 31*~~ *Unit 23, remainder—1 moose* ***Bulls may be harvested*** — *Aug. 1~~-Mar.~~**Dec. 31***

WP18–41/42 Executive Summary	
	Cows may be harvested ***Nov. 1 – Dec. 31*** *No person may take a calf or a cow accompanied by a calf* WP18-42 **Unit 23—Moose** *Unit 23—that portion north and west of and including the Singoalik River drainage, and all lands draining into the Kukpuk and Ipewik Rivers* ***1 bull may be harvested*** *July 1-Mar. 31* Or ***1 moose may be harvested by Federal registration permit*** ***Nov. 1 – Mar. 31*** *No person may take a calf or a cow accompanied by a calf* *Unit 23—that portion lying within the Noatak River drainage* ***1 bull may be harvested*** *Aug. 1-Mar. 31.* ***Or*** ***1 moose may be harvested by Federal registration permit*** ***Nov. 1 – Mar. 31.*** *No person may take a calf or a cow accompanied by a calf* *Unit 23, remainder* ***1 bull may be harvested*** *Aug. 1-Mar. 31.* ***Or***

WP18–41/42 Executive Summary	
	1 moose may be harvested by Federal registration permit ***Nov. 1 – Mar. 31.*** *No person may take a calf or a cow accompanied by a calf*
OSM Conclusion	**Support** Proposal WP18-41 **with modification** to change the harvest limit to one antlered bull July 1 (Aug. 1) – Dec. 31 and create a Nov. 1-Dec. 31 antlerless season by Federal registration permit and delegate authority to the Federal land manager to determine quotas and to close the season via a delegation of authority letter; and **Take no action** on Proposal WP18-42. **See modified regulatory language on pp. 1028-1029.**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	

WP18–41/42 Executive Summary	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	**Support** Proposal WP18-41; and **Take no action** on Proposal WP18-42.
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	**Support** Proposal WP18-41; and **Take no action** on Proposal WP18-42.
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Support as modified by OSM**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-41/42

ISSUES

Proposal WP18-41, submitted by the Northwest Arctic Subsistence Regional Advisory Council, requests that moose seasons be modified throughout Unit 23 to a two month cow season of Nov. 1-Dec. 31, a shortening of the bull season from July 1-Mar. 31 to July 1 – Dec. 31, and alignment of Federal and State hunt areas.

Proposal WP18-42, submitted by Louis Cusack of Chugiak, Alaska, requests that moose seasons be modified throughout Unit 23 to include a winter any moose Federal registration permit hunt with a harvest quota aimed at reducing total cow harvest by 20%, and that the harvest limit be modified from one moose to one bull moose during the rest of the season.

DISCUSSION

The Northwest Arctic Subsistence Regional Advisory Council (Council) voted to submit WP18-41 at its March 2017 meeting. The proponent stated that they would like to align the Federal and State moose seasons and hunt areas in Unit 23 in order to address a declining moose population in the unit. The proponent also noted that Alaska Department of Fish and Game (ADF&G) reports have shown a decline in the moose population throughout a majority of Unit 23 and the State has taken steps to reduce harvest by adopting more restrictive regulations for both resident and nonresident hunters. Council members stated that local users typically harvest cow moose during the winter months. Due to the need to conserve cows in the unit, the proponent is requesting that the Jan. 1-Mar. 31 portion of the Unit 23 moose season be eliminated to align with State regulations, but that they would also like to maintain a two month cow moose harvest season from Nov. 1 - Dec. 31 in order to provide for subsistence needs in local communities. The proponent stated that as caribou populations decline in Unit 23, some subsistence users are relying more heavily on moose to meet their needs. It was expressed by the proponent that this two month cow season would provide much needed food resources for subsistence users who were not able to harvest caribou for the year, while also limiting overall cow harvest during the season in order to allow for reproductive growth in the population.

Similarly, Louis Cusack of Chugiak submitted WP18-42 to address a declining moose population so that more aggressive measures do not need to be taken in the future. The proponent stated that ADF&G and National Park Service (NPS) reports have shown a decline in the moose population throughout a majority of Unit 23 and the State has taken steps to reduce harvest by adopting more restrictive regulations for both resident and nonresident hunters. The proponent also stated that all users have a stake in this moose resource and that all users need to work together to improve the health of the moose population in the unit.

Existing Federal Regulation

Unit 23—Moose

Unit 23—that portion north and west of and including the Singoalik River drainage, and all lands draining into the Kukpuk and Ipewik Rivers—1 moose; no person may take a calf or a cow accompanied by a calf	*July 1-Mar. 31*
Unit 23—that portion lying within the Noatak River drainage—1 moose; however, antlerless moose may be taken only from Nov. 1-Mar. 31; no person may take a calf or a cow accompanied by a calf	*Aug. 1-Mar. 31*
Unit 23, remainder—1 moose; no person may take a calf or a cow accompanied by a calf	*Aug. 1-Mar. 31*

Proposed Federal Regulations

WP18-41

Unit 23—Moose

Unit 23—that portion north and west of and including the Singoalik River drainage, and all lands draining into the Kukpuk and Ipewik Rivers—1 moose	
Bulls may be harvested	*July 1~~-Mar.~~**Dec.** 31*
Cows may be harvested	***Nov. 1 – Dec. 31***
No person may take a calf or a cow accompanied by a calf	
~~Unit 23—that portion lying within the Noatak River drainage—1 moose; however, antlerless moose may be taken only from Nov. 1-Mar. 31; no person may take a calf or a cow accompanied by a calf~~	*~~Aug. 1-Mar. 31~~*
Unit 23, remainder—1 moose	
Bulls may be harvested	*Aug. 1~~-Mar.~~**Dec.** 31*
Cows may be harvested	***Nov. 1 – Dec. 31***

No person may take a calf or a cow accompanied by a calf

WP18-42

Unit 23—Moose

Unit 23—that portion north and west of and including the Singoalik River drainage, and all lands draining into the Kukpuk and Ipewik Rivers

1 bull may be harvested *July 1-Mar. 31*

Or

1 moose may be harvested by Federal registration permit ***Nov. 1 – Mar. 31***

No person may take a calf or a cow accompanied by a calf

Unit 23—that portion lying within the Noatak River drainage

1 bull may be harvested *Aug. 1-Mar. 31.*

Or

1 moose may be harvested by Federal registration permit ***Nov. 1 – Mar. 31.***

No person may take a calf or a cow accompanied by a calf

Unit 23, remainder

1 bull may be harvested *Aug. 1-Mar. 31.*

Or

1 moose may be harvested by Federal registration permit ***Nov. 1 – Mar. 31.***

No person may take a calf or a cow accompanied by a calf

Existing State Regulation

Unit 23—Moose

Unit 23, north of	*Residents—One antlered bull by permit available*	*July 1-Dec 31*

and including Singoalik River drainage	*in person at license vendors within Unit 23 villages June 1-July 15*	
	or	
	Residents—One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side	*Sept 1-Sept 20*
	Nonresidents—One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side by permit	*Sept 1-Sept 20*
Unit 23, remainder	*Residents—One antlered bull by permit available in person at license vendors within Unit 23 villages June 1-July 15*	*Aug 1-Dec 31*
	or	
	Residents—One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side	*Sept 1-Sept 20*
	Nonresidents—One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side by permit	*Sept 1-Sept 20*

Extent of Federal Public Lands

Federal public lands comprise approximately 71% of Unit 23 and consist of 40% National Park Service (NPS) managed lands, 22% Bureau of Land Management (BLM) managed lands, and 9% U.S. Fish and Wildlife Service (USFWS) managed lands (**Figure 1**).

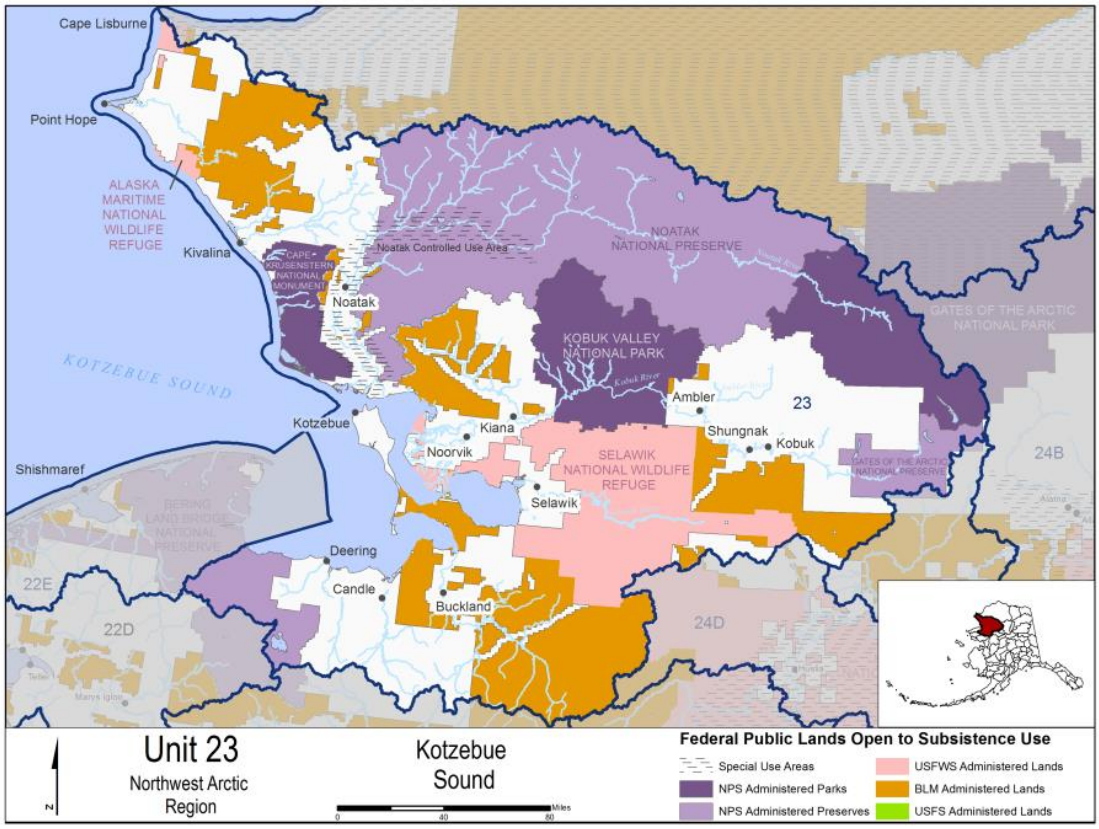


Figure 1. Federal public lands in Unit 23.

Customary and Traditional Use Determinations

Residents of Unit 23 have a customary and traditional use determination for moose in Unit 23.

Regulatory History

In March of 1988, the Native Village of Noatak submitted a proposal to the Alaska Board of Game (BOG) to establish the Noatak Controlled Use Area. This area was originally adopted, in part, "to help reduce harvests on a declining moose population" (ADF&G 1988:47, Alaska Board of Game 1995: 1). The BOG modified the request to include approximately one third of the land area requested by the Native Village of Noatak and unanimously approved the Noatak Controlled Use Area in 1988 (Fall 1990: 87), which was expanded in 1994 to maintain opportunities for hunters using boats without overly restricting aircraft

(Alaska Board of Game 1995: 1). From 1994-2016, the Noatak Controlled Use Area consisted of a 10-mile-wide corridor along the Noatak River from its mouth to Sapun Creek, encompassing more than 160 river miles, which is closed from Aug. 15-Sept. 30 to the use of aircraft for big game hunting (Betchkal 2015). These regulations apply on State, private, and Federal public lands.

State moose regulations became more restrictive in 2003 when BOG approved amended Proposal 15 (effective starting with the 2004/05 regulatory year), making it more difficult for nonlocal residents to hunt moose, creating four registration hunts in the unit with permits (RM880) only available in person at licensed vendors in Unit 23 villages from June 1-July 15. This early availability of permits occurred before most of the seasons opened, requiring nonlocal hunters to make a special trip to a Unit 23 village in order to receive a permit. These permits also allowed better tracking of harvest.

In 2005, Proposal WP05-18, submitted by the Northwest Arctic Subsistence Regional Advisory Council, requested prohibiting the harvest of calves in addition to shortening the season for moose in most of Unit 23 from July 1 (or Aug. 1)-Mar. 31 to Aug. 1-Dec. 31 (a 5 month season), combining the Noatak drainage with the remainder hunt area, and allowing antlerless moose to be harvested only in November and December. The Board chose to table this proposal in response to a Northwest Arctic Regional Advisory Council recommendation to give local villages time to review the proposal and provide their input due to differing viewpoints related to the moose population and local subsistence needs (FSB 2005). In 2006, Proposal WP06-54 was submitted by the Northwest Arctic Subsistence Regional Advisory Council to replace WP05-18, requesting the harvest of moose calves be prohibited and that the two week seasonal closure (Sept. 16-30) in the Noatak River drainage be removed. The Board adopted WP06-54 as a consensus agenda item.

Proposals requesting modifications to aircraft restrictions and/or closures of portions of Unit 23 to the taking of moose except by Federally qualified subsistence users have been submitted multiple times throughout the years. Proposal WP99-049 requested a closure to non-Federally qualified subsistence users in the Noatak and Squirrel River drainages and WP02-40 requested a Controlled Use Area on the Selawik National Wildlife Refuge. The latter of these proposals would only have impacted Federally qualified subsistence users, which was not the initial intent of the proponent. Both WP08-50 and WP08-51 requested that the time period for aircraft restrictions in the Noatak Controlled Use Area be changed to cover more of the fall season. Many of these proposals cited user conflict issues as the justification. Most of these proposals were withdrawn by the proponent, or deferred by the Board, due to the lack of any effect on non-Federally qualified users since the Board only has authority over Federal regulations. In 2007, the State endorsed the creation of a Unit 23 User Conflict Working Group (Working Group) to do an in-depth study documenting and quantifying the extent of observed problems between local subsistence hunters, nonlocal hunters, and commercial enterprises, such as transporters and guides.

In 2010, Proposals WP10-82, WP10-83, and WP10-85, requested modifications to the time period during which aircraft were restricted in the Noatak Controlled Use Area. These proposals were analyzed together with no action taken on WP10-82 and -83. The Board adopted WP10-85 with modification to use current Federal regulatory language and adjust the dates as requested (Aug. 15-Sept. 30) which aligned with recent

actions taken (the passing of Proposal 22 in 2009) by the BOG to change the effective dates of the Noatak Controlled Use Area from Aug. 25-Sept. 15 to Aug. 15-Sept. 30.

At the January 2017 BOG meeting in Bethel, amended Proposal 36 was adopted to change the antlerless moose season in Unit 23 to one antlered bull (ADF&G 2017a) due to conservation concerns. During the discussion of this change, it was stated that nonresident drawing permits have been reduced 25% the last two years and that the number of these permits has declined since the creation of the hunt in 2004. According to the Alaska Draw Supplement document produced by ADF&G (2017b) for the 2016/17 season, 50 permits were available across drawing permit hunts in Unit 23 (DM871, 872, 874, 875, 876, 877, and 885). Amended Proposal 44, which shifted the area of the Noatak Controlled Use Area to extend from the Agashashok River to the Nimiuktuk River, was also adopted at the January 2017 BOG meeting.

At the Northwest Arctic Subsistence Regional Advisory Council public meeting, that took place on March 1-2, 2017 in Kotzebue, ADF&G mentioned that the non-resident hunt has been canceled for the current regulatory year and that permits that were sent out to non-resident users were all rendered void (NWARAC 2017, Saito 2017, pers. comm.). In April of 2017 the Board rejected Temporary Special Action WSA17-02, which requested that Federal public lands in Unit 23 be closed to all non-Federally qualified users for moose harvest during the 2017/18 regulatory year. The Board stated that they wanted to allow time to assess the effects of recent State actions prior to considering a unit-wide closure.

Biological Background

Moose expanded into Unit 23 from the east relatively recently, with the first moose appearing in the unit during the 1920s. Over the next 20-30 years, they expanded their range in Unit 23 to the Chukchi Sea coast (LeResche et al. 1974, Tape et al. 2016, Westing 2012). The Unit 23 moose population grew through the late-1980s (Westing 2012). This rise in population was followed by severe winters and extensive flooding from 1988-1991 which, in conjunction with predation by brown bears and wolves, reduced the population and overall moose density (Westing 2012).

State management goals for moose in Unit 23 include maintaining a unit wide combined population of 8,100-10,000 moose while maintaining a minimum November bull:cow ratio of 40:100, except in the Lower Kobuk which is disproportionally inhabited by maternal cows (Westing 2012). The higher bull:cow ratio goals are due to the low densities and wide distribution of moose throughout Unit 23.

Moose population surveys have been conducted in Unit 23 by ADF&G staff and Federal partners since the early 1990s. Census areas have fluctuated throughout the years due to time and financial restraints as well as evolving survey techniques available to biologists (Saito 2017, pers. comm.). Area biologists have tried different methods to obtain the most accurate population counts with the resources available. The most recent census area modification was the addition of the previously unsurveyed area between the Lower and Upper Kobuk census areas to the Upper Kobuk census area (Saito 2017, pers. comm.). It is planned for the current census areas to be in place for the foreseeable future (**Figure 2**).

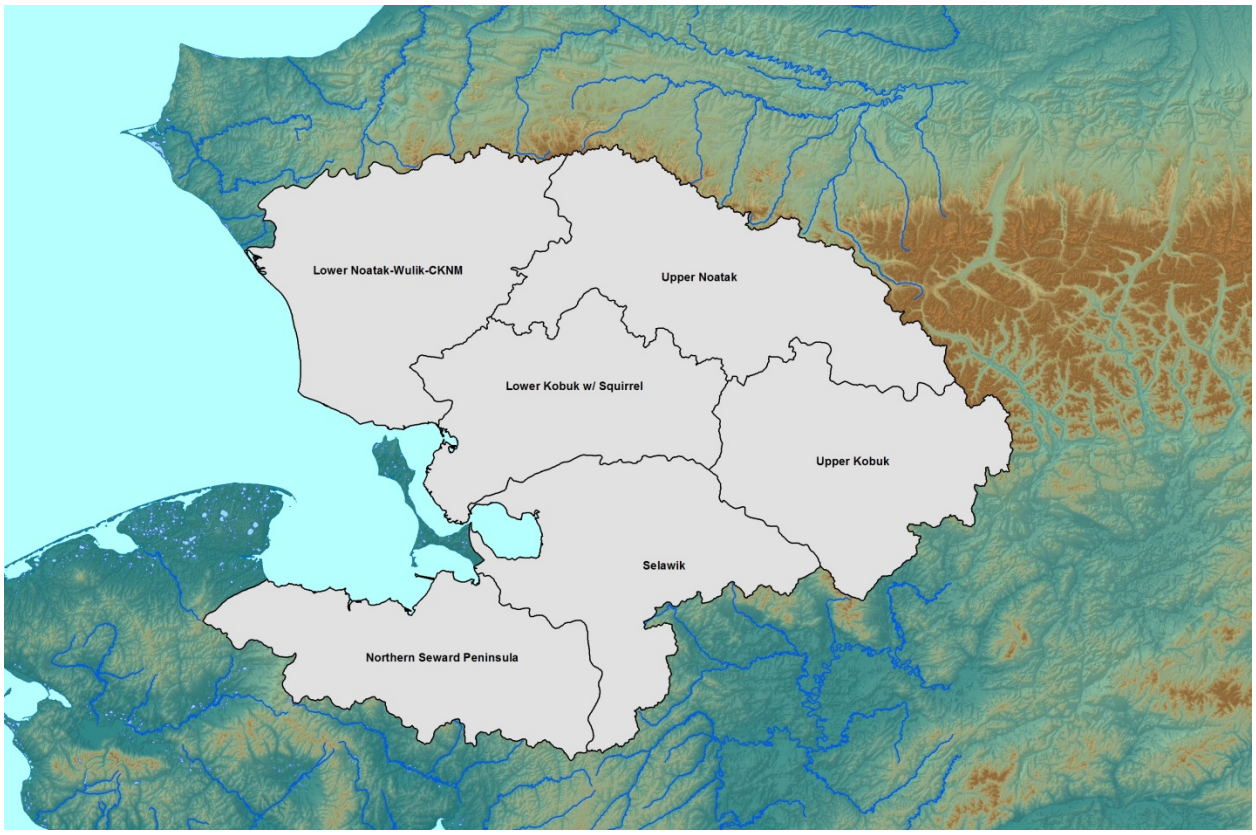


Figure 2. ADF&G moose census areas in 2017 (figure from Saito 2017, pers. comm.).

Between 2000 and 2011, spring geospatial population estimates showed adult moose densities throughout Unit 23 ranged from 0.03-0.59 moose/mi² (Westing 2012). During this time period, moose densities appeared to be stable. Since then, new spring geospatial population censuses have been conducted across each Unit 23 study area (**Table 1**). The most recent data shows adult moose densities throughout Unit 23 range from 0.03-0.44 moose/mi² depending on the census area (**Table 2;** ADF&G 2017a). Population census surveys are conducted in different census areas annually with each census area being surveyed approximately every five years (Alaska Board of Game 2017). The most recent population surveys were conducted for each of the census study areas as follows: Upper Noatak-2010, Lower Noatak-2013, Upper Kobuk-2014, Northern Seward Peninsula-2015, Selawik-2016, and Lower Kobuk-2017 (**Table 2**). While the Noatak drainages, Lower Kobuk, Selawik, and Northern Seward Peninsula populations have declined and are below population objectives, the Upper Kobuk has remained relatively stable (**Table 1**, **Figure 3**; Saito 2016a, pers. comm.).

The most recent surveys were completed in the Selawik and the Lower Kobuk/Squirrel River census areas. The Selawik area spring moose survey was conducted in 2007, 2011, and 2016. In 2011, the moose population was estimated at 1,739 animals (Saito 2016b). This represented a 7% annual decline from the 2007 estimate of 2,319. In 2016, the population was estimated at 940; a 12% annual population decline from the 2011 survey (Saito 2016b). Similarly, the Lower Kobuk/Squirrel River area survey was conducted in 2006, 2012, and 2017. Data from the spring 2012 and spring 2017 surveys indicated a 47% decline in moose estimates, from 2,546 total moose in 2012 to 1,346 total moose in 2017 (Robison 2017).

Table 1. Overview of most recent population estimates throughout Unit 23. Harvest rates are set at 6% of the population. The Upper Kobuk census area represents the updated census area that was created in 2014. The spring 2017 survey in the Lower Kobuk survey area is incorporated in the table, but has not yet been incorporated into the extrapolated population total. Extrapolated total incorporates estimated populations in non-surveyed portions of Unit 23 (Robison 2017, Saito 2016a, pers. comm.).

Unit 23 Study Area	Population Estimate	Population Objectives	Harvestable Surplus
Noatak River Drainages	1631	2000-2300	98
Lower Kobuk River Drainage	1346	2800-3400	81
Upper Kobuk River Drainage	727	600-800	44
Selawik/Tag River Drainage	940	2000-2500	56
Northern Seward Peninsula	617	700-1000	37
Total	**5261**		**316**
Extrapolated Total	7499.9		450

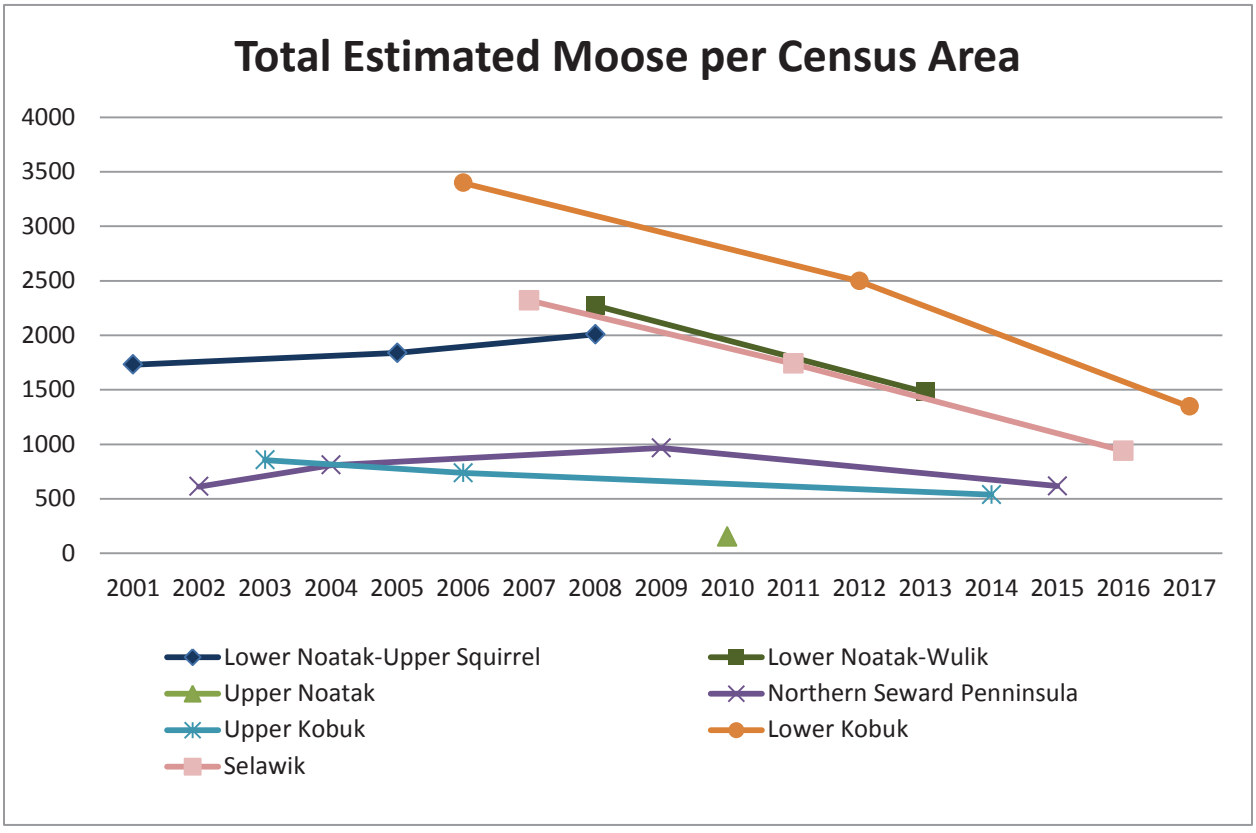


Figure 3. Total moose population estimates from 2001 to 2017 by census area. The old Upper Kobuk census area population estimates are shown here due to improved comparability across years (Robison 2017, Saito 2016a, pers. comm.).

Table 2. Moose population data collected during spring population census surveys in Unit 23 since 2001. The Upper Kobuk was surveyed in 2014 using both the older census area and the updated census area (Robison 2017, Saito 2016a, pers. comm.).

Census Area	Year	Moose Observed	Total Moose Estimated	Census Area (mi^2)	Area Surveyed (mi^2)	Total Density ($/mi^2$)	Adult Density ($/mi^2$)	Calves :100 adults
Lower Noatak-Upper Squirrel	2001	709	1731	5230.2	832.0	0.33	0.30	10
	2005	575	1838	5349.7	915.5	0.34	0.30	13
	2008	596	2008	5349.7	1510.4	0.38	0.33	13
Lower Noatak-Wulik	2008	685	2273	6404.5	--	0.35	0.31	14
	2013	413	1478	6404.5	1310.2	0.23	0.21	11
Upper Noatak	2010	100	153	4485.6	1972.1	0.03	0.03	12
N. Seward Peninsula	2002	520	612	5888.5	1220.7	0.10	0.10	7
	2004	610	810	5882.9	1934.3	0.14	0.12	12
	2009	293	966	5773.2	1271.2	0.17	0.16	8
	2014	264	--	--	--	--	--	12
	2015	310	617	5767.8	1791.2	0.11	0.09	15
Upper Kobuk	2003	252	856	4001.5	895.4	0.21	0.19	12
	2006	219	737	4001.5	973.7	0.18	0.16	15
	2014	136	538	3990.8	839.2	0.13	0.13	7
	2014	186	727	5056.8	1082.5	0.14	0.13	7
Lower Kobuk	2006	1532	3398	4870.5	1457.6	0.70	0.59	15
	2012	789	2497	4870.5	1457.6	0.51	0.48	8
Lower Kobuk-Squirrel	2012	789	2546	5338.0	1290.8	0.48	0.44	8
	2017	796	1346	5338.0	--	0.25	--	15
Selawik	2007	678	2319	6580.1	1845.2	0.35	0.32	10
	2011	448	1739	6559	1289.1	0.27	0.24	11
	2015	532	--	--	--	--	--	14
	2016	520	940	6559	2273	0.14	0.13	14

At the Alaska Board of Game's Arctic and Western Region meeting in January 2017, the State biologist stated the current estimated moose population for Unit 23 was approximately 7,500 moose (ADF&G 2017a). This is below the overall population goal of 8,100-10,000 moose for Unit 23.

The last year that all fall composition surveys were done in all survey areas consistently (Lower Kobuk, Lower Noatak, Selawik, and Seward Peninsula) was 2007. From 2004-2007 the bull:cow ratio averaged 39:100 with average ratios ranging from 26-50 bulls:100 cows in the drainages surveyed and calf:cow ratios averaged 21:100 with average ratios ranging from 12-34 calves:100 cows (Saito 2016a, pers. comm., Westing 2012). The proportion of moose surveyed each year was estimated at 20-35% of the population (Westing 2012). Since 2007, fall composition surveys have been conducted sporadically in the four survey areas (**Table 3**; Saito 2016a, pers. comm.). According to Stout (2010) population guidelines, a ratio of less than 20 calves:100 cows may indicate the population is in decline while a ratio of 20-40 calves:100 cows may indicate a stable population. Taking this information into account, recent fall composition surveys show the Selawik and Lower Kobuk populations appear to be relatively stable while moose populations in the other survey areas appear to be in decline.

Table 3. Bull:Cow ratios in fall composition surveys conducted after 2007 (Saito 2016a, pers. comm.).

Survey Area	Year	Bulls:100 Cows	Calves:100 Cows
Selawik	2008	54	18
	2010	47	19
	2015	43	20
Lower Kobuk	2011	45	15
	2016	38	24
Lower Noatak	2013	53	4
Seward Peninsula	2014	34	16

At the Northwest Arctic Subsistence Regional Advisory Council public meeting in March (2017) NPS presented information on the importance of cow moose to overall population growth. It was stated that cow moose begin producing calves at three years of age and often produce twins every third year (NWARAC 2017). By maintaining cows in a region, a manager is potentially ensuring continued growth of that population.

Moose in Unit 23 are not evenly distributed across the landscape, with some drainages experiencing higher densities of moose than other drainages. During winter months large congregations of moose have been observed near villages, which can make these moose highly susceptible to harvest (Alaska Board of Game 2017). In areas with low moose densities, the harvest of congregations of moose near villages can lead to population crashes and possible population extirpation within the area.

Habitat

Moose moved into Unit 23 around the 1920s (**Figure 4**), as suitable shrub and willow productivity and cover increased concurrently with rising average temperatures in the northern regions of the state (Tape et al. 2016). From 1860 to present day, willow heights have increased from an estimate of approximately 1.10 meters in 1860 to approximately 2 meters in 2009 and shrub habitat has spread in these Arctic habitats (Tape et al. 2016). Moose rely on willow and shrub habitats for browsing and for cover from predators. The taller vegetation heights estimated in the northern and western portions of the state provide more

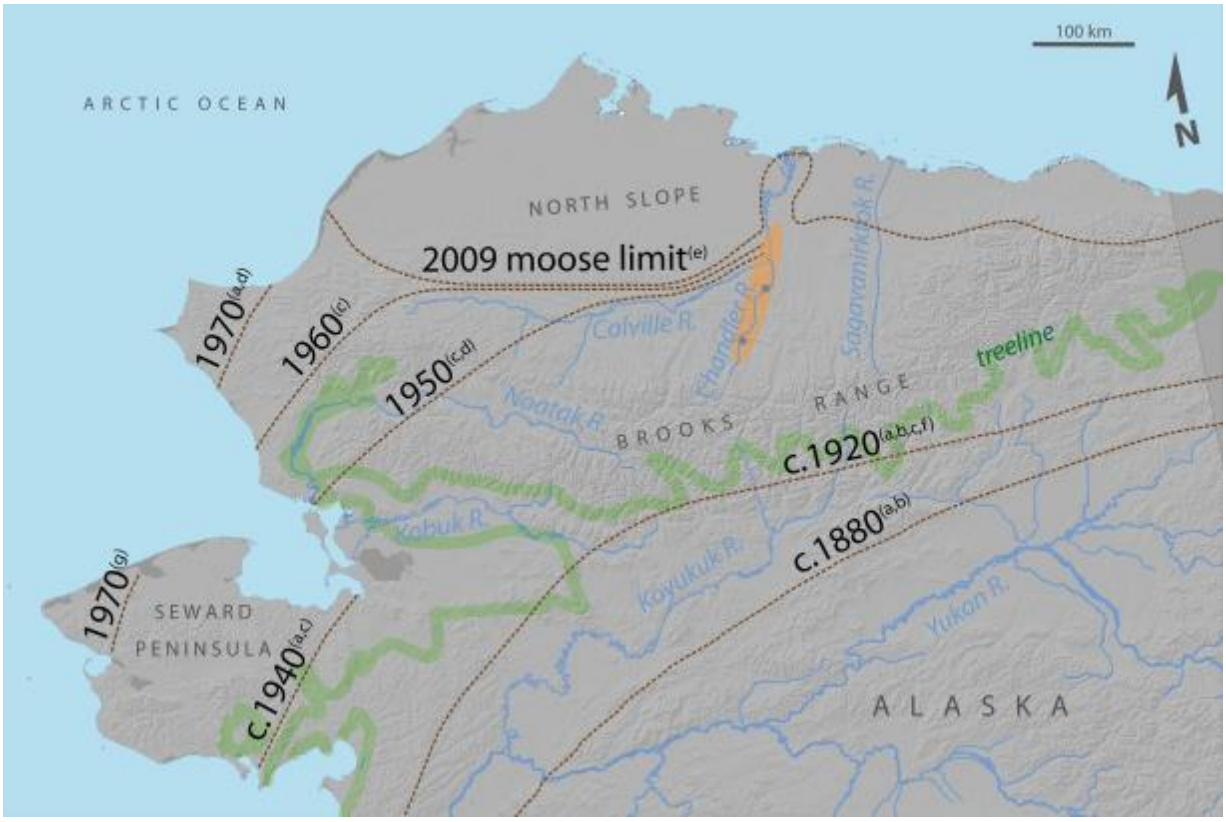


Figure 4. Temporal moose distribution changes in northern Alaska (figure from Tape et al. 2016).

suitable cover and increased available forage above the snowpack for moose populations than was present in the past (Tape et al. 2016). This expansion of moose habitat into northern latitudes has been found in other Arctic areas, such as Siberia (Frost and Epstein 2014). Wildfire (the primary driver of boreal forest succession) frequency is forecast to increase as the Arctic climate warms, causing projected moose habitat to increase by 19-64% in present day Western Arctic Caribou Herd core winter range (**Figure 5**; Joly et al. 2012). As statistical models show, this present day broad scale temporal habitat expansion of shrub habitat will continue to push north and west in Alaska as average temperatures increase across years (Swanson 2015).

With the expansion of shrub/willow habitat, migration of species reliant on this habitat resource can also be expected. Besides moose, snow shoe hare have also broadened their range into these northern regions (Tape et al. 2016). Herbivory can negatively impact habitat that is not yet stable in a newly established

area. In these areas it is necessary to monitor browsing of vegetation to understand overall habitat conditions for a species. During a habitat survey conducted in 2005, willows did not appear to be over-browsed by moose in Unit 23 (Westing 2012). Moose browse surveys were conducted in 30 plots within the Lower Kobuk survey area in Unit 23 from April 12-16, 2017. Although this data has not been analyzed at this time, past surveys showed that preferred browse removal rates are well below 20% (Hughes 2017, pers. comm.).

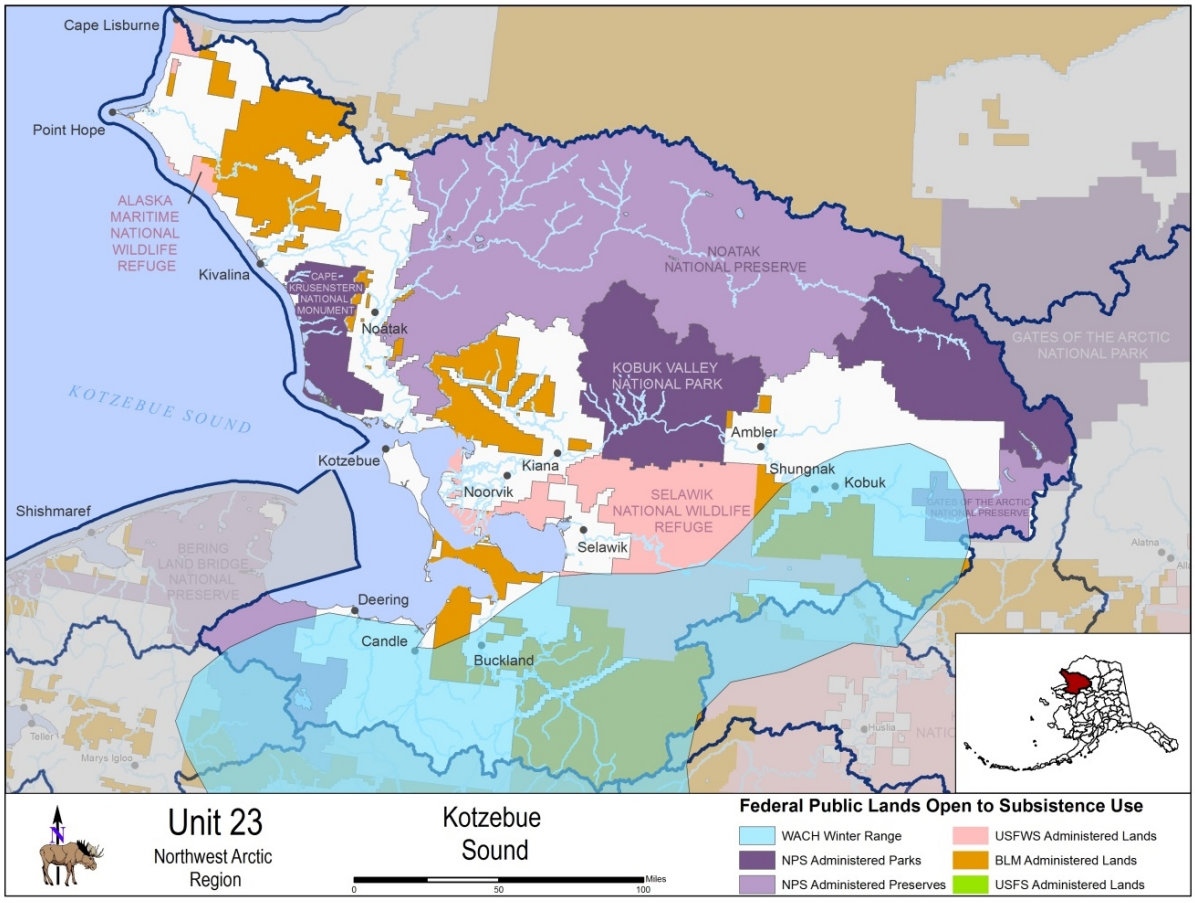


Figure 5. The location of the Western Arctic Caribou Herd winter migratory range in Unit 23 where moose habitat is expected to increase by 19-64% (Joly et al. 2012).

Cultural Knowledge and Traditional Practices

Game Management Unit 23 encompasses the Northwest Arctic Borough which was established in 1986 and is home to 7,523 residents from 11 communities (NAB 2016). Approximately 86% of the residents identify as Alaska Native or part Native, with the majority of these identifying as Inupiat Eskimo (NAB 2016). The borough comprises approximately 39,000 mi^2 on which subsistence activities are a vital part of the lifestyle for local residents (NAB 2016).

Documentation on the earliest archaeological sites to-date suggests the presence of communities in the Northwest Arctic beginning around 7900 B.C., especially inland near present-day Onion Portage

(Anderson 1984: 81). Coastal habitation in this region has been documented beginning 4,500 to 4,200 years before present (Anderson 1984: 84). By 1800, ten relatively autonomous societal territories had formed in what is commonly referred to as the "Kotzebue Region", unified by several preceding centuries of prehistoric Thule culture (Burch 1984: 304). Contact with Russians likely began in the 17th century and was followed by the arrival of Captain James Cook in Northern Alaska in 1778 (Anderson 1984: 93). The first recorded Russian contact in the Kotzebue Sound area was in 1818 by the German Lt. Otto Von Kotzebue, sailing under the Russian flag (NAB 2016).

Historically, the people of the Northwest Arctic lived in small family clusters that were spread widely across the landscape (Burch 1980: 265). It wasn't until the 20th century that most residents of the region became centralized in more permanent winter villages (Georgette and Loon 1993: 3). Kotzebue became the largest community in the region and is currently considered the hub of economic activity in the area. In 1985, Kotzebue was more than eight times larger than the average community in the region by population (2,633 individuals), and four times larger than the second largest community – Selawik (Georgette and Loon 1993: 3). In 2010 the population of Kotzebue was recorded as 3,201 individuals (DCCED 2016). The community is near the mouth of several major river systems. It is surrounded by the marine waters of Kotzebue Sound, and the original village was named "Qikiqtagruk" (Georgette and Loon 1993: 4).

The resources of the Northwest Arctic region are relatively rich and varied despite its high latitude (Burch 1984: 306). A variety of animal species are available and utilized for subsistence including marine mammals, terrestrial mammals, birds, and fish (Burch 1984: 306). Caribou has been a staple in the diet of many Inupiat peoples for centuries (Georgette and Loon 1993: 78). In many parts of the Northwest Arctic however, shifts in herd migration and size often causes variability in the availability of this resource, with the use of caribou and harvest strategies often changing accordingly over time (Georgette and Loon 1993: 78).

Despite the diversity of resources in the region, moose are considered a relatively recent addition, especially in lowland and coastal areas (Georgette and Loon 1993: 83). Archaeological sites in tundra and northern tree-line areas of Alaska have reported few moose remains until the mid-20th century and this is consistent with historical accounts and minor representation in Inupiat culture (Hall 1973, Coady 1980, Tape et al. 2016). Reports of nineteenth century explorers also lacked observations of moose along the Kobuk, Noatak, or Colville Rivers, as well as along the Arctic coast (Coady 1980).

Moose were present in the tributaries of the upper and middle Noatak River in the 1940s and became more common downriver after 1960 (Georgette and Loon 1993: 83). In the upper Kobuk River moose did not appear until the 1920s but soon thereafter populated the entirety of the drainage (Georgette and Loon 1993: 83). Uhl and Uhl (1977) reported that residents of the Cape Krusenstern area lacked historic traditions that included moose. By the 1980s, moose were present in suitable habitat throughout northwest Alaska (Georgette and Loon 1993: 84).

According to Georgette and Loon (1993), residents of Kotzebue continued to consider moose as secondary to caribou in their importance and desirability as a subsistence food; they were taken to add dietary variety. Residents hunted moose in the fall, but moose were also harvested throughout the winter as need

necessitated (Georgette and Loon 1993: 84). The relative size of moose makes them more difficult to butcher and pack than caribou, and hunters often prefer to harvest the species as close as possible to the edge of a river or a lake in proximity to their boat (Georgette and Loon 1993: 84). Moose is generally prepared and preserved by similar means as caribou, most often aged and frozen (Georgette and Loon 1993: 84). The cartilaginous parts of the nose were the only part of the heads used. Because moose hides were not generally smoked or tanned, they were rarely salvaged (Georgette and Loon 1993: 84).

The average per capita harvest of moose in Kotzebue in 1986 was 13 pounds, accounting for only 3% of the average household harvest (Georgette and Loon 1993: 84). Approximately 8% of Kotzebue households harvested moose (compared to 45% harvesting caribou), but 18% indicated that they hunted for moose but were unsuccessful (Georgette and Loon 1993: 84). Despite the small percentage of households harvesting moose, sharing of this resource was widespread with approximately 42% of households using it (Georgette and Loon 1993: 84). The use and harvest of moose by Kotzebue residents was similar in 2012 with approximately 13 pounds of this resource harvested per capita, 9% of households harvesting moose, and 37% of households using moose (ADF&G 2012).

The harvest and use of a resource in regional hubs may be different than that of a rural village since the former tends to be more heterogeneous in "culture, birthplace, education, employment, and length of residency" (Georgette and Loon 1993: 4). In 1992, the rural northwest arctic community of Kivalina harvested approximately 26 pounds of moose per capita, with 23% of the households harvesting the resource and 47% of households using the resource (ADF&G 1992). In 2010, residents of Kivalina harvested approximately 19 pounds of moose per capita with 13% of household harvesting the resource and 16% using the resource (ADF&G 2010).

Changes in harvest and use patterns may be attributable to many factors including the availability of moose and other resources in a given a year. Georgette and Loon (1993) suggested that future declines in caribou availability in the region could result in increased reliance on moose to meet the subsistence harvest demands of Kotzebue residents. Given that the Western Arctic Caribou Herd (WACH) has been declining since 2003 (Dau 2015), moose may already be becoming a more prominently sought after resource for meeting subsistence needs in the region.

Harvest History

Harvest numbers are collected from both State harvest reports and community household surveys. Community household surveys collect a broad range of information and are used as a method to determine, among other things, whether harvest is being reported accurately in State harvest reports. Harvest reports provide data on an annual basis. Community household surveys gather data from local communities pertaining to subsistence harvest on an irregular basis, with many communities only being visited once over a five year time span. In Unit 23, community household surveys show that moose harvest is underreported by local users, but nonlocal user harvest can be assumed accurate based on the requirement of registration permits and drawing permits in some areas. This section will discuss State harvest report data prior to reviewing community household survey data.

Prior to 2005 a greater percentage of the total reported moose harvest in Unit 23 was from non-Federally qualified users. In 2003 approximately 80% of the reported harvest was from non-Federally qualified users (ADF&G 2016). In 2005, after the implementation of registration hunts (RM880) by the BOG, this percentage dropped to approximately 56% (ADF&G 2016). According to the ADF&G (2016) harvest report website, the average annual reported harvest in Unit 23 from 2005-2015 was 153 moose, which is below the harvestable surplus (450) for the unit (**Table 1 and 4**). A majority of moose taken over these years have been bulls. Local residents, defined as those residing within Unit 23, accounted for 50.4% of the total reported harvest from 2005-2015 and 51.5% in 2015 alone (**Figure 6;** ADF&G 2016). Harvest success by local residents remained flat between 2004-2014 (**Figure 7**). In 2015, 165 moose (144 male, 21 female) were reported harvested (≈ 115 taken in September) with 35.1% hunter success by all users and local users making up 58% of all moose hunters throughout the unit (**Figure 7 and 8, Table 4 and 5;** ADF&G 2016, Saito 2016a, pers. comm., WINFONET 2017). In the last few years a majority of the moose harvest in Unit 23 was taken from the Kobuk drainage (**Figure 9;** ADF&G 2017a). In 2015, a majority of nonlocal users used aircraft to access hunting areas (19 nonresidents, 20 nonlocal residents, and 2 local residents), whereas most local residents reported using boats (1 nonresident, 20 nonlocal residents, 51 local residents) or snow machines (1 nonlocal resident, 22 local residents) to access hunting areas (WINFONET 2017). Community household survey data was not included in any of these values and will be discussed later in the analysis.

Table 4. Reported moose harvest in Unit 23 for 2005-2015 (ADF&G 2016).

Year	Species	Local Resident Harvest	Nonlocal Resident Harvest	Total Resident Harvest	Unknown Residency Harvest	Nonresident Harvest	Total Harvest	Male	Female	Unknown Gender
2015	Moose	85	59	144	1	20	165	144	21	0
2014	Moose	74	40	114	0	10	124	109	14	1
2013	Moose	88	53	141	2	21	164	151	12	1
2012	Moose	75	57	132	0	24	156	146	10	0
2011	Moose	72	45	117	1	26	144	133	11	0
2010	Moose	102	63	165	2	22	189	169	17	3
2009	Moose	80	50	130	2	23	155	144	10	1
2008	Moose	62	48	110	1	40	151	143	7	1
2007	Moose	64	29	93	5	25	123	116	7	0
2006	Moose	79	49	128	1	30	159	150	7	2
2005	Moose	65	41	106	1	41	148	137	10	1
Total:		**846**	**534**	**1380**	**16**	**282**	**1678**	**1542**	**126**	**10**

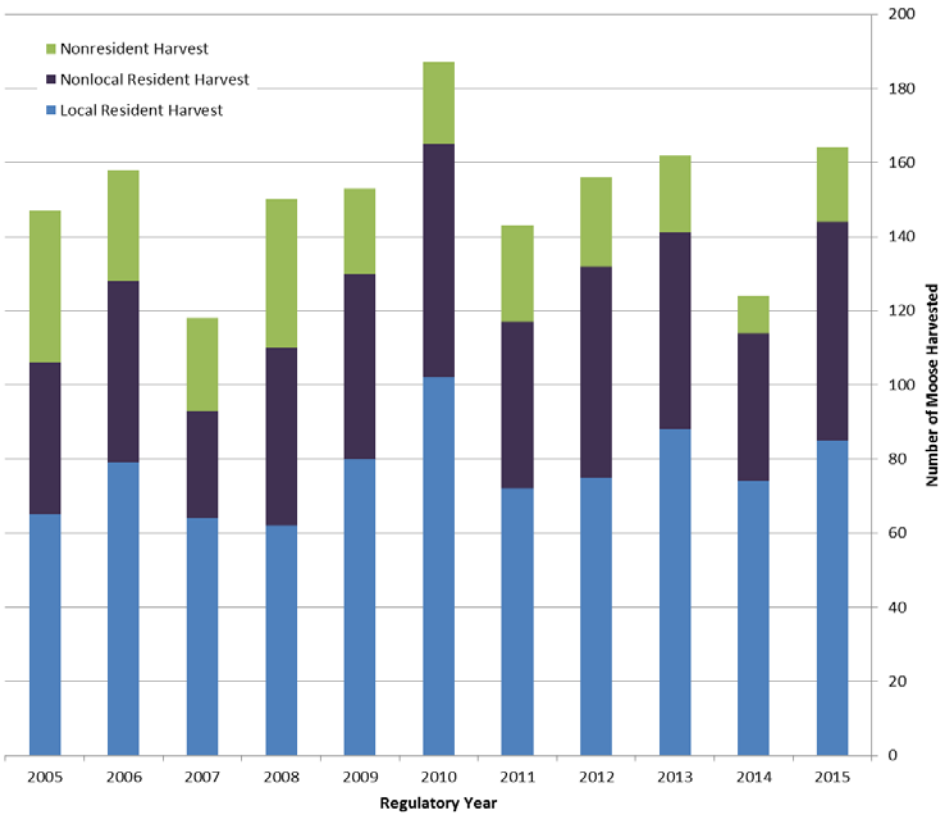


Figure 6. Number of moose harvested in Unit 23 from 2005-2015 according to State harvest reports (ADF&G 2016).

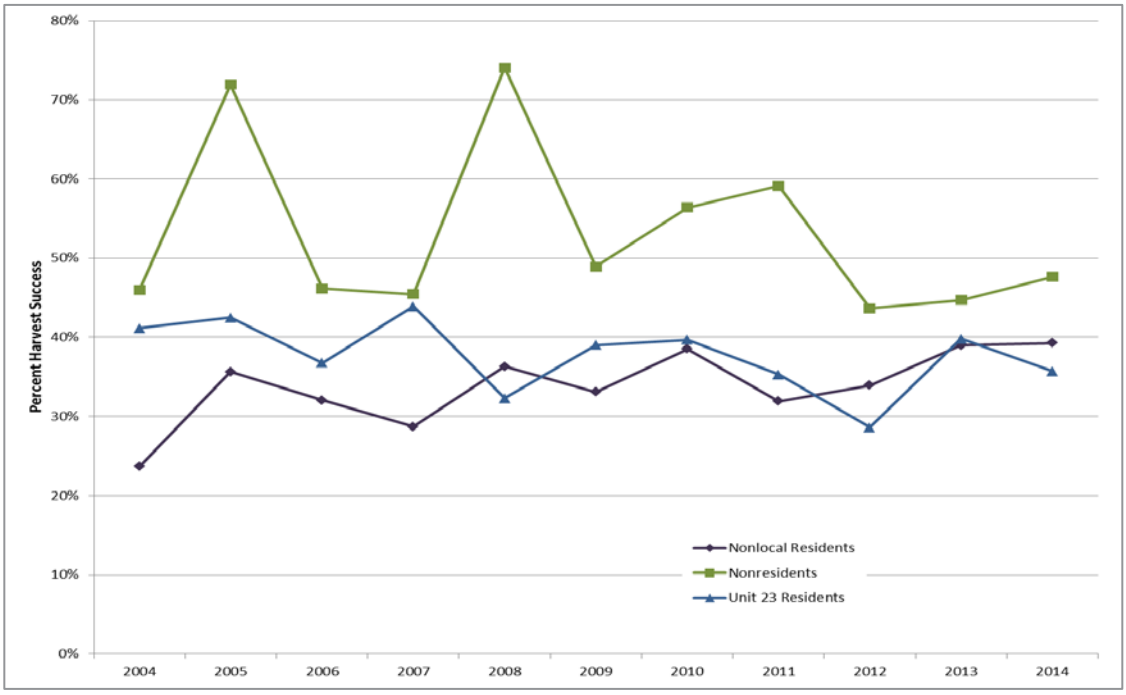


Figure 7. Moose harvest success among users of Unit 23 from 2004-2014 according to State harvest reports (Saito 2016a, pers. comm.).

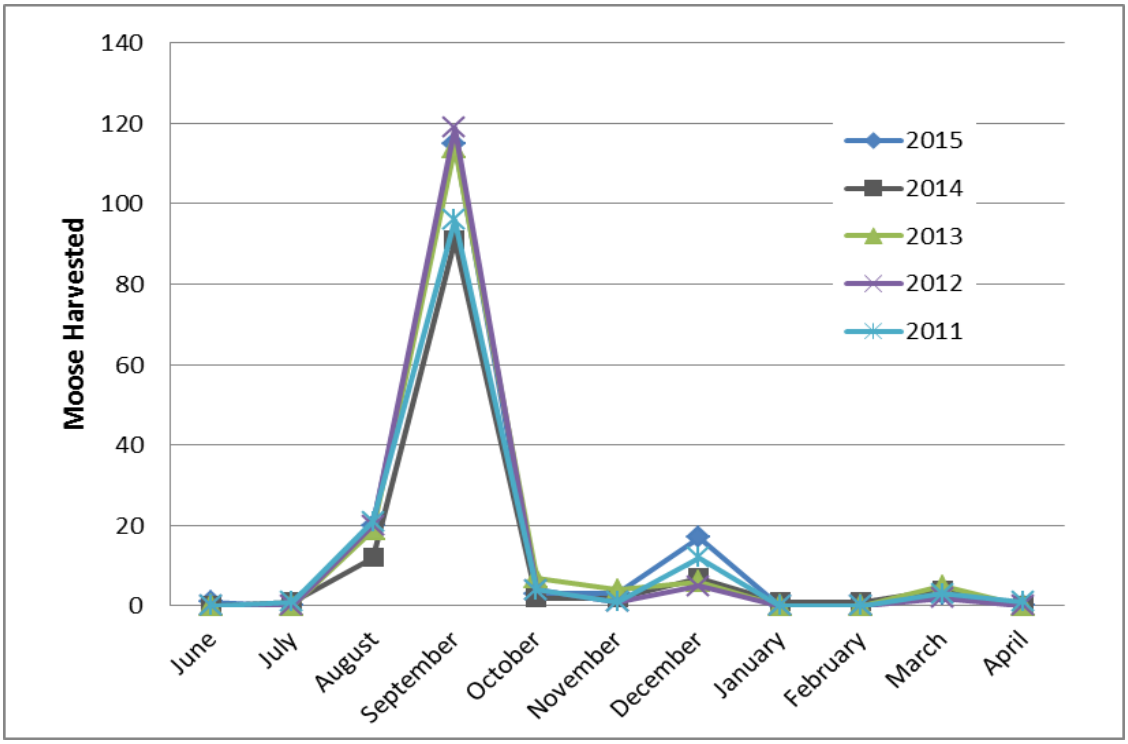


Figure 8. Moose harvest, by month, among users of Unit 23 from 2011-2015 according to State harvest reports (WINFONET 2017).

Table 5. Unsuccessful hunters that took part in moose hunts in Unit 23 according to ADF&G harvest reports compared to overall hunter participation according to State harvest reports (ADF&G 2016).

Year	Unsuccessful Local Resident	Unsuccessful Nonlocal Resident	Unsuccessful Nonresident	Unsuccessful Unspecified	Total Unsuccessful Hunters	Total Successful Hunters	Total Hunters Overall
2015	189	94	24	1	308	165	473
2014	130	76	11	1	218	124	342
2013	133	83	26	1	243	164	407
2012	187	111	31	1	330	156	486
2011	131	96	18	2	247	144	391
2010	154	102	17	0	273	189	462
2009	124	102	24	2	252	155	407
2008	127	87	14	3	231	151	382
2007	83	72	30	3	188	123	311
2006	136	104	34	3	277	159	436
2005	88	74	16	1	179	148	327

ADF&G issues both drawing permits to nonresidents (DM871, 872, 874, 876, 885) and registration permits to residents (RM880) in Unit 23. According to ADF&G harvest statistics, DM885 permits were not available until 2013 and permits available from DM871-877 hunts varied throughout the years (ADF&G 2017c). The total number of nonresident drawing permits given out in Unit 23 has declined since 2010

(**Table 6**). The number of registration hunt permits handed out in Unit 23 has increased since 2011 (**Table 7**). Harvest reporting is required under registration permits, drawing permits, and harvest tickets, although it is more difficult to enforce reporting under the harvest ticket system.

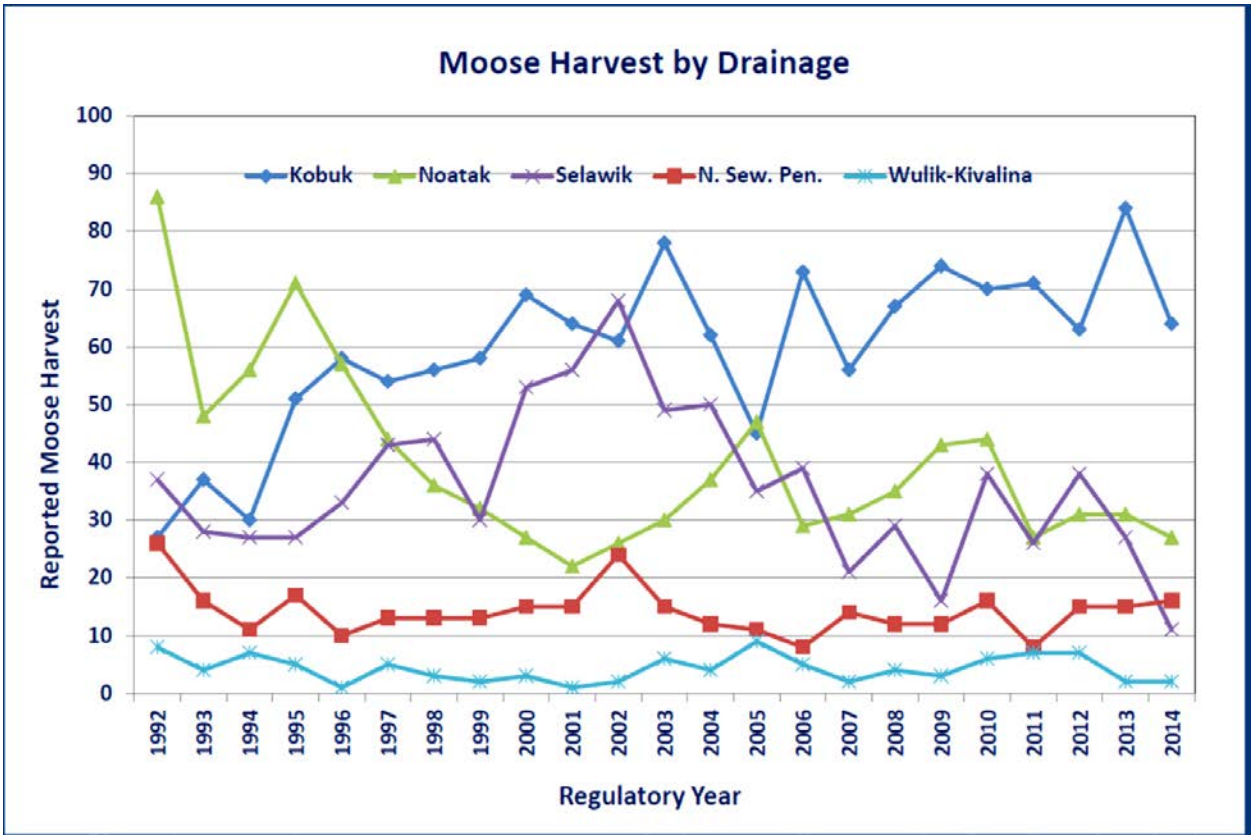


Figure 9. Moose harvest, by drainage, among users of Unit 23 from 1992-2014 according to State harvest reports (figure from ADF&G 2017a).

Table 6. Number of drawing permits available from ADF&G from 2011-2015 (ADF&G 2017c). Number of hunters is the number of individuals who received permits that actually went hunting.

Drawing Permit Hunts in Unit 23		
Year	Number of Permits	Number of Hunters
2011	68	43
2012	68	49
2013	65	51
2014	68	49
2015	50	37

Table 7. Number of registration permits given out by ADF&G from 2011-2015 (ADF&G 2017c). Number of hunters is the number of individuals who received permits that actually went hunting.

Registration Permit Hunt in Unit 23		
Year	Number of Permits	Number of Hunters
2011	446	261
2012	534	308
2013	522	299
2014	587	318
2015	569	336

Although Federally qualified subsistence users are required to obtain a harvest ticket from the State and report their harvest accordingly, community household surveys show that harvest reporting is generally low in Unit 23 (NWARAC 2016). Annual community harvest data is only intermittently available for any given community and annual study periods often do not match up with State regulatory years. However, in 2011, seven moose were reported as harvested by Selawik locals (ADF&G 2017d) while community household survey data in Selawik showed that approximately 40 moose were harvested by local residents that year (NWARAC 2016, Saito 2016b). Taking this disparity into account, ADF&G estimated that approximately 70 moose are taken from the Selawik drainage annually. This translates to a 7% harvest, which is high for the area (NWARAC 2016). Similar disparities can be seen in other communities over the last five years (**Table 8**). In 2011 and 2012, two and five communities were surveyed, respectively, with the number of moose harvested being greater than 50% and 150% of the entire reported local moose harvest for Unit 23 (**Table 9**; ADF&G 2017d, Saito 2016a, pers. comm.). These discrepancies are not taken into account when total harvest for the unit is reported on the ADF&G harvest report site. Although an average of 153 moose are reported in the ADF&G harvest reports, it is estimated from taking into account community household surveys that approximately 300 moose are harvested annually in Unit 23 (NWARAC 2017). The actual harvest of cow moose, in particular, is similarly expected to be approximately double of what is reported in harvest reports (Alaska Board of Game 2017). This is most likely a conservative estimate of overall harvest due to community surveys not being conducted in every community each year.

Table 8. Recorded moose harvest based on community surveys and harvest reports for those Unit 23 communities (ADF&G 2017d, Saito 2016a, pers. comm.).

Year	Community	Moose Harvested	
		Community Survey	Harvest Reports
2011	Noatak	14	5
	Selawik	40	7
2012	Ambler	14	3
	Kobuk	4	1
	Kotzebue	72	36
	Noorvik	24	9
	Shungnak	5	1
2013	Deering	1	3
2014	Point Hope	0	0

Table 9. Number of moose harvested according to community surveys vs. the number of moose harvested according to harvest reports for all of Unit 23 (ADF&G 2017d, Saito 2016a, pers. comm.).

Year	Overall Moose Harvested by Local Residents	
	Community Surveys (number of communities surveyed)	Harvest Reports For Unit 23
2011	54 (2)	72
2012	119 (5)	75
2013	1 (1)	88
2014	0 (1)	74

Other Alternative(s) Considered

Federal regulations could be modified to align with recent changes to State regulations in Unit 23, which eliminated the antlerless season and changed the harvest limit to one antlered bull. This would simplify regulations and protect cow moose in a declining moose population. Since cow moose are the keystone to population growth, conserving cows is essential to maintaining a healthy moose population. Eliminating cow harvest and shortening the overall moose seasons could aid in increasing the moose population in the unit. This modification would result in an additional reduction of harvest opportunity to Federally qualified subsistence users. Further discussion is warranted with the relevant Councils and the public before this alternative can be considered further.

Another option that could be considered is to modify Federal regulations to include a shorter cow season as requested and to provide Federal land managers with a delegated authority to close the cow hunt if deemed necessary to protect the moose population within specified drainages. This option would require up-to-date moose population data within drainages managed by the in-season manager. Due to census surveys only taking place approximately every five years in each census area, it could be difficult to detect population declines in specified drainages in a timely manner needed to make management decisions of this nature. This alternative would require up-to-date moose population data and interagency cooperation within drainages managed by the in-season manager.

Federal regulations could also be modified to create separate antlered and antlerless seasons rather than simply having bull and cow seasons, shorten the antlerless season, as requested, and include a Federal registration permit to better monitor cow harvest within Unit 23. Since the harvest of antlerless moose is no longer permitted on non-Federal lands, the harvest of cow moose may already be reduced. Shortening the antlerless moose harvest season on Federal lands could additionally reduce cow harvest. Since it is currently expected that much of the cow harvest is unreported, the addition of a registration permit may increase harvest reporting and provide a better understanding of the antlerless moose harvest within Unit 23. However, this alternative may not reduce cow harvest enough to make a substantial impact on the moose population in Unit 23.

Effects of the Proposal

If adopted, proposal WP18-41would shorten the moose season, reduce cow harvest, create a bull season, and reduce regulatory complexity between Federal and State hunt areas. According to community household surveys, local users may be responsible for as much as 73% of the moose harvest in the unit. Although better harvest reporting is needed, reducing overall harvest by local users could have a positive effect on the moose population. Browse surveys show that habitat is not currently a limiting factor for moose in Unit 23 and therefore, limiting harvest may allow for increased moose production.

A majority of the moose harvest by Federally qualified subsistence users takes place in September with another small peak of harvest occurring in December. Shortening the Federal season in Unit 23 by three months would result in reduced opportunity, but closing the season on December 31 would still allow Federally qualified users to harvest moose during their typical peak harvest dates.

Combining Federal hunt areas to align with State hunt areas would simplify harvest regulations and limit user confusion. Currently, the Noatak River drainage and the remainder hunt areas (**Figure 10**) have identical seasons and the Noatak drainage has a 5 month cow season. If the shortened cow season is adopted throughout the unit, combining these areas into a single hunt area would help to simplify regulations and help reduce regulatory complexity for Federally qualified subsistence users.

Overall, many of the effects of adopting proposal WP18-42 are similar to the effects of adopting proposal WP18-41. Proposal WP18-42 would reduce cow moose harvest by limiting current harvest limits during the regular season to one bull moose, and creating a winter registration permit hunt for any moose in Unit 23 that would include a target quota that would reduce the total cow harvest by 20% of current harvest levels.

In Unit 23, 21 cow moose were reported as harvested in 2015. If this proposal were adopted, the winter any moose registration hunt quota would be set at 17 moose. This reduction would most likely not have a significant impact on the moose population in Unit 23, since in previous years (2010-2014), annual cow moose harvest was reported to be between 10-17 cows and yet, the moose population still showed a decline. Requiring Federal registration permits for this season could lead to better harvest reporting among local users, but it could alternatively lead to greater confusion and lead to worse harvest reporting.

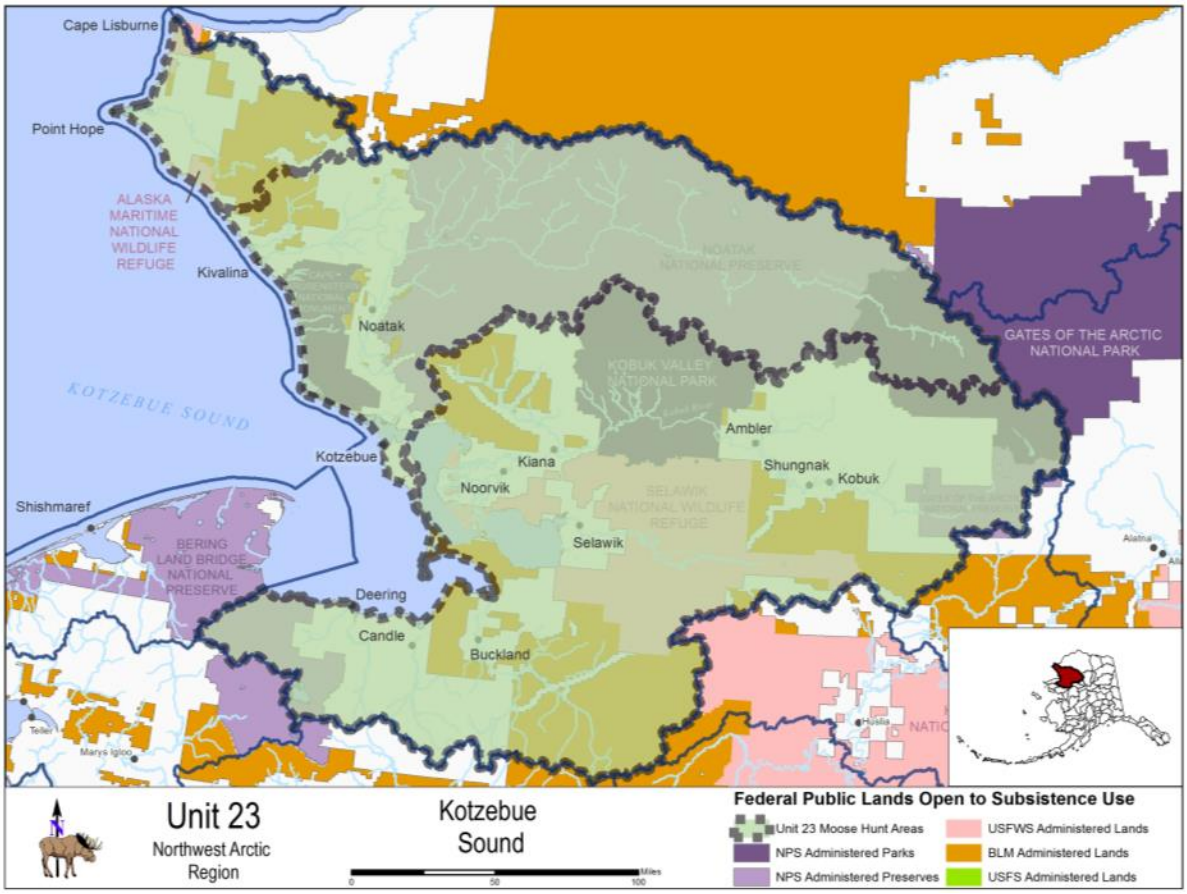


Figure 10. Current Federal moose hunting areas within Unit 23. If this proposal is adopted then the Noatak drainage would be combined with the southernmost remainder hunt area.

OSM CONCLUSION

Support Proposal WP18-41 **with modification** to change the harvest limit to one antlered bull July 1 (Aug. 1) – Dec. 31 and create a Nov. 1-Dec. 31 antlerless season by Federal registration permit and delegate authority to the Federal land manager to determine quotas, close the season, and specify drainages in which antlerless hunts may occur via a delegation of authority letter only (**Appendix A**); and **take no action** on Proposal WP18-42.

The modified regulation should read:

Unit 23—Moose

Unit 23—that portion north and west of and including the Singoalik River drainage, and all lands draining into the Kukpuk and Ipewik Rivers.

1 antlered bull	*July 1-~~Mar.~~**Dec.** 31*

Or	
1 moose by Federal registration permit. *No person may take a calf or a cow accompanied by a calf.*	***Nov. 1-Dec. 31***
~~*Unit 23—that portion lying within the Noatak River drainage—1 moose; however, antlerless moose may be taken only from Nov. 1-Mar. 31; no person may take a calf or a cow accompanied by a calf*~~	~~*Aug. 1-Mar. 31.*~~
Unit 23, remainder	
1 antlered bull	*Aug. 1-~~Mar.~~**Dec.** 31*
Or	
1 moose by Federal registration permit. *No person may take a calf or a cow accompanied by a calf.*	***Nov. 1-Dec. 31***

Justification

The moose population in Unit 23 is in decline across most of the unit. This trend can be seen in decreased census population estimates and calf:cow ratios below 20:100, both of which indicate a declining population. Areas, such as the Lower Kobuk/Squirrel River drainage, experienced up to a 47% decline between 2012 and 2017. Due to spring population census surveys in each drainage only taking place approximately every five years, it is difficult to assess the moose population decline across the unit as a whole. Moose densities vary by drainage and winter populations can be highly concentrated near villages, which can make them susceptible to harvest. If low density populations congregate near villages during the winter months during the moose season, then moose populations can quickly be locally extirpated.

Since cow moose are the keystone to population growth, conserving cows is essential to maintaining a healthy moose population. Obtaining better antlerless moose harvest data via a Federal registration hunt may assist in understanding cow moose harvest levels and related impacts to the moose population in Unit 23 as a whole. Changing to an antlered bull season, rather than a general bull season, will help reduce the risk of inadvertent cow harvest during a time when many bulls have dropped their antlers. Additionally, limiting the antlerless moose harvest to a two month season, setting an antlerless moose quota, and shortening the overall moose seasons could aid in increasing the moose population in the unit.

We recommend that the initial antlerless moose quota be set to reduce annual cow harvest by 20% based on the average of the last ten years of reported cow harvest. Using harvest data from 2006-2015 (**Table 4**), the initial quota would be set at nine antlerless moose. The Federal land manager will have the authority to modify the quota annually and specify drainages within Unit 23 in which the hunt will take place, based on the moose population status.

The State has already taken steps to limit moose harvest in the unit to allow for population growth including elimination of the antlerless season and the withdrawal of nonresident drawing permits for the 2017 fall moose season due to conservation concerns. Since local users may be responsible for as much as 73% of the total harvest in Unit 23 and much of this harvest goes unreported, shortening the overall season in

Federal regulations, changing to an antlered moose hunt, and establishing a limited antlerless moose hunt during a two month season, may provide an additional benefit to the moose population.

A majority of moose harvested by Federally qualified subsistence users takes place in September with another small peak of harvest occurring in December. Closing the season on December 31 would still allow Federally qualified subsistence users to harvest moose during their typical peak harvest dates. Combining Federal hunt areas would simplify harvest regulations and limit user confusion.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Northwest Arctic Subsistence Regional Advisory Council

Support WP18-41. **Take no action** on WP18-42. The Council supported proposal WP18-41 due to the moose decline in Unit 23 and wanted to do their part to conserve this important subsistence resource especially considering that the caribou population is also declining and therefore more Federally qualified subsistence users will need to harvest moose to meet their needs. The Council added that as caribou decline, moose may become even more critical to Federally qualified subsistence users.

North Slope Subsistence Regional Advisory Council

Support WP18-41. **Take no action** on WP18-42. The Council noted they wanted to support the Northwest Arctic Regional Advisory Council and Gates of the Arctic Subsistence Resource Commission on their proposal recommendations, as well as to provide opportunity for the people of Point Hope. A Council member from Point Hope noted that moose sometimes move up to the Point Hope area when displaced by fires but that does not often occur during the open season for moose harvest. The Council still supported increased opportunity for others in the region.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposals WP18-41 and WP18-42: Proposal WP18-41, submitted by the Northwest Arctic Subsistence Regional Advisory Council, requests that moose seasons be modified throughout Unit 23 to a two month cow season of November 1–December 31, a shortening of the bull season from July 1–March 31 to July 1–December 31, and alignment of federal and state hunt areas.

Proposal WP18-42, submitted by Louis Cusack, requests that moose seasons be modified throughout Unit 23 to include a winter "any moose" federal registration permit hunt with a harvest quota aimed at reducing total cow harvest by 20%, and that the harvest limit be modified from one moose to one bull moose during the rest of the season.

Introduction: The purpose of these proposals is to provide some additional protection to cow moose because the Unit 23 moose population is declining. Both of these proposals provide for some cow harvest in addition to the state opportunity for bulls only.

Impact on Subsistence Uses: These proposals would reduce the opportunity for federally qualified users to harvest moose. The type and amount of opportunity depends on which approach is selected.

Impact on Other Uses: There will be no direct effect on non-federally qualified users.

Opportunity Provided by State:
State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for moose in Unit 23.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for moose in Unit 23 is 325-400 animals.

		Open Season (Permit/Hunt RM880)	
Unit/Area	Bag Limit	Resident	Nonresident
23, North of Singoalik River	1 Bull	July 1-December 31 (Registration)	
23, North of Singoalik River (DM871)	1 Bull (50 in or 4+brow tines on one side)	Sept 1-September 20 (HT)	Sept 1-September 20
23, Remainder	1 Bull	August 1-December 31 (Registration)	
23, North of Singoalik River	1 Bull (50 in or 4+brow tines on one side)	Sept 1-September 20 (HT)	Sept 1-September 20 (DM872/874-876/885)

Special instructions: None.

Conservation Issues: Aerial censuses indicate low moose densities exist throughout Unit 23 and populations are declining throughout most of the unit. The Selawik and Tagagawik, Lower Noatak, and Lower Kobuk river drainages comprise approximately 80% of the surveyed moose populations in Unit 23. The Selawik and Tagagawik moose population declined 12% annually between 2011 and 2016. The Lower Noatak moose population declined 8% annually between 2008 and 2013, and the Lower Kobuk moos

population declined 5% annually between 2006 and 2012.

The estimated moose population in Unit 23 is 7,500 moose, which is within the intensive management objectives of 3,500–9,200 moose. The harvestable surplus is 450. The 10-year average reported harvest is 153 moose, which is below the amount reasonably necessary for subsistence (325– 400 moose)

Enforcement Issues: None for this hunt.

Recommendation: ADF&G **SUPPORTS AS MODIFIED BY OSM** the restricting of the moose harvest in Unit 23 to ensure sustained hunting opportunity. Reducing the season as suggested by the Office of Subsistence Management would accomplish this goal.

APPENDIX A

Dear ___ Manager:

This letter delegates specific regulatory authority from the Federal Subsistence Board (Board) to the _____ Manager to issue emergency or temporary special actions if necessary to ensure the conservation of a healthy wildlife population, to continue subsistence uses of wildlife, for reasons of public safety, or to assure the continued viability of a wildlife population. This delegation only applies to the Federal public lands subject to Alaska National Interest Land Conservation Act (ANILCA) Title VIII jurisdiction within Unit 23 as it applies to moose on these lands.

It is the intent of the Board that actions related to management of moose by Federal officials be coordinated, prior to implementation, with the Alaska Department of Fish and Game (ADF&G), the Bureau of Land Management (BLM), Gates of the Arctic National Park and Preserve, Western Arctic Parklands, Selawik National Wildlife Refuge, Alaska Maritime National Wildlife Refuge, and the Chairs of the Northwest Arctic and North Slope Subsistence Regional Advisory Councils (Councils) to the extent possible. Federal managers are expected to work with managers from the State and other Federal agencies, the Council Chairs, and applicable Council members to minimize disruption to subsistence resource users and existing agency programs, consistent with the need for special action.

DELEGATION OF AUTHORITY

1. Delegation: The __ Manager is hereby delegated authority to issue emergency or temporary special actions affecting moose on Federal lands as outlined under the **Scope of Delegation** below. Any action greater than 60 days in length (temporary special action) requires a public hearing before implementation. Special actions are governed by regulation at 36 CFR 242.19 and 50 CFR 100.19.

2. Authority: This delegation of authority is established pursuant to 36 CFR 242.10(d)(6) and 50 CFR 100.10(d)(6), which states: "The Board may delegate to agency field officials the authority to set harvest and possession limits, define harvest areas, specify methods or means of harvest, specify permit requirements, and open or close specific fish or wildlife harvest seasons within frameworks established by the Board."

3. Scope of Delegation: The regulatory authority hereby delegated is limited to the following

authorities within the limits set by regulation at 36 CFR 242.26 and 50 CFR 100.26:

- To set annual harvest quotas for antlerless moose and close the antlerless moose season on Federal lands in Unit 23 once the quota has been reached.

- To specify drainages within Unit 23 in which the antlerless moose season will occur.

This delegation may be exercised only when necessary to conserve moose populations, to continue subsistence uses, for reasons of public safety, or to assure the continued viability of the population.

All other proposed changes to codified regulations, such as customary and traditional use determinations, adjustments to methods and means of take, or closures and restriction for take for only non-Federally qualified users shall be directed to the Federal Subsistence Board.

The Federal public lands subject to this delegated authority are those within Unit 23.

3. Effective Period: This delegation of authority is effective from the date of this letter and continues until superseded or rescinded.

4. Guidelines for Delegation: You will become familiar with the management history of the wildlife species relevant to this delegation in the region, with current State and Federal regulations and management plans, and be up-to-date on population and harvest status information. You will review special action requests or situations that may require a special action and all supporting information to determine (1) consistency with 36 CFR 242.19, (2) if the request/situation falls within the scope of authority, (3) if significant conservation problems or subsistence harvest concerns are indicated, and (4) what the consequences of taking an action or no action may be on potentially affected subsistence users and non-Federally qualified users. Requests not within your delegated authority will be forwarded to the Federal Subsistence Board for consideration. You will maintain a record of all special action requests and rationale for your decision. A copy of this record will be provided to the Administrative Records Specialist in the Office of Subsistence Management (OSM) no later than sixty days after development of the document.

You will notify OSM and coordinate with local ADF&G managers, Federal land managers, and the Chairs of the Northwest Arctic and North Slope Subsistence Regional Advisory Councils regarding special actions under consideration. You will issue decisions in a timely manner. Before the effective date of any decision, reasonable efforts will be made to notify the public, OSM, affected State and Federal managers, law enforcement personnel, and Council representatives. If an action is to supersede a State action not yet in effect, the decision will be

communicated to the public, OSM, affected State and Federal Managers, and the local Council representatives at least 24 hours before the State action would be effective. If a decision to take no action is made, you will notify the proponent of the request immediately. A summary of special action requests and your resultant action must be provided to the coordinator of the appropriate Subsistence Regional Advisory Council(s) at the end of each calendar year for presentation to the Council(s).

You may defer a special action request, otherwise covered by this delegation of authority, to the Federal Subsistence Board in instances when the proposed management action will have a significant impact on a large number of Federal subsistence users or is particularly controversial. This option should be exercised judiciously and may be initiated only when sufficient time allows for it. Such deferrals should not be considered when immediate management actions are necessary for conservation purposes. The Federal Subsistence Board may determine that a special action request may best be handled by the Board, subsequently rescinding the delegated regulatory authority for the specific action only.

5. <u>Support Services:</u> Administrative support for regulatory actions will be provided by the Office of Subsistence Management, U.S. Fish & Wildlife Service, Department of the Interior.

Sincerely,

Anthony Christianson
Chair, Federal Subsistence Board

cc: Assistant Regional Director, Office of Subsistence Management
Deputy Assistant Regional Director, Office of Subsistence Management
Subsistence Council Coordinators, Office of Subsistence Management
Chair, Northwest Arctic Subsistence Regional Advisory Council
Chair, North Slope Subsistence Regional Advisory Council
Commissioner, Alaska Department of Fish and Game
Federal Subsistence Liaison Team Leader, Alaska Department of Fish and Game
Federal Subsistence Board
Interagency Staff Committee
Administrative Record

WP18–43 Executive Summary	
General Description	Proposal WP18-43 requests that the Unit 23 brown bear harvest limit be increased from one to three bears and that the season be extended to year-round. *Submitted by: Northwest Arctic Subsistence Regional Advisory Council.*
Proposed Regulation	**Unit 23—Brown Bear** *Unit 23—~~1~~ **3** bear**s** by State subsistence registration permit* — ~~*Aug. 1-May 31*~~. ***July 1 – June 30***
OSM Conclusion	**Support** Proposal WP18-43 **with modification** to increase the harvest limit to two bears per year. The modified regulation should read: **Unit 23—Brown Bear** *Unit 23—~~1~~ **2** bear**s** by State subsistence registration permit* — ~~*Aug. 1-May 31*~~. ***July 1 – June 30***
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	

WP18–43 Executive Summary	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	**Support as modified by OSM**
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	**Support**
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	**Support**
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal. The proponent's justification for submitting this proposal is to reduce human-bear conflicts, particularly the destruction of cabins and taking meat from boats. The issues of nuisance bears and protection of life and property from wildlife are not under the purview of the Federal Subsistence Board, but are covered under State regulations at 5 AAC 92.410 concerning Defense of Life and Property (DLP). Since DLP is under State regulations, proposals submitted for the primary purposes of reducing human-bear conflicts related to defense of life and property should not be validated for further consideration by the Board. The analysis notes that human consumption of brown bears is not common in Unit 23 and that most bears are taken in the fall before they enter their dens or in the spring when they emerge, which

WP18–43 Executive Summary	
	raises the question why a year-round season is necessary—particularly during the summer months when the animals are lean and the hides are of lower quality. The analysis also indicates there are many uncertainties regarding brown bear populations and harvest within Unit 23 and that overharvest may already be occurring in Gates of the Artic National Park and Preserve. This proposal would not bring Federal regulations into alignment with the State regulations and there doesn't appear to be a pressing need to increase harvest and season lengths at this time.
ADF&G Comments	**Support with modification** to align State and Federal seasons and harvest limits.
Written Public Comments	**1 Oppose**

STAFF ANALYSIS
WP18-43

ISSUES

Proposal WP18-43, submitted by the Northwest Arctic Subsistence Regional Advisory Council, requests that the Unit 23 brown bear harvest limit be increased from one to three bears and that the season be extended to year-round.

DISCUSSION

The proponent notes an overabundance of brown bears in Unit 23 and states that the proposed regulation changes would reduce human-bear conflicts, particularly the destruction of cabins and taking of meat from boats. The proponent also claims that disturbance of caribou migration by brown bears may also be reduced.

Existing Federal Regulation

Unit 23—Brown Bear

Unit 23—1 bear by State subsistence registration permit	*Aug. 1-May 31.*

Proposed Federal Regulation

Unit 23—Brown Bear

*Unit 23—~~1~~ **3** bear**s** by State subsistence registration permit*	*~~Aug. 1-May 31~~.* ***July 1 – June 30***

Existing State Regulation

Unit 23—Brown Bear

Residents: Two bears every regulatory year		*Aug. 1 – May 31*
Nonresidents: One bear every regulatory year by permit OR	*DB761-767*	*Aug. 1 – Oct. 31*
Nonresidents: One bear every regulatory year by permit OR	*DB771-777*	*Apr. 15-May 31*

Nonresidents: One bear every regulatory year by permit available at ADF&G in Kotzebue, Nome, and Galena beginning July 31	*RB761-767*	*Aug. 1-Oct. 31*
OR		
Nonresidents: One bear every regulatory year by permit available at ADF&G in Kotzebue, Nome, and Galena beginning Apr. 14	*RB771-777*	*Apr. 15-May 31*

In addition to other regulations, subsistence regulations apply to the following "Residents Only" hunt

Residents: Two bears every regulatory year by permit available in Kotzebue and Unit 23 license vendors beginning July 1	*RB700*	*Aug. 1-May 31*

Extent of Federal Public Lands

Federal public lands comprise approximately 71% of Unit 23 and consist of 40% National Park Service (NPS) managed lands, 22% Bureau of Land Management (BLM) managed lands, and 9% U.S. Fish and Wildlife Service (USFWS) managed lands.

Customary and Traditional Use Determinations

Residents of Units 21 and 23 have a customary and traditional use determination for brown bear in Unit 23.

Regulatory History

State brown bear hunting regulations were established for Unit 23 in 1961. From 1961 until the early 1990s, State regulations were geared toward trophy hunting (Westing 2013). Since the 1980s, brown bear hunting regulations across northern Alaska have become more liberal, including longer seasons, higher harvest limits, and the waiving of resident tag fees (Miller et al. 2011).

Federal brown bear hunting regulations for Unit 23 were adopted from State regulations in 1990. The season was Sept. 1-Oct. 10 and Apr. 15-May 25 with a harvest limit of one bear every four years. Residents of Units 21 and 23 were considered Federally qualified subsistence users for brown bear in Unit 23.

In 1992, seven proposals (P92-074, 075, 076, 078, 079, 086, 167) were submitted to change brown bear regulations in Unit 23. Proposals P92-74, and 78 sought to liberalize the brown bear harvest limit. Proposals P92-76, 79, and 86 sought to liberalize both the harvest limit and season. Proposals P92-075 and 167 requested eliminating the sealing requirement, prohibiting transfer of hides outside of Unit 23 unless to one's residence in Unit 21, requiring the salvage of all edible meat and the submittal of a harvest report and both ears to a Federally authorized representative within 30 days of harvest. These proposals

were submitted because the current regulations conflicted with traditional practices, including restrictive seasons and harvest limits, failure to salvage edible meat, and sealing requirements. The Federal Subsistence Board (Board) considered these proposals concurrently and adopted them with modification to create the Northwest Alaska Brown Bear Management Area (NWABBMA), which included Unit 23 except for the Baldwin Peninsula north of the Arctic Circle (Kotzebue). The sealing requirement was removed and the use of aircraft in any manner for brown bear subsistence hunting was prohibited. The season in the new hunt area was expanded to Sept. 1 – May 31 and the harvest limit became one bear by State registration permit. The harvest limit and season in Unit 23 remainder was unchanged.

In 1992, the Alaska Board of Game (BOG) also modified Unit 23 brown bear regulations in recognition of traditional harvest of bears by Inupiat hunters for meat, hides, and fat (Westing 2013). The BOG also established the NWABBMA and subsistence registration hunt (RB700) in line with recent changes under Federal regulations.

In 2005, the Board adopted proposal WP05-17 with modification to combine the Unit 23 brown bear hunt areas and to expand the season to Aug. 1 – May 31. This was done to provide more opportunity to Federally qualified subsistence users, to reduce regulatory complexity by aligning State and Federal regulations, and because there were no conservation concerns.

In 2007, Proposal WP07-50 proposed eliminating the permit requirement to hunt brown bear in Unit 23 because it was a burden on Federally qualified subsistence users and often permits were not available in villages. The proposal was withdrawn by the proponent before it went to the Board in order to allow more time to discuss the issue with the Councils and various agencies.

In 2008, the Board adopted Proposal WP08-52 to allow the sale of handicrafts made from nonedible parts of brown bears (i.e. fur, claws) taken in Unit 23 so that subsistence users could more fully utilize the brown bear resource.

In 2012, the Board adopted Proposal WP12-01 to require sealing of brown bear hides or claws prior to selling handicrafts incorporating these parts. This was done in order to ensure that marketed handicrafts are made from legally harvested bears.

In 2014, Proposal WP14-40 proposed eliminating the permit requirement to hunt brown bear in Unit 23 to reduce confusion about hunting regulations and to allow for more opportunistic harvests. The Board adopted WP14-40 with modification to insert the word "subsistence" into regulations (1 bear by State *subsistence* registration permit) in order to clarify that permits were required under both State and Federal subsistence hunting regulations versus State sport hunting regulations, which require sealing of hides and skulls. Eliminating the permit requirement was not adopted as it was an essential mechanism to monitor harvest and to inform brown bear management in the unit. Additionally, Federally qualified subsistence users would then be required to seal harvested bears. (However, sealing is required under the subsistence registration permit if the bear is removed from the unit or parts are sold as handicrafts).

In 2016, the BOG adopted Proposal 57 to allow the sale of brown bear hides and/or skulls by Alaska residents in units where the harvest limit is two or more bears annually. The proposal was submitted by the Nushagak Advisory Committee with the stated intent of encouraging brown bear harvest to 1) reduce predation on moose and caribou and 2) to reduce bear hazards around communities.

In 2017, the BOG adopted Proposal 40 to increase the resident brown bear harvest limit in Unit 23 to 2 bears per regulatory year. The BOG supported Proposal 40 because it provides more harvest opportunity, there were no conservation concerns, and because it was supported by five local Fish and Game Advisory Committees (ACs). Chairman Spraker also stated a second bear has not often been harvested in other units with a two bear harvest limit and that bear harvests in other units with long seasons have been sustainable (ADF&G 2017a). Proposals 37, 38, and 39 requested lengthening the nonresident brown bear season in Unit 23. The BOG adopted Proposal 37 to extend the nonresident season from Sept. 1-Oct. 31 to Aug. 1-Oct. 31 and took no action on Proposals 38 and 39. The BOG supported Proposal 37 in order to provide nonresidents more opportunity, to alleviate user conflicts during September by spreading nonresident hunting out over a longer season, and because all the local ACs supported it.

The Noatak Controlled Use Area (Noatak CUA) prohibits the use of aircraft in any manner for big game hunting from Aug. 15-Sept. 30 within a 10 mile corridor (5 miles either side) along the Noatak River. The Noatak CUA under State regulations extends from the mouth of the Agashashok River upstream to the mouth of the Nimiuktuk River. The Noatak CUA under Federal regulations extends from the mouth of the Noatak River upstream to the mouth of Sapun Creek. The purpose of this CUA is to reduce conflicts between local and nonlocal hunters and to improve subsistence harvests and caribou migration.

Current Events

Proposal WP18-44 requests that up to two raw/untanned brown bear hides (with claws attached) and/or skulls from brown bears harvested on Federal public lands in Unit 23 could be sold per regulatory year. The decision on WP18-44 could have ramifications on this proposal (i.e. permit requirements).

Biological Background

State management objectives for brown bear in Unit 23 are as follows (Westing 2013):

- Maintain a population that sustains a 3-year mean annual reported harvest of at least 50% males.
- Conduct a brown bear population estimate for some portion on Unit 23 in cooperation with Department of Interior (DOI) staff at least once every reporting period.
- Continue community-based assessments to collect brown bear harvest information from residents of Unit 23.
- Seal bear skins and skulls, determine sex, and extract a tooth for aging.
- Monitor harvest data (age, sex, and skull size) for changes related to selective pressure.

- Improve communication between the public and the Alaska Department of Fish and Game (ADF&G) to improve harvest reporting and prevent defense of life and property situations from occurring.

Biological information and trends for brown bear in most of Unit 23 is lacking. As brown bears in Interior Alaska are wide ranging and occur at low densities, population estimates are difficult and expensive to obtain (Miller et al. 1997, 2011, Mowat et al. 2013, Schmidt et al. 2017). Brown bear densities are classified as independent bears (3+ years-old) and total bears, which includes sows with cubs. As bear densities are habitat specific, they cannot be applied broadly (Westing 2013).

In the early 1990s, surveys were conducted in the Western Brooks Range to obtain baseline data on bear abundance. Brown bear density was estimated as 29.5 total bears/1,000 km^2 (Miller et al. 1997). Brown bear density within Gates of the Arctic National Park & Preserve (GAAR) is currently considered relatively low (Joly 2017, pers. comm.).

Aerial bear surveys were conducted in the lower Noatak Drainage in 1987, 2008, and 2016. While data seems to suggest that the brown bear population is increasing in this area, these surveys are not directly comparable due to differing methodologies and scales (NPS 2017). In 1987, a brown bear census was conducted in the lower Noatak River drainage to provide a benchmark of bear abundance before the Red Dog Mine was constructed (Ballard et al. 1991, Westing 2013). Density was estimated at 15.0 independent bears/1,000 km^2 (Ballard et al. 1991) and 17.9-19.9 total bears/1,000 km^2 (Ballard et al. 1991, Miller et al. 1997). However, the study area was relatively small (1,862 km^2) and is not representative of all of Unit 23.

Westing (2013) reports preliminary density estimates from the 2008 survey area as 28.5-33.1 independent bears/1,000 km^2. This estimate was generated from the number of bears observed with no corrections for sightability. As some bears were undoubtedly missed, it is considered a minimum estimate (Westing 2013). The NPS calculated 2008 bear densities as 17.4 independent bears/1,000 km^2 and 28.4 total bears/1,000 km^2 (NPS unpublished data).

The 2016 brown bear density estimates for the lower Noatak Drainage were 67.5 independent bears/1,000 km^2 and 106.4 total bears/1,000 km^2. NPS conducted an aerial bear survey of the upper Noatak Drainage in May 2017. The preliminary density estimates are 30.6 independent bears/1,000 km^2 and 41.8 total bears/1,000 km^2 (Robison 2017, pers. comm.). These estimates illustrate that bear densities vary across Unit 23.

While the population status of brown bears across all of Unit 23 is uncertain, the current population estimate is 3,500 bears, which is extrapolated from 2008 density estimates within the Lower Noatak survey area (ADF&G 2017b). As this was derived from a small study area and extrapolated to an entire unit, it is not a correct unit-wide estimate.

Bear density estimates in Unit 22 on the Seward Peninsula may be more representative of southern Unit 23 (e.g. Buckland/Deering area) than estimates from northern Unit 23. Surveys conducted from 2013-2015 in western Unit 22 yielded brown bear density estimates of 21 independent bears/1,000 km^2 and 35.6 total bears/1,000 km^2 (Schmidt et al. 2017).

Local residents have described substantial population increases in the Unit 23 brown bear population since the 1940s and observations by ADF&G staff suggest a stable or increasing population (Westing 2013, ADF&G 2017b). Several factors may contribute to this trend (Westing 2013). Growing populations of moose, caribou and musk ox in the early 2000s have provided a stable prey base for brown bears and shifted subsistence harvest increasingly toward large ungulates. Possible declines in commercial salmon fishing may have allowed more salmon to reach inland areas, increasing food for bears. Regulations protecting sows with cubs curtailed the traditional practice of "denning" or killing all den occupants, which occurred when bears were relied upon more to meet subsistence needs. Finally, selection of large male bears by sport hunters may allow survival of cubs that otherwise could have been killed by large boars (Westing 2013).

Bear density is related to food availability. Salmon availability may be the primary determinant of high and low bear densities across Alaska (Miller et al. 1997, Mowat et al. 2013). The short growing season and absence of salmon make the western Brooks Range poor brown bear habitat; although salmon runs may be seasonally important sources of food in other portions on Unit 23 (Miller et al. 1997). Social factors can also influence bear distribution. For example, a sow with cubs may avoid areas with large male bears that could kill her offspring (Mowat et al. 2013).

In northern Alaska, brown bear populations are often managed conservatively for several reasons: Large home ranges are required to meet resource needs, resulting in low density populations (McLoughlin et al. 2002); Female brown bears do not successfully reproduce until they are > 5 years old and have low reproductive rates, small litters, and long intervals between litters (Reynolds 1987, USFWS 1982, Miller et al. 2011); Sows exhibit high fidelity to home ranges with little emigration or immigration (Reynolds 1993); and monitoring methods are imprecise and expensive (Miller et al. 2011).

In 1991, radio-collared brown bears in the vicinity of Red Dog Mine emerged from their dens between April 10 and May 15 (Ayres 1991). Between 2014 and 2016, the few deaths of radio-collared brown bears within GAAR tracked thus far have been human-related (Joly 2017, pers. comm.). Brown bear habitat in northwestern Alaska is predicted to improve due to climate change causing increases in shrub and forest cover as well as wildfires, which create edge habitats that are often preferred by bears (Nielson et al. 2010, Joly et al. 2012, Rupp et al. 2000, Swanson 2015).

Cultural Knowledge and Traditional Practices

Brown bears have long been a highly respected and utilized subsistence resource in northwest Alaska and the species has a prominent physical and symbolic role in the lives of local people (Loon and Georgette 1989). These animals provide a source of meat, raw materials, and medicine within the Inupiaq culture of

the region (Loon and Georgette 1989). Brown bears have also been prized as trophy sport hunting animals in the region, largely by non-Native residents of the regional hubs of Nome and Kotzebue (Loon and Georgette 1989). Loon and Georgette (1989) provide a thorough ethnographic account of traditional brown bear harvest and use in the region and is the source of cultural information included in this section, unless otherwise noted.

The hunting of brown bears in Inupiaq culture traditionally required strict adherence to prescribed practices designed to show respect to the animal, and a hunter's success was considered dependent on adherence to these protocols. The Inupiat people believed that bears have excellent hearing and that hunters should not discuss their intentions to kill these animals. Bragging, threatening a bear, acting with too much confidence, or even suggesting a craving for bear meat was considered taboo, potentially leading to harming of the hunter or his family. In modern times, some residents of the region continue to adhere to these protocols and will often refer to "that animal" rather than mentioning it by name. While no longer adhered to, the Inupiaq also believed that it was taboo for women and girls to eat bear meat (Loon and Georgette 1989, Anderson et al. 1977). Dogs were also not fed bear meat as it was said to make them vicious.

The use of brown bears for food in the region is variable among communities, depending on geographic location. Inland communities eat brown bears more frequently while coastal communities rarely eat this species unless it is harvested in interior areas where bears feed on fish and berries (Loon and Georgette 1989, Burch 1985, Burch 2006). Coastal bears are often considered unpalatable due to their tendency to consume marine mammal carcasses along the beaches. Loon and Georgette (1989) found that some coastal communities avoid bears in the fall because this is when bears have the greatest access to sea mammal carcasses. Noatak hunters also avoid bears in the upper Noatak River drainage because the bear diet in this area consists of squirrels, a prey species causing unpalatable flavor in brown bear meat. Kotzebue displays a mixture of brown bear harvest patterns, likely due to a variety of geographical and cultural backgrounds of residents residing in this regional hub.

Loon and Georgette (1989) found that the consumption of brown bears differs between Unit 23 (Northwest Arctic) and Unit 22 (Seward Peninsula). While communities in Unit 23 often consume brown bears, consumption of bears is uncommon in Unit 22 (Sobelman 1985, Thomas 1982, Loon and Georgette 1989).

For the communities that consume brown bears, Georgette and Loon (1989) found that hunters rarely, if ever, take a bear in defense of life and property. While nuisance animals may be killed, it is more likely for residents of these communities to use the meat and not report the animal as killed in defense of life and property. Some communities considered bears a nuisance; reindeer hunters also commonly held this view. In the 1980s, brown bear was not a substantial component of the diet in any northwest Alaska community as compared to moose or caribou, but it likely plays a vital seasonal role in the subsistence diet when other large land mammals are not available.

Among the edible parts of a brown bear, the fat is the most prized product (Loon and Georgette 1989). Local hunters time their hunting to correspond with when bears have the most fat and the meat is of highest quality (Loon and Georgette 1989; Burch 2006). Brown bears are predominantly hunted in northwest Alaska during the spring and fall (Loon and Georgette 1989; Burch 2006). Spring hunting takes place earlier inland where warmer conditions arrive sooner. When bears emerge from their dens in the spring,

they are still relatively fat and gradually become lean; thus subsistence brown bear harvests occur between spring emergence from hibernation until snow machine travel is no longer possible (Loon and Georgette 1989).

Many residents prefer to hunt smaller bears because the meat is tender (Loon and Georgette 1989). Brown bear meat is preserved dried, half-dried, frozen and aged. The fat is also aged then cooked before being eaten. It is also common for dried fish and meat to be dipped in bear fat similar to the way that seal oil is used. Bear livers are not consumed. Bear fat is also considered a valuable source of medicine in the region for curing illnesses and sores. It has been used to treat colds, itchy throats, and coughs by ingesting or applying to the chest. Cooked bear meat with fat is said to increase appetite among the ill. It is also used to treat persistent sores and boils.

Usually the hide is in good condition at the same time the bear is the fattest (Loon and Georgette 1989). Some residents of the region harvest brown bears in the fall once their diet has transitioned to berries, roots, fish, and caribou. Later in the fall, bears regain much of their body fat before hibernation, and therefore, harvest at this time is also preferred. In the spring, hunters utilize tracks to locate bears, and in the fall, they concentrate efforts along salmon spawning streams and in areas with prolific berries.

In modern times, brown bears are rarely hunted in the winter or summer because they are considered lean and their hides are of lesser quality (Loon and Georgette 1989). In the summer, bears are also considered more dangerous. Traditionally the Inupiaq people hunted brown bears in their dens in the winter. These bears were less likely to fight, and before firearms were available, killing a hibernating bear with a spear was likely easier and safer as compared to outside of the den in other seasons. This was also a good source of winter meat when other resources were depleted or unavailable. Some hunters would stake bear dens in the late fall and return to the den later in the year to harvest the bear. In Noatak some hunters routinely pursue bears at night along rivers and streams in the fall; a technique that is considered quite dangerous.

Brown bear hunting is a very specialized activity (Loon and Georgette 1989). Before the arrival of fire-arms, bears were largely hunted with spears and arrows. Traditionally, bears harvested by the Inupiat were almost exclusively harvested by a small number of men from each community and the harvest was dis-tributed to other local households. Men continue to be the primary bear hunters in the region. Often, bears are harvested opportunistically while in pursuit of other subsistence resources or while traveling for other purposes. Hunting areas are generally accessed by boat in the fall and by snow machine in spring. Traditionally however, travel was often accomplished by dog team. Hides are sometimes discarded in the field if packing it out presents logistical challenges.

It is a cultural tradition in the region for a hunter to remove the hyoid bone from beneath a bear's tongue immediately after it is killed (Loon and Georgette 1989). In some places this bone is placed between willow branches, on a tussock, or simply discarded in the field. This practice was meant to ensure that the spirit of the bear has left the area and that there would be no retaliation on the hunter. Traditionally, the head of a brown bear was never brought back to the village and was either buried or placed on a tree or shrub (Burch 2006). When meat is served, family members could not discuss or make comments about the meal. The hunters believed that these practices prevented bad luck, safeguarded their camps, and reduced

the potential for future conflict with bears. Removing the hyoid bone and leaving the head in the field remains a common practice.

Beyond nutritional value, brown bears also provide the raw materials for production. Bear hides, bones, teeth, and claws were traditionally used to make spearheads, fishhooks, rope, snowshoe bindings, dog harnesses, scraping tools, doors, mattresses, ruffs, and mukluks (Loon and Georgette 1989). More recently, bear hides have been used primarily for mattresses, rugs, ruffs, mukluks and masks while claws are sometimes used for necklaces. Rope made of bear hide is said to be tougher and last longer than that of caribou or bearded seal. Narrow bones of the bear foreleg were used for spearheads and snares while knee joints were made into scraping tools. The hides were traditionally used to make dog harnesses and were preferred since dogs did not chew them as they did for other species. Travelers often carried bear hides to use as mattresses and as doors for sod houses; today they are carried as winter survival gear.

Sharing of brown bear meat, fats, and raw materials is common in northwest Alaska. Loon and Georgette (1989) stated that all of the hunters interviewed in their study shared their brown bear harvests with other households. The hunter typically only keeps a small amount of the bear meat and fat for his family and the rest is given to elders, widows, sick people, and other residents of the community. The hides were traditionally retained by the member of the hunting party that made the most decisive moves in killing the bear (Burch 2006).

Harvest History

There are two resident and four nonresident brown bear hunts in Unit 23 under State regulations. Residents can hunt under the general season, which requires sealing or under the State's subsistence hunt, which requires a registration permit and has similar requirements as the Federal hunt (i.e. salvage of edible meat, no use of aircraft, no sealing required). Spring and fall drawing and registration permits are available to nonresidents. To date, nonresident hunts have been undersubscribed (ADF&G 2017a).

Brown bear harvest from Unit 23 has increased steadily since 1992, although the number of bears taken for food by local residents is low (Westing 2013, Braem et al. 2015). The liberalization of brown bear hunting regulations in Unit 23 in order to reduce bear densities, human-bear conflicts, and bear predation on moose as well as to provide for traditional hunting practices and increase opportunity for other hunters has contributed to increased harvests (Westing 2013). Harvest data is from harvest reports and community household surveys and also includes bears taken in defense of life or property (DLP). However, many DLP kills are not reported because Unit 23 residents consider the reporting requirement as onerous or fear they have broken the law (Westing 2013). Local and nonlocal residents are considered Alaska residents living within and outside of Unit 23, respectively.

Between 1990 and 2016, reported Unit 23 brown bear harvest averaged 50 bears/year, ranging from 30-78 bears/year (**Figure 1**, Westing 2013, Saito 2017, pers. comm.). Over the same time period, Unit 23 residents, nonlocal residents, and nonresidents averaged 28%, 44%, and 27% of the reported Unit 23 brown bear harvest, respectively (**Figure 1**, Westing 2013, Saito 2017, pers. comm.). Prior to 1981, nonresidents

accounted for most of the reported brown bear harvest in Unit 23; however, since 1992, nonlocal residents have reported the higher harvests (Westing 2013).

Most brown bears in Unit 23 are harvested under the general hunt by both local and nonlocal residents (**Figure 2**). Between 2002 and 2016, 68% of the harvest occurred under the general hunt and averaged 37 bears/year. Over the same time period, harvest under the subsistence registration permit accounted for only 3.5% of the harvest and averaged 1.8 bears/year (**Figure 2**, Westing 2013, Saito 2017, pers. comm.). Between 2011 and 2016, DLP kills averaged 1 bear/year and ranged from 0-3 bears/year (Saito 2017, pers. comm.).

Many bears taken by local residents are not reported (Ayers 1991, Westing 2013). According to household surveys between 1998 and 2012, brown bear harvest by Unit 23 communities (excluding Kotzebue) was approximately 17 bears/year and annual per capita harvest averaged 0.004 bears/person (Westing 2013). Westing (2013) combined the average annual Kotzebue brown bear harvest (8 bears/year) with the village per capita harvest estimates to determine that an estimated 20-30 brown bears are taken annually by local hunters. This is substantially more than the reported harvest by local residents, which averaged 14 bears/year between 1990 and 2016 (28% of 50 bears/year).

Between 1992 and 2011, the percent of males in the Unit 23 brown bear harvest exceeded the State management goal of a 3-year mean annual reported harvest of >50% boars (**Figure 3**). Harvest data do not indicate that overharvesting is occurring in Unit 23 based on data from the Lower Noatak River drainage (Westing 2013, ADF&G 2017a). However, due to the large number of unreported bear harvests and lack of population data across most of Unit 23, the impact of hunting on the Unit 23 brown bear population is unknown.

Additionally, overharvesting may already be occurring within accessible areas of GAAR such as floatable fishing rivers, which attract both people and bears. As bear density and productivity is low within GAAR, low levels of harvest may impact the population (Joly 2017, pers. comm.).

Bears are traditionally harvested in the spring and fall (FSB 1992). Most Unit 23 brown bear harvest occurs in September, often opportunistically when hunting moose or caribou. The second highest harvest month is April (Westing 2013). Airplanes are the most common transport method used to hunt brown bears in Unit 23, followed distantly by snowmachines and boats (Westing 2013). Federally qualified subsistence users usually access brown bear hunting locations by boat and snowmachines (Loon and Georgette 1989). Many local residents view brown bears as a nuisance or threat to subsistence activities (i.e. picking berries, drying fish) and conflicts with bears seem to be increasing (Westing 2013, ADF&G 2017a).

Most brown bears are harvested from the Noatak River drainage followed by the Kobuk River drainage. Few brown bears are harvested from the Selawik River, Wulik/Kivalina Rivers, and Northern Seward Peninsula drainages (Westing 2013). Westing (2013) suggests that heavily hunted portions of Unit 23 may

be acting as "population sinks" where bears, especially boars, are continually replaced by bears from lightly hunted areas such the upper Noatak drainage and Brooks Range.

Between regulatory years 1992/93 and 2011/12, the annual mean skull size for male and female brown bears sealed in Unit 23 remained stable and averaged 21.63" and 19.5" across all years, respectively. Over the same time period, annual mean age for male and female brown bears averaged 7.5 years (range: 5.6-9.6 years) and 7.3 years (range: 3.4-10.2 years), respectively (Westing 2013).

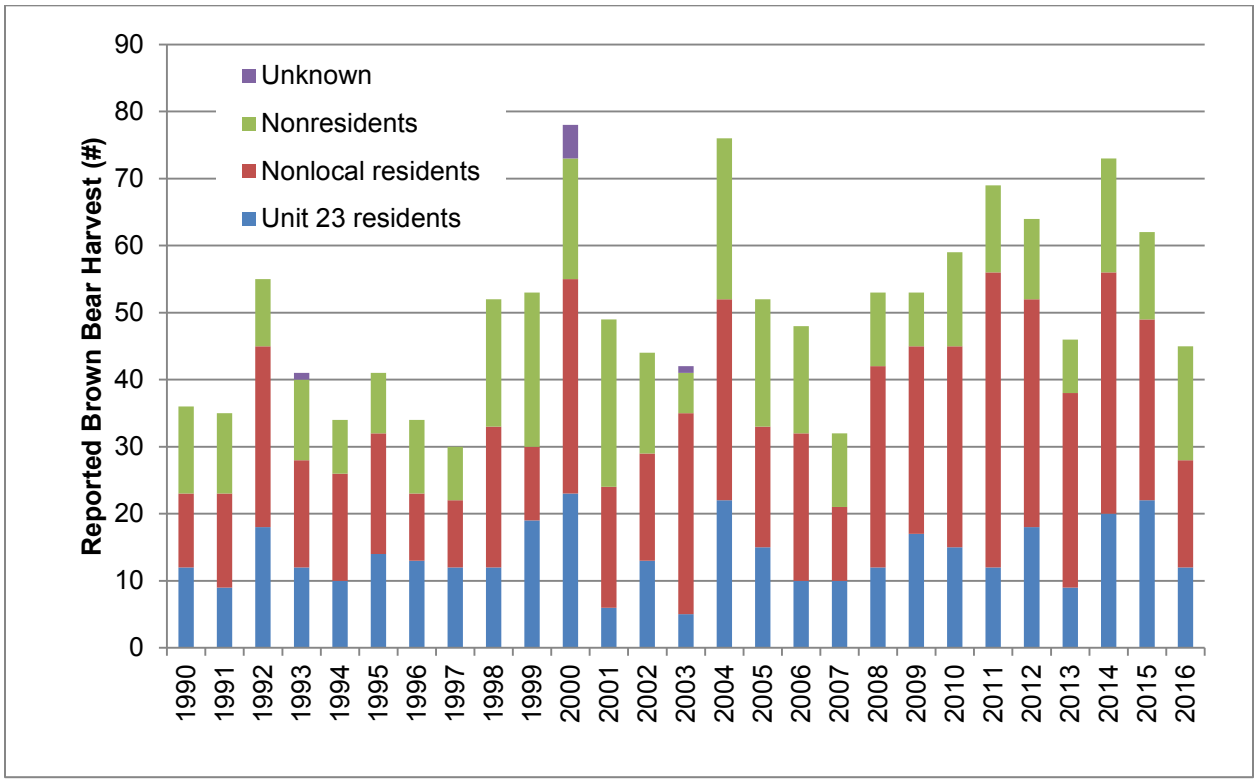


Figure 1. Reported Unit 23 brown bear harvest by residency (Westing 2013, Ayres 1991, Saito 2017, pers. comm.).

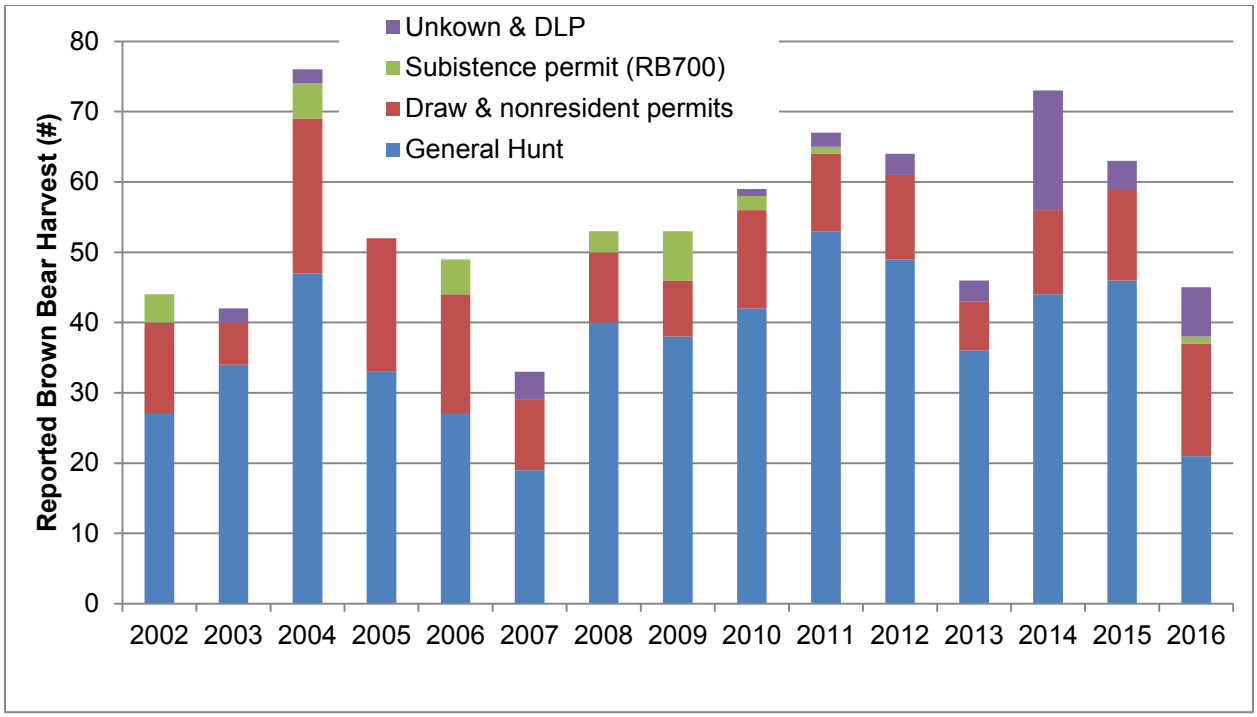


Figure 2. Reported Unit 23 brown bear harvest by hunt type (Westing 2013, Saito 2017, pers. comm.).

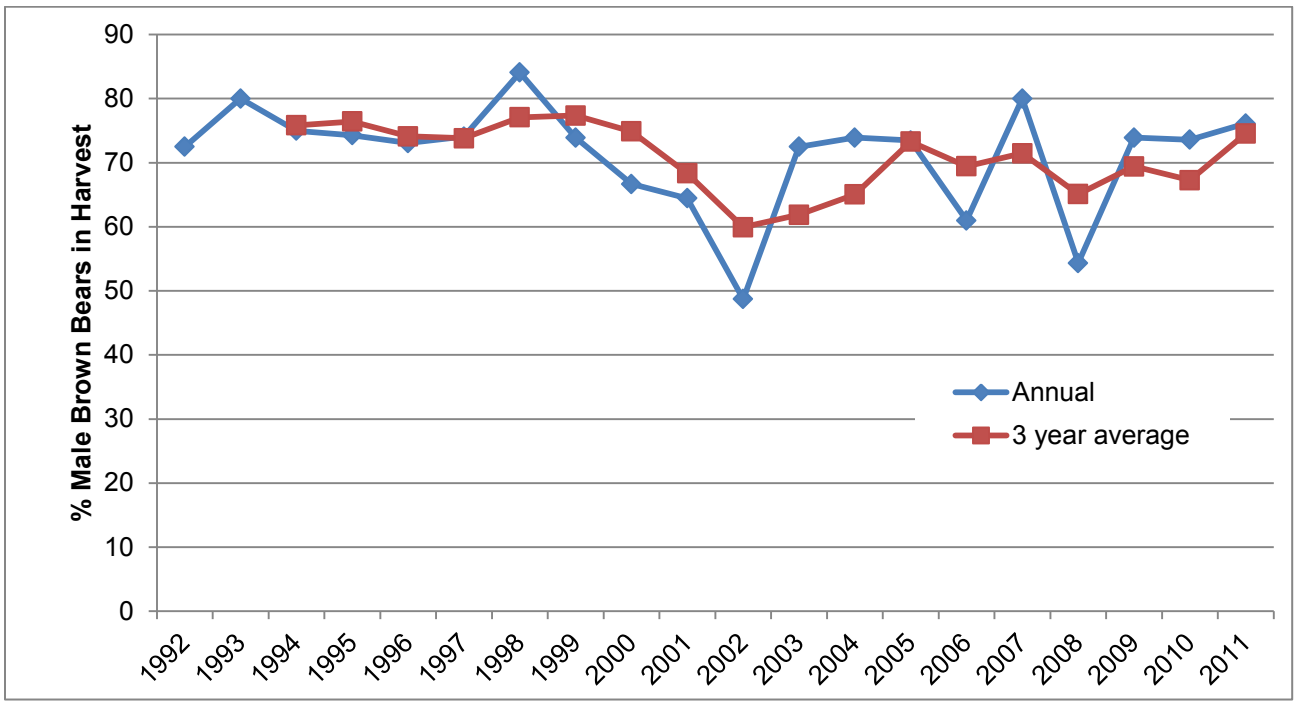


Figure 3. Percent of male brown bears in Unit 23 harvest.

Other Alternatives Considered

One alternative considered was to increase the harvest limit to two bears per year instead of three. As there are many uncertainties about brown bear populations and harvest in Unit 23 and because brown bear populations are slow to recover from overharvest, a more conservative approach may be warranted. A two bear harvest limit would be consistent with State regulations, reducing regulatory complexity and user confusion. A year round season would provide for a subsistence priority and increased opportunity for Federally qualified subsistence users.

Effects of the Proposal

If this proposal is adopted, the Unit 23 brown bear harvest limit would increase to three bears and the season would be year round, which would provide more opportunity for Federally qualified subsistence users. However, for this regulation to be adopted, concurrence would be needed from the State to allow Federally qualified subsistence users to use a State registration permit with season dates and harvest limits that differ from existing State regulations. Additionally, action taken on WP18-44 may influence the outcome of this proposal.

It is difficult to determine if adoption of this proposal would increase actual harvest or harvest reporting. As bears are traditionally harvested in fall and spring and most of the reported harvest has occurred in September and April, few bears are expected to be harvested during the extended season in June and July. As subsistence use of brown bears has been low, all edible meat must be salvaged, and two bears can already be harvested per year under State regulations, increasing the harvest limit to three bears/year is not expected to result in a substantial increase in harvest. Additionally, the harvest of a second bear in other units with a two bear harvest limit has been low (ADF&G 2017a). However, as regional sheep, moose, and caribou populations are currently declining, brown bears may become a more important subsistence resource.

There may be conservation concerns for this proposal. While biological data on brown bears in Unit 23 is sparse, the best available information suggests that the brown bear population is stable or increasing (Westing 2013, ADF&G 2017b, NPS 2017). Recent liberalization of State brown bear regulations (increase resident harvest limit, extend nonresident season) were widely supported by local ACs, ADF&G, and the BOG, indicating no conservation concerns. While brown bear densities in GAAR are low and overharvesting may already be occurring in this area (Joly 2017, pers. comm.), GAAR comprises a minority of the Federal public lands in Unit 23. Additionally, most of the Unit 23 reported harvest occurs within the lower, not the upper, Noatak river drainage (Westing 2013). Therefore, the density estimates from the Lower Noatak survey area should be considered more appropriate for this proposal analysis. However, there are still many uncertainties regarding brown bear populations and harvest in Unit 23 and brown bear population are slow to recover from overharvest. A three bear harvest limit would be the highest in the state and may be unsustainable.

Additionally, this proposal would only apply to Federally qualified subsistence users who comprise a minority of reported Unit 23 brown bear harvest and an unknown proportion of total harvest. Adoption of

this proposal would provide a subsistence priority for Federally qualified subsistence users. Currently, Federal regulations are more restrictive than State regulations.

A year round season and higher harvest limit may also increase reporting of DLP kills as legality concerns as well as the burden of submitting the hide and skull to the State would be eliminated (provided Federally qualified subsistence users are able to use the State registration permit). Indeed, property damage caused by bears was one reason this proposal was submitted. Adoption of this proposal would also allow the take and eating of nuisance bears (i.e. habituated to disturbing fish camps or cabins) during the summer that would not be legal under DLP.

However, as harvest is often biased toward large male bears, increasing the harvest limit could potentially increase human-bear conflicts as older bears learn to avoid people and kill younger bears, which are responsible for most of the human-bear conflicts (Joly 2017, pers.comm.).

OSM CONCLUSION

Support Proposal WP18-43 **with modification** to increase the harvest limit to two bears per year.

The modified regulation should read:

Unit 23—Brown Bear

*Unit 23—~~1~~ **2** bear**s** by State subsistence registration permit*	*~~Aug. 1-May 31~~.* ***July 1 – June 30***

Justification

A year round season will increase opportunity for Federally qualified subsistence users. As most bears are traditionally taken in the spring and fall, only a slight increase in harvest is expected from extending the season through the summer.

Increasing the harvest limit will also provide more opportunity for Federally qualified subsistence users. Federally qualified subsistence users comprise a minority of the reported harvest in Unit 23 and all Alaska residents can already harvest two bears under State regulations. There are many uncertainties regarding brown bear populations and harvest in Unit 23, warranting a more conservative harvest limit increase than was proposed.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Western Interior Alaska Subsistence Regional Advisory Council

Support WP18-43 **as modified by OSM.** The Council noted there does not seem to be a conservation concern for the population, and this proposal as modified adds additional harvest opportunity.

Northwest Arctic Subsistence Regional Advisory Council

Support WP18-43. The Council noted there are too many bears out in the country, and bears are a public safety issue.

North Slope Subsistence Regional Advisory Council

Support WP18-43. A Council member from Point Hope noted that there is an abundance of brown bears in his area (in Unit 23) which seems to be ample for additional harvest opportunity. The Council recognized the support of the NWARAC in the proposal as written, noting that the views and recommendations of the Council and people in the Unit 23 region had weight in their consideration, noting that the locals are most knowledgeable based on their experience and observations.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

The proponent's justification for submitting this proposal is to reduce human-bear conflicts, particularly the destruction of cabins and taking meat from boats. The issues of nuisance bears and protection of life and property from wildlife are not under the purview of the Federal Subsistence Board, but are covered under State regulations at 5 AAC 92.410 concerning Defense of Life and Property (DLP). Since DLP is under State regulations, proposals submitted for the primary purposes of reducing human-bear conflicts related to defense of life and property should not be validated for further consideration by the Board.

The analysis notes that human consumption of brown bears is not common in Unit 23 and that most bears are taken in the fall before they enter their dens or in the spring when they emerge, which raises the question why a year-round season is necessary—particularly during the summer months when the animals are lean and the hides are of lower quality. The analysis also indicates there are many uncertainties regarding brown bear populations and harvest within Unit 23 and that overharvest may already be occurring in Gates of the Artic National Park and Preserve. This proposal would not bring Federal regulations into alignment

with the State regulations and there doesn't appear to be a pressing need to increase harvest and season lengths at this time.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-43 This proposal, submitted by the Northwest Arctic Subsistence Regional Advisory Council, would allow for harvesting up to 3 bears per year by federally qualified subsistence users in Unit 23 and it would extend the season by two months.

Introduction: This proposal asks to change the bag limit for brown bear using the state subsistence registration permit in Unit 23 and increases the bag limit from one to three bears per season. The current state subsistence limit is two bears. The season would change from a season of August 1 to May 3 to a year around season, July 1–June 30. Very few bears are harvested per year using the state subsistence permit RB700. In the past five years zero to three bears have been harvested using this permit.

Impact on Subsistence Uses: If adopted, this proposal would allow for a greater harvest of brown bears for subsistence hunters using the state registration permit and following the proposed federal regulations.

Impact on Other Uses: The impact will be small. The current state regulations allow for the sale of brown bears in areas that the brown bear bag limit is two bears for non-federally qualified users.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for brown bears in Units 23, 24, and 26 combined.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for brown bears in Units 23, 24, and 26 combined is 25-35 animals.

Unit/Area	Bag Limit	Open Season (Permit/Hunt #) Resident	Nonresident
23	2 bears every regulatory year	August 1 – May 31	
	2 bears every regulatory year	August 1 – May 31 (RB700)	
	1 bear per regulatory year		August 1-Oct 31 Apr 15 – May 31

Special instructions: Hunters using the RB700 have additional permit conditions they must follow. Hunters must salvage the meat for human consumption, no use of aircraft for hunting is allowed, and sealing of the head and hide is not required unless they are removed for the hunt area.

Conservation Issues: The proposal asks to increase the bag limit from one to three bears. Harvest using the current regulations is very low, and ADF&G does not expect that liberalizing the season will increase harvest.

Enforcement Issues: Adoption of this proposal would make the federal and state regulations different in the bag limit and seasons in Unit 23. The OSM recommendation to align the bag limit at 2 bears per year does not address the different season dates.

Recommendation: ADF&G **OPPOSES** the proposal as written and **SUPPORTS modifying the proposal so that it aligns the bag limit and season with the current state seasons.**

WRITTEN PUBLIC COMMENTS

12
July 13, 2017



Federal Subsistence Board
Office of Subsistence Management
1011 East Tudor Road, MS 121
Anchorage, Alaska 99503
EMAILED TO: subsistence@FWS.gov

RE: Comments on subsistence proposalsWP18-43 and WP18-44 and some general recommendations on approaches toward similar proposals

Sirs:

We write out of concern with the above-mentioned proposals to urge that they not be adopted.

Neither proposal provides any justification that includes mention of a "customary and traditional" use that would support their adoption. The Board should not adopt proposals that do not have a credible justification in customary and traditional use of the resource much less one that has no justification whatsoever of such a use.

Although we are aware that Loon and Georgette (1989) document customary and traditional use of brown bear meat in non-coastal areas of Unit 23, Proposal 43 (to increase the federal subsistence bag limit to 3 bears/year) is undercut by the acknowledgement in Proposal 44 (to allow sale of bear hides) that "...traditionally the Iñupiat do not care to obtain coastal brown bear meat and fat because they feed on carrion". Proposal 44 also states that "traditionally, Iñupiat peoples of the region did not make handicrafts from bears skulls and hides as this was taboo". Given these acknowledgements and the absence of description of how bears are/were used in a customary and traditional way, there is no basis provided that would support these proposals. Given the lack of direct justification based on customary and traditional uses, we believe these proposals have a basis in the desire of the proponents to reduce the bear population to some unspecified lower level because they find bears to be inconvenient in the various ways identified in the proposals. Inconvenience is not a customary and traditional use. What is customary and traditional is the ways the Native Americans of northwestern Alaska found to cope with co-existing with bears.

The justification for Proposal 43 has the following justifications which are addressed below:

1. The proponents assert that there is an "over-abundance" of brown bears in Unit 23". No basis for this assertion is provided except for mentions of ways bears are inconvenient. The closest density estimates are in GMU 22 (Schmidt et al. 2017; Miller et al. 1997) and another one in Red Dog Mine area in Unit 23 (Ballard et al. 1993 and also reported in Miller et al. 1997). These estimates are both in the range considered typical for interior Alaska (Miller et. al. 1997). Another estimate by NPS for the Lower Noatak was recently conducted 2017 and is in process of being prepared; this estimate is reportedly higher than the others. Ecologically brown bears are an archetypical "K-selected" species characterized by low reproductive rates and population stability at carrying capacity of their environments or lower. We further note that harvests have been increasing in GMU 23 since the State initiated its "intensive management" program in 1995 (see figure at end of this letter). The 3 year running average harvest in 1997 was 29 bears

1

compared to 59 bears in 2015 (see figure below). This is a doubling of harvest over a 20 year period and if there is any demographic consequence from this it is unlikely to be an "overpopulation of bears".

2. "Reduce conflicts with brown bears". We have little doubt that such conflicts occur. However, the proponents of this proposal provide no information documenting levels of these conflicts or trends. Neither is information provided indicating an increase in bag limit would reduce such conflicts. Human-bear conflicts are best addressed by techniques that eliminate or reduce the ability of bears to obtain anthropogenic foods. If these steps are not taken, such conflicts will persist regardless of the level to which bears are reduced. We note that in North American, no group has a longer history of co-existence with bears (all 3 species) than native Alaskans and that some of this expertise could and should be used to reduce conflicts without reducing bear abundance. These techniques included elevated food caches which are proven effective and have been adopted by non-native peoples around the world to reduce conflicts with bears. Solar-powered electric fences are a modern innovation that could be usefully adopted as well to prevent bears from accessing cabins or food storage areas without resorting to killing bears.

3. "Reduce the effects of brown bears on disrupting caribou migratory patterns". The authors provide no support for the assertion that bears "disrupt" such patterns or that a change in bag limit would address such disruptions if they do exist. Bears will congregate where food is available and if this is, for example, in areas where caribou traditionally cross rivers or other natural corridors, bears will continue to seek out caribou in these areas of food availability. Trying to eliminate "disruptions" if they occur in such areas is a classic case of a population "sink" for bears. Bears will continue to show up in such attractive areas and be killed thereby depopulating bears from the much larger "source" population.

4. "Reduce destruction of cabins and taking of meat from boats by brown bears". We address this in point #2 above. Although these activities by bears are doubtless nuisances to some local residents, it is hard to see how they would be reduced without greatly reducing bear numbers to the point of near elimination.

Proposal 44 proposes to allow the sale of up to 2 raw/untanned brown bear hides (with claws attached and/or skulls) per regulatory year for qualified CT users. Such sales were initially allowed by state regulations last year and everyone in the state can already do this including all residents of Unit 23. Justifications offered are:

1. "Promote alignment with state with state regulations." We note that no "alignment" is needed as under state regulations such sales are already permitted for bears taken in Unit 23 under the state's general hunting regulations with a bag limit of 2/year. Adoption of this proposal would, in fact, misalign with state regulations with regard to where take can occur that would allow such sales. Most significantly, extension of subsistence regulations designed to reduce numbers of bears in federal conservation areas like National Parks, National Preserves, and National Wildlife Refuges will likely conflict with federal obligations to manage such areas for "natural diversity" consistent with NPS regulations adopted last year and published in the Federal Register. There should be a compelling reason based on well-established CT uses by qualified subsistence users before undercutting federal mandates to manage these areas in the national interest rather in the parochial interests of local residents. We further observe that a federal

subsistence bag limit of 3 bears/year would "misalign" these regulations from the state bag limit and create confusion about whether the federal bag limit was additive to the state bag limit.

2. "Promote the increased utilization of harvested brown bears". No "utilization" of brown bears is mentioned in this proposal which is internally inconsistent as it specifically acknowledges that brown bears are **not** traditionally used by Iñupiat people for either food or the making of handicraft items from brown bear parts. What this proposal would actually do is allow the commercialization by sale of hides from brown bears taken in National Parks, National Preserves, and National Wildlife Refuges (created by ANILCA in 1980) where only qualified CT users are allowed to hunt. This proposal provides no valid justification based on need or customary and traditional use that would justify such commercialization of wildlife on these National Interest Conservation units.

3. "Provide opportunity for profit". The sale of untanned bear hides with claws attached and skulls is already allowed, since last year, under state regulations. Since this was just adopted last year there can be no recent customary and traditional use based on such sales and it would very likely be exceedingly dangerous to bear populations to institutionalize commercialization of bear parts especially on federal conservation areas like National Parks, Preserves, and Refuges. The commercialization of bears taken on federal national interest conservation lands conflicts with the objectives for management of these lands by federal land managers as described above in point #1 for Proposal 43. We believe that the subsistence provisions that are part of ANILCA are designed to assure continuation of customary and traditional uses by subsistence users and that the opportunity to "profit" by sale of wildlife parts is inconsistent with the intent of ANILCA.

4. "Reduce the overpopulation of bears in Unit 23." This assertion is addressed above in point # 1 for Proposal 43.

5. "Reduce conflicts with brown bears in communities and camps". This assertion is addressed above in point # 2 for Proposal 43.

5. "Reduce danger resulting from human and bear interactions." This point is addressed above in point #2 for Proposal 43. We further note that the State has regulations allowing the take of bears in Defense of Life and Property situations so this justification is redundant.

As a general comment, we believe that the most likely reason for these proposals and others like them is to reduce the abundance of bears and other predators in the hope that this will result in making it easier for hunters to harvest caribou and moose in Unit 23. Although the western Arctic caribou is declining, there exist no evidence that this is a result of natural predation which has occurred for millennia and is cyclic. We believe the federal subsistence board should not adopt proposals designed to reduce predators on National Conservation Units and certainly not without sound justifications based on solid science. We suspect that such "uses" predicated on the assumed need for reducing predators are outside the intended scope of the subsistence provisions of ANILCA, conflict with other federal mandates to manage wildlife on National Interest Conservation Units for natural diversity in the national interest, have little likelihood of accomplishing the desired objectives absent extreme reductions in predator abundance, and have no justification based on the ways aboriginal Americans utilized wildlife populations during historical or prehistorical periods.

Thanks you for your consideration of these comments.

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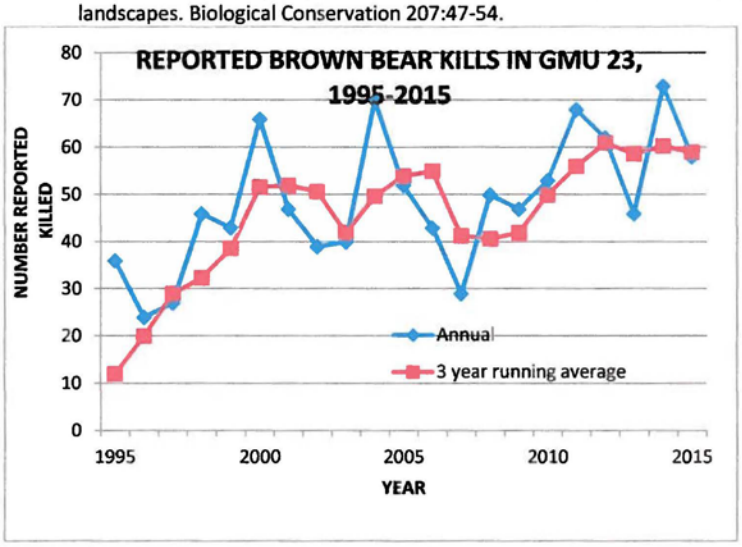
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WP18–44 Executive Summary	
General Description	Proposal WP18-44 requests regulations allowing the sale of up to two raw/untanned brown bear hides (with claws attached) and/or skulls per regulatory year, from brown bears legally harvested by Federally qualified subsistence users on Federal public lands in Unit 23. *Submitted by: Northwest Arctic Subsistence Regional Advisory Council*
Proposed Regulation	**§___100.25 Subsistence taking of fish, wildlife, and shellfish: general regulations.** *(j) Utilization of fish, wildlife, or shellfish* *(13) You may sell the raw/untanned and tanned hide or cape from a legally harvested caribou, deer, elk, goat, moose, musk ox, and sheep.* ***(i)You may sell, through customary trade, the skull or raw/untanned or tanned hide, with claws attached, and the skull, from up two brown bears legally harvested on Federal public lands in Unit 23, annually. Any skull or hide must by sealed by an ADF&G representative prior to its sale.***
OSM Conclusion	**Oppose**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council	

WP18–44 Executive Summary	
Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	**Take no action**
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	**Support** WP18-44 **with modification** to create a general season for brown bears in Unit 23 and authorize the customary trade of brown bear hides and skulls in Unit 23. The modified regulation would read: **§___100.25 Subsistence taking of fish, wildlife, and shellfish: general regulations.** *(j) Utilization of fish, wildlife, or shellfish* *(13) You may sell the raw/untanned and tanned hide or cape from a legally harvested caribou, deer, elk, goat, moose, musk ox, and sheep.*

WP18–44 Executive Summary	
	(i)You may sell, through customary trade, the skull or raw/untanned or tanned hide, with claws attached, and the skull, from up two brown bears legally harvested on Federal public lands in Unit 23, annually. Any skull or hide must by sealed by an ADF&G representative prior to its sale. **Unit 23 – Brown Bear** *Unit 23 – 1 bear by State subsistence registration permit* Aug. 1 – May 31 ***OR*** ***1 bear by Federal registration permit*** ***Aug. 1 – May 31***
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	**Support** WP18-44 **with modification** to create a general season for brown bears in Unit 23 and authorize the customary trade of brown bear hides and skulls in Unit 23. The modified regulation would read: **§___100.25 Subsistence taking of fish, wildlife, and shellfish: general regulations.** *(j) Utilization of fish, wildlife, or shellfish* *(13) You may sell the raw/untanned and tanned hide or cape from a legally harvested caribou, deer, elk, goat, moose, musk ox, and sheep.* *(i)You may sell, through customary trade, the skull or raw/untanned or tanned hide, with claws attached, and the skull, from up two brown bears legally harvested on Federal public lands in Unit 23, annually. Any skull or hide must by sealed by an ADF&G representative prior to its sale.* **Unit 23 – Brown Bear** *Unit 23 – 1 bear by State subsistence registration permit* Aug. 1 – May 31 ***OR*** ***1 bear by Federal registration permit*** ***Aug. 1 – May 31***

WP18–44 Executive Summary	
Interagency Staff Committee Comments	The Interagency Staff Committee (ISC) found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal. The primary justification for submitting this proposal is to align with State regulations that were put in place last year to allow for the sale of bear hides and skulls. The proponent also states that the proposal is intended to increase utilization of harvested brown bears, increase opportunity for profit, reduce overpopulation of brown bears in Unit 23, reduce conflicts with bears in communities and at camps, and to reduce danger due to increased bear activity. The last three justifications are outside the Board's purview; the reduction of brown bear populations falls under predator control while the final two are issues of defense of life and property. Customary trade is defined in 50 CFR 100.4 as, "Exchange for cash of fish and wildlife resources regulated in this part, not otherwise prohibited by Federal law or regulation to support personal and family needs; and does not include trade which constitutes a significant commercial enterprise." Worldwide, the trade of bear parts and hides has evolved into a lucrative market with both legal and illegal components. The legal online market for brown bear skulls and claws appears to be well established and profitable. For example, a brown bear skull advertised on the SafariWorks Taxidermy Sales website has a selling price of $425. The Moscow Hide and Fur website has "grizzly bear" claws for sale ranging in price from $499 for a 4.5 inch front claw to $350 for a 3.5 inch front claw. Back claws are not as valuable, but Moscow Hide and Fur prices them between $50 and $60 each. Since each brown bear has one skull and a hide with ten front and ten rear claws attached, there is a very real potential for the customary trade requested by this proposal to constitute a significant commercial enterprise. As noted in the OSM justification opposing this proposal, global markets drive high prices for brown bear parts and are known to encourage poaching. Increasing market availability and/or prices of brown bear products may intensify illegal harvest from those populations. The analysis also states that tracking the illegal harvest and sale of brown bear parts is difficult, which creates challenges for law enforcement. In addition, the analysis notes while there is evidence of a general pattern of customary trade in Unit 23, there is no documented pattern as it relates specifically to brown bears, especially the hides and skulls of the species. If that is indeed the case, then creating a special provision under customary trade to allow the sale of up to two brown bear skulls and two untanned brown bear hides with

WP18–44 Executive Summary	
	claws attached is not appropriate since it would create an allowance under Federal customary trade regulations for a practice that does not currently exist. Under ANILCA Section 805(c), the Board may choose not to follow a Council recommendation if it, 1) is not supported by substantial evidence; 2) violates recognized principles of fish and wildlife conservation; or 3) would be detrimental to the satisfaction of subsistence needs. With respect to this proposal, there is insufficient evidence that residents of Unit 23 have an established pattern of customary trade involving brown bear hides and skulls to justify the creation of a Federal customary trade regulation that mirrors existing state regulations. In addition, adoption of this proposal would violate sound principles of fish and wildlife conservation by turning brown bear parts into commodities to be sold for profit and permitting the sale of a species that already has an extensive illegal black market established.
ADF&G Comments	**Support**
Written Public Comments	**1 Oppose**

STAFF ANALYSIS
WP18-44

ISSUES

Proposal WP18-44, submitted by the Northwest Arctic Subsistence Regional Advisory Council, requests regulations allowing the sale of up to two raw/untanned brown bear hides (with claws attached) and/or skulls per regulatory year, from brown bears legally harvested by Federally qualified subsistence users on Federal public lands in Unit 23.

DISCUSSION

The Northwest Arctic Regional Advisory Council (Northwest Arctic Council) voted to submit this proposal to align State and Federal regulations in Unit 23 by adding a provision in Federal regulations allowing the sale of up to two skulls and raw/untanned hides of brown bears legally harvested on Federal public lands by Federally qualified subsistence users, per regulatory year. The Council also voted to submit a companion proposal (WP18-43) to increase the Federal harvest limit for brown bears from one bear to three bears per regulatory year and extend the season to year round. The proponent clarified that they only seek to allow the sale of two brown bear skulls and raw/untanned hides (with claws attached) per regulatory year (NWA RAC 2017).

The Northwest Arctic Council offered several justifications for this request including 1) aligning Federal and State regulations, 2) increasing utilization of harvested bears, 3) increasing opportunity for profit, 4) reducing the overpopulation of brown bears in Unit 23, 4) reducing conflicts with bears in communities and at camps, and 5) reducing danger due to increased bear activity. Some members of the Council also indicated that traditionally, Inupiat peoples of the region did not make handicrafts from bear skulls and hides as this was taboo, therefore the regulation change would most appropriately apply to raw/unaltered hides and skulls.

At the January 2017 meeting the Alaska Board of Game (BOG) modified State brown bear hunting regulations in Unit 23 from one bear per year to two bears per year. According to 5 AAC 92.200(b):

> a person may not purchase, sell, advertise, or otherwise offer for sale any part of a brown bear, except an article of handicraft made from the fur of a brown bear, and except for skulls and hides with claws attached of brown bears harvested in areas where the harvest limit is two bears per regulatory year.

Because of the State increase in the brown bear harvest limit to two bears per regulatory year in Unit 23, the sale of brown bear skulls and hides (with claws attached) will be legal under State regulations in Unit 23 as of July 1, 2017 per 5 AAC 092.200(b). However, brown bears harvested under a State subsistence registration permit in Unit 23 (as currently required under Federal regulations) that are either removed from the area or presented for commercial tanning must be sealed by a designated sealing officer and the skin of the head and front claws must be removed and kept by the Alaska Department of Fish and Game (ADF&G).

Federal regulations currently allow the harvest of 1 brown bear annually in Unit 23 by State registration permit, therefore requiring that the front claws be removed and kept by ADF&G upon sealing.

Existing Federal Regulation

§___100.25 Subsistence taking of fish, wildlife, and shellfish: general regulations.

(j) Utilization of fish, wildlife, or shellfish

(13) You may sell the raw/untanned and tanned hide or cape from a legally harvested caribou, deer, elk, goat, moose, musk ox, and sheep.

Proposed Federal Regulation

§___100.25 Subsistence taking of fish, wildlife, and shellfish: general regulations.

(j) Utilization of fish, wildlife, or shellfish

(13) You may sell the raw/untanned and tanned hide or cape from a legally harvested caribou, deer, elk, goat, moose, musk ox, and sheep.

(i) You may sell, through customary trade, the skull or raw/untanned or tanned hide, with claws attached, and the skull, from up two brown bears legally harvested on Federal public lands in Unit 23, annually. Any skull or hide must by sealed by an ADF&G representative prior to its sale.

Note: The proposal as submitted, omitted "or tanned hide." However, this was an oversight as the proponent's intention was to align State and Federal regulations.

Existing State Regulation

Use of Game

Game taken under a hunting license MAY NOT be used for the following purposes:

Buying or selling of any part of a brown/grizzly bear, EXCEPT:

-brown bears taken in areas with a two brown bear bag limit per regulatory year, raw and untanned brown bear hides (with claws attached) and skulls may be sold, after sealing.

Unit 23—Brown Bear

Residents: Two bears every regulatory year		*Aug. 1 – May 31*
Nonresidents: One bear every regulatory year by permit OR	*DB761-767*	*Aug. 1 – Oct. 31*
Nonresidents: One bear every regulatory year by permit OR	*DB771-777*	*Apr. 15-May 31*
Nonresidents: One bear every regulatory year by permit available at ADF&G in Kotzebue, Nome, and Galena beginning Aug. 31.	*RB761-767*	*Aug. 1-Oct. 31*
OR		
Nonresidents: One bear every regulatory year by permit available at ADF&G in Kotzebue, Nome, and Galena beginning Apr. 14.	*RB771-777*	*Apr. 15-May 31*

In addition to other regulations, subsistence regulations apply to the following "Residents Only" hunt

Residents: Two bears every regulatory year by permit available in Kotzebue and Unit 23 license vendors beginning July 1	*RB700*	*Aug. 1-May 31*

Extent of Federal Public Lands

Federal public lands comprise approximately 71% of Unit 23 and consist of 40% National Park Service (NPS) managed lands, 22% Bureau of Land Management (BLM) managed lands, and 9% U.S. Fish and Wildlife Service (USFWS) managed lands (see **Unit 23 Map**).

Customary and Traditional Use Determinations

Residents of Units 21 and 23 have a customary and traditional use determination for brown bear in Unit 23.

Regulatory History

State brown bear hunting regulations were established for Unit 23 in 1961. From 1961 until the early 1990s, State regulations were geared toward trophy hunting (Westing 2013). Since the 1980s, brown bear hunting regulations across northern Alaska have become more liberal, including longer seasons, higher harvest limits, and waived resident tag fees (Miller et al. 2011).

Federal brown bear hunting regulations for Unit 23 were adopted from State regulations in 1990. The season was Sept. 1-Oct. 10 and Apr. 15-May 25 with a harvest limit of one bear every four years. Residents of Units 21 and 23 were established as Federally qualified subsistence users for brown bear in Unit 23.

In 1992, seven proposals (P92-074, P92-075, P92-076, P92-078, P92-079, P92-086, and P92-167) were submitted to change Federal subsistence brown bear regulations in Unit 23. Proposals P92-74 and 78 sought to increase the brown bear harvest limit. Proposals P92-76, 79, and 86 sought to liberalize both the harvest limit and season. Proposals P92-075 and 167 requested eliminating the sealing requirement, requiring all edible meat to be salvaged, prohibiting transfer of hides outside of Unit 23 unless to one's residence in Unit 21, and submittal of a harvest report and both ears to a Federally authorized representative within 30 days of the taking. These proposals were submitted because then current regulations, which included restrictive seasons and harvest limits, salvaging edible meat requirements, and sealing requirements conflicted with traditional practices. The Federal Subsistence Board (Board) considered these proposals concurrently and adopted them with modification to remove the sealing requirement, and to prohibit the use of aircraft in any manner for brown bear subsistence hunting. The season in the new hunt area was expanded to Sept. 1 – May 31 with a harvest limit of one bear per regulatory year by State registration permit. The harvest limit and season in Unit 23 remainder was unchanged.

In 1992, BOG also modified Unit 23 brown bear regulations in recognition of traditional patterns of harvest of bears by Inupiat hunters for meat, hides, and fat (Westing 2013). The BOG established the Northwest Alaska Brown Bear Management Area (NWABBMA) and a subsistence registration hunt (RB700).

In 2005, the Board adopted Proposal WP05-17 with modification to combine the Unit 23 brown bear hunt areas and to expand the season from Sept 1 – May 31 to Aug 1 – May 31. This was done to provide more opportunity to Federally qualified subsistence users, to reduce regulatory complexity by aligning State and Federal regulations, and because there were no conservation concerns.

In 2007, Proposal WP07-50 proposed eliminating the permit requirement to hunt brown bear in Unit 23 because it was a burden on Federally qualified subsistence users and permits were often not available in villages. The proposal was withdrawn by the proponent before it went to the Board in order to allow more time to discuss the issue with the Councils and various agencies.

In 2008, the Board adopted Proposal WP08-52 to allow the sale of handicrafts made from the fur of a brown bear taken in Unit 23 so that subsistence users could more fully utilize the brown bear resource.

In 2012, the Board adopted Proposal WP12-01 to require sealing of brown bear hides or claws prior to selling handicrafts incorporating these parts. This was done in order to ensure that marketed handicrafts were made from legally harvested bears. The proposal was submitted by the Brown Bear Claw Handicraft Working Group.

In 2014, Proposal WP14-40 proposed eliminating the permit requirement to hunt brown bears in Unit 23 to reduce confusion about hunting regulations and to allow for more opportunistic harvests. The Board

adopted WP14-40 with modification to insert the word "subsistence" into regulations (1 bear by State *subsistence* registration permit) in order to clarify that permits were required under both State and Federal regulations. Eliminating the permit requirement was not recommended as it was an essential mechanism to monitor harvest and to inform brown bear management in the unit. Also, Federally qualified subsistence users would then be required to seal harvested bears. (However, sealing is required under the subsistence registration permit if the bear is removed from the unit or parts are sold as handicrafts).

In 2016, the BOG adopted Proposal 57 to allow the sale of brown bear hides and/or skulls by Alaska residents in units where the harvest limit is two or more bears annually. The proposal was submitted by the Nushagak Fish and Game Advisory Committee with the stated intent of encouraging brown bear harvest to 1) reduce predation on moose and caribou and 2) to reduce bear hazards around communities.

In 2017, the BOG adopted Proposal 40 to increase the resident brown bear harvest limit in Unit 23 to 2 bears per regulatory year. The BOG supported Proposal 40 because it provided more harvest opportunity, because there were no conservation concerns, and because it was supported by five local Fish and Game Advisory Committees (ACs). Chairman Spraker also stated that a low number of second bears have been taken in other units with 2 bear harvest limits and that bear harvests in other units with long seasons and higher harvest numbers have been sustainable (ADF&G 2017a). Proposals 37, 38, and 39 requested lengthening the nonresident brown bear season in Unit 23. The BOG adopted Proposal 37, extending the nonresident season from Sept. 1-Oct. 31 to Aug. 1-Oct. 31 and took no action on Proposals 38 and 39. The BOG supported Proposal 37 in order to alleviate user conflicts during September, by spreading nonresident hunting out over a longer season, and because all the local ACs supported it.

In November of 2017 the BOG will hear Proposal 49, which requests that a permit be required before brown bear skulls and hides with claws attached can be sold. This proposal was submitted by ADF&G because there is currently no method to track the sale of bears harvested in areas where the harvest limit is two brown bears per year (ADF&G 2017a). The proponent states that this proposal will allow ADF&G to track and quantify the interest in selling brown bear skulls and hides with claws attached (ADF&G 2017a). The proponent also states that there are concerns about the potential to commercialize the harvest of brown bears and that there is internet in knowing the magnitude of this use (ADF&G 2017a).

Handicrafts and Customary Trade Regulations

The sale of animal products under Federal subsistence regulations is permitted as handicrafts or through customary trade. If harvesting bears under the State's general hunting regulations for residents where there is a two brown bear per regulatory year harvest limit, the tanned and untanned hides (with claws attached) and skulls may be sold, after sealing. While the proponent has expressed in public testimony that raw/untanned brown bear hides that are prepared for sale typically require much more time and skill in ensuring that there are no rips or tears during processing as compared to those prepared for personal use (NWA RAC 2017), this does not appear to meet the definition of a handicraft as defined in 50 CFR §100.4:

> *Handicraft* means a finished product made by a rural Alaskan resident from the nonedible byproducts of fish or wildlife and is composed wholly or in some significant respect of natural

> materials. The shape and appearance of the natural material must be substantially changed by the skillful use of hands, such as sewing, weaving, drilling, lacing, beading, carving, etching, scrimshawing, painting, or other means, and incorporated into a work of art, regalia, clothing, or other creative expression, and can be either traditional or contemporary in design. The handicraft must have substantially greater monetary and aesthetic value than the unaltered natural material alone.

Raw/untanned hides (with claws attached) and skulls are unlikely to align with the definition of a handicraft but these items may be sold more appropriately under customary trade. Federal subsistence regulations define customary trade in 50 CFR §100.4 as:

"Exchange for cash of fish and wildlife resources regulated in this part, not otherwise prohibited by Federal law or regulation, to support personal and family needs; and does not include trade which constitutes a significant commercial enterprise."

Customary trade is also addressed in 50 CFR §7(b):

"You may not exchange in customary trade or sell fish or wildlife or their parts, taken pursuant to the regulations in this part, unless provided for in this part."

State regulations define customary trade as "limited, non-commercial exchange, for minimal amounts of cash, as restricted by the appropriate board, of fish or game resource" (AS 16.05.940). Both State and Federal subsistence regulations provide for customary trade of fish, however neither currently provide for customary trade of large land mammals (5 AAC 92.200; 50 CFR §100.7); though this does not preclude the Board from doing so. According to 50 CFR §100.10(4)(x) regarding the Board's authorities, this part indicated that the Board may "Determine what types and forms of trade of fish and wildlife taken for subsistence uses constitute allowable customary trade."

If defined as customary trade, the sale of raw/untanned hides and skulls of brown bears under Federal regulations would still require adherence to the meat salvage regulations, including, 50 CFR §100.25 j(1-3):

> *(1) You may not use wildlife as food for a dog or furbearer, or as bait, except as allowed for in §100.26, §100.27, or §100.28, or except for the following:*
>
> *(2) If you take wildlife for subsistence, you must salvage the following parts for `human use:*
>
> > *(i) The hide of a wolf, wolverine, coyote, fox, lynx, marten, mink, weasel, or otter;*
> >
> > *(ii) The hide and edible meat of a brown bear, except that the hide of brown bears taken in Units 5, 9B, 17, 18, portions of 19A and 19B, 21D, 22, 23, 24, and 26A need not be salvaged;*
> >
> > *(iii) The hide and edible meat of a black bear;*

(iv) The hide or meat of squirrels, hares, marmots, beaver, muskrats, or unclassified wildlife.

(3) You must salvage the edible meat of ungulates, bear, grouse, and ptarmigan.

Federal subsistence fisheries regulations regarding customary trade are defined by region and fishery. Examples of limitations placed on customary trade as written in 50 CFR §100.27 include restrictions on who can participate in customary trade of subsistence resources (only rural residents [50 CFR §100.27(11)], only those residents with a customary and traditional use determination [50 CFR §100.27(11)(iii)]), annual limitations on cash value ($400-$500 with record-keeping requirements [50 CFR §100.27(12)(i/ii)]), and a percentage of a household's annual harvest [50 CFR §100.27(12)(ii)]. Given that this proposal requests the sale of up to two raw/unaltered brown bear hides (with claws attached) and skulls per regulatory year, it is unlikely that this would be defined as a significant commercial enterprise and would thus meet the definition of customary trade.

The issue of claw retention was examined extensively by the Brown Bear Claw Handicraft Working Group that was formed by the Board in 2009 to discuss a range of issues relating to brown bear claws including their use in handicrafts, the feasibility of tracking, and potential changes to regulations. The group was composed of representatives from nine of the ten Councils, staff from ADF&G, and staff of Federal agencies. Of particular concern to this group was preventing the illegal harvest and sale of brown bear parts that can garner significant monetary value in worldwide markets, and which may incentivize illegal harvest of brown bear populations elsewhere in North America where concervation concerns are prevalent (OSM 2010).

Unpublished meeting minutes from the Working Group indicate that the USFWS Office of Law Enforcement was concerned about further developing a market for brown bear products. Rory Stark, a law enforcement officer, noted that brown bear claws, paws, and gall bladders are the primary illegal items sought for these markets and that all other parts of the bear are often wasted (OSM 2010). He explained that documentation through sealing and tagging is necessary to ensure that handicraft materials are made from legally harvested bears and that this certification could result in a more valuable handicraft. According to Stark, law enforcement across the United States was engaged in 146 cases of illegal sale of black and brown bear parts between 2000 and 2010.

In 2012, the working group submitted a proposal to the Board (WP12-01) requesting that prior to selling a handicraft incorporating a brown bear claw(s), the hide or claw(s) not attached to a hide, must be sealed by an authorized ADF&G representative and that a copy of the ADF&G sealing certificate must accompany the handicraft when sold. Proposal WP12-01 was adopted with modification to add language that old claws may be sealed if an affidavit is signed to verify that the brown bear was harvested by a Federally qualified subsistence user on Federal public lands. Germane to this proposal are sealing requirements that help to track the sale of wildlife parts, to increase product value by validating that the animal was legally harvested, and to provide documentation to allow individuals traveling to another country to obtain a Commission on the International Trade of Endangered Species (CITES) permit for the item to be legally transported across international borders.

During BOG deliberations on Proposal 57 (sale of brown bear hides and/or skulls) in March of 2017, some concerns were expressed by BOG members regarding tracking bear products, worldwide black markets, and the potential for hunters to falsify records regarding the unit of harvest (ADF&G 2016). Lieutenant Paul Fussey of the Alaska Wildlife Troopers testified that law enforcement tracks internet activity for hides and that these individuals attempt to verify permit and sealing records when bear products are encountered. At the time of the testimony, all bear hides sold by Alaska residents were appropriately harvested under a predator control permit. Very few brown bear hides had been encountered. A representative of ADF&G's Division of Subsistence also testified that the ability of subsistence users to sell hides and/or skulls of bears harvested for subsistence could aid users in engaging in a mixed cash-subsistence economy by providing additional means of purchasing gasoline and other products (ADF&G 2016).

Current Events

Proposal WP18-43 requests that the Unit 23 brown bear harvest limit be increased from one to three bears and that the season be extended to year round. The decision on WP18-43 could have ramifications on this proposal (i.e., harvest limits and determining the number of brown bear hides and skull to be sold).

Biological Background

State management objectives for brown bear in Unit 23 are as follows (Westing 2013):

- Maintain a population that sustains a 3-year mean annual reported harvest of at least 50% males.
- Conduct a brown bear population estimate for some portion on Unit 23 in cooperation with Department of Interior (DOI) staff at least once every reporting period.
- Continue community-based assessments to collect brown bear harvest information from residents of Unit 23.
- Seal bear skins and skulls, determine sex, and extract a tooth for aging.
- Monitor harvest data (age, sex, and skull size) for changes related to selective pressure.
- Improve communication between the public and the Alaska Department of Fish and Game (ADF&G) to improve harvest reporting and prevent defense of life and property situations from occurring.

Biological information and trends for brown bear in most of Unit 23 is lacking. As brown bears in Interior Alaska are wide ranging and occur at low densities, population estimates are difficult and expensive to obtain (Miller et al. 1997, 2011, Mowat et al. 2013, Schmidt et al. 2017). Brown bear densities are classified as adult bears (3+ years-old) and bears of all ages (bears), which includes sows with cubs.

In the early 1990s, surveys were conducted in the Western Brooks Range to obtain baseline data on bear abundance. Brown bear density was estimated as 29.5 bears of all ages/1,000 km^2 (Miller et al. 1997). Brown bear density within Gates of the Arctic National Park & Preserve (GAAR) is currently considered relatively low (Joly 2017, pers. comm.).

Aerial bear surveys were conducted in the lower Noatak Drainage in 1987, 2008, and 2016. While data seems to suggest that the brown bear population is increasing in this area, these surveys are not directly comparable due to differing methodologies and scales (NPS 2017). In 1987, a brown bear census was conducted in the lower Noatak River drainage to provide a benchmark of bear abundance before the Red Dog Mine was constructed (Westing 2013). Density was estimated at 1 adult bear/26 mi^2 (Westing 2013) and 17.9 bears/1000 km^2 (Miller et al. 1997). However, the study area was relatively small (2,000 km^2) and may not be representative of all of Unit 23. Preliminary results from the 2008 survey using the 1987 sightability correction factor (SCF) indicated a brown bear density of 3.4 bears/26 mi^2 (ADF&G 2017c, Saito 2017, pers. comm.). However, this estimate is likely not accurate due to violations of sampling protocols (e.g. sampling adjacent areas on different days) and use of a SCF from another study using different sampling methods (Robison 2017, pers. comm.).

The 2016 brown bear density estimate for the lower Noatak Drainage was 67.5 bears/1000 km^2. NPS conducted an aerial bear survey of the upper Noatak Drainage in May 2017. The preliminary density estimate is 30.6 bears/1000 km^2 (Robison 2017, pers. comm.).

While the population status of brown bears across all of Unit 23 is uncertain, the current population estimate is 3500 bears, which is extrapolated from 2008 density estimates within the Lower Noatak survey area (ADF&G 2017c). As this was derived from a small study area, it is not a correct unit-wide estimate.

Bear density estimates in Unit 22 on the Seward Peninsula may be more representative of southern Unit 23 (e.g. Buckland/Deering area) than estimates from northern Unit 23. Surveys conducted from 2013-2015 in western Unit 22 yielded brown bear density estimates of 21 adult bears/1000 km^2 and 35.6 bears of all ages/1000 km^2 (Schmidt et al. 2017).

Local residents have described substantial population increases in the Unit 23 brown bear population since the 1940s and observations by ADF&G staff suggest a stable or increasing population (Westing 2013, ADF&G 2017c). Several factors may contribute to this trend (Westing 2013). Growing populations of moose, caribou and musk ox in the early 2000s have provided a stable prey base for brown bears and shifted subsistence harvest increasingly toward large ungulates. Possible declines in commercial salmon fishing may have allowed more salmon to reach inland areas, increasing food for bears. Regulations protecting sows with cubs curtailed the traditional practice of "denning" or killing all den occupants, which occurred when bears were relied upon more to meet subsistence needs. Finally, selection of large male bears by sport hunters may allow survival of cubs that otherwise could have been killed by large boars (Westing 2013).

Bear density is related to food availability. Salmon availability may be the primary determinant of high and low bear densities across Alaska (Miller et al. 1997, Mowat et al. 2013). The short growing season and absence of salmon make the western Brooks Range poor brown bear habitat; although salmon runs may be seasonally important sources of food in other portions on Unit 23 (Miller et al. 1997). Social factors can also influence bear distribution. For example, a sow with cubs may avoid areas with large male bears that could kill her offspring (Mowat et al. 2013).

In northern Alaska, brown bear populations are often managed conservatively for several reasons: Large home ranges are required to meet resource needs, resulting in low density populations (McLoughlin et al. 2002); Female brown bears do not successfully reproduce until they are > 5 years old and have low reproductive rates, small litters, and long intervals between litters (Reynolds 1987, USFWS 1982, Miller et al. 2011); Sows exhibit high fidelity to home ranges with little emigration or immigration (Reynolds 1993); and monitoring methods are imprecise and expensive (Miller et al. 2011).

In 1991, radio-collared brown bears in the vicinity of Red Dog Mine emerged from their dens between April 10 and May 15 (Ayres 1991). Between 2014 and 2016, the few deaths of radio-collared brown bears within GAAR tracked thus far have been human-related (Joly 2017, pers. comm.). Brown bear habitat in northwestern Alaska is predicted to improve due to climate change causing increases in shrub and forest cover as well as wildfires, which create edge habitats that are often preferred by bears (Nielson et al. 2010, Joly et al. 2012, Rupp et al. 2000, Swanson 2015).

Cultural Knowledge and Traditional Practices

Brown bears have long been a highly respected and utilized subsistence resource in northwest Alaska and the species has a prominent physical and symbolic role in the lives of local people (Loon and Georgette 1989). These animals provide a source of meat, raw materials, and medicine within the Inupiaq culture of the region (Loon and Georgette 1989). Brown bears have also been prized as trophy sport hunting animals in the region, largely by non-Native residents of the regional hubs of Nome and Kotzebue (Loon and Georgette 1989). Loon and Georgette (1989) provide a thorough ethnographic account of traditional brown bear harvest and use in the region and is the source of cultural information included in this section, unless otherwise noted.

The hunting of brown bears in Inupiaq culture traditionally required strict adherence to prescribed practices designed to show respect to the animal and a hunter's success was considered dependent on adherence to these protocols. The Inupiat people believed that bears have excellent hearing and that hunters should not discuss their intentions to kill these animals. Bragging, threatening a bear, acting with too much confidence, or even suggesting a craving for bear meat was considered taboo, potentially leading to harming of the hunter or his family. In modern times some residents of the region continue to adhere to these protocols and will often refer to "that animal" rather than mentioning it by name. While no longer adhered to, the Inupiaq also believed that it was taboo for women and girls to eat bear meat (Loon and Georgette 1989, Anderson et al. 1977). Dogs were also not fed bear meat as it was said to make them vicious.

The use of brown bears for food in the region is variable among communities, depending on geographic location. Inland communities eat brown bears more frequently while coastal communities rarely eat this species unless it is harvested in interior areas where bears feed on fish and berries (Loon and Georgette 1989, Burch 1985, Burch 2006). Coastal bears are often considered unpalatable due to their tendency to consume marine mammal carcasses along the beaches. Loon and Georgette (1989) found that some coastal communities avoid bears in the fall because this is when bears have the greatest access to sea

mammal carcasses. Noatak hunters also avoid bears in the upper Noatak River drainage because the bear diet in this area consists of squirrels, a prey species causing unpalatable flavor in brown bear meat. Kotzebue displays a mixture of brown bear harvest patterns, likely due to a variety of geographical and cultural backgrounds of residents residing in this regional hub.

Loon and Georgette (1989) found that the consumption of brown bears differs between Unit 23 (Northwest Arctic) and Unit 22 (Seward Peninsula). While communities in Unit 23 often consume brown bears, consumption of bears is uncommon in Unit 22. Among the communities for which the researchers had information in Unit 22, only White Mountain and Golovin reported regular use of bear meat. Many communities in this Unit reported use of brown bear in the past, particularly before moose arrived in the area. There was limited evidence of brown bear use for food in the regional hub of Nome and while one respondent said that hunters would sometimes bring home small quantities of bear meat, he also indicated that this was not a common resource consumed in the community. Other studies have documented limited harvest of brown bears for food in Shishmaref (Sobelman 1985) and Shaktoolik (Thomas 1982); Wales and Teller are suspected to have similar patterns (Loon and Georgette 1989). Respondents in Unalakleet indicated that they could not imagine using a brown bear for food (Loon and Georgette 1989). Another Unalakleet respondent stated that bears were more palatable before walrus carcasses began washing up on the shores in such large numbers.

For the communities that consume brown bears, Georgette and Loon (1989) found that hunters rarely, if ever, take a bear in defense of life and property. While nuisance animals may be killed, it is more likely for residents of these communities to use the meat and not report the animal as killed in defense of life and property. Some communities considered bears a nuisance; reindeer hunters also commonly held this view. In the 1980s brown bear was not a substantial component of the diet in any northwest Alaska community as compared to moose or caribou, but it likely plays a vital seasonal role in the subsistence diet when other large land mammals are not available.

Among the edible parts of a brown bear, the fat is the most prized product (Loon and Georgette 1989). Local hunters time their hunting to correspond with when bears have the most fat and the meat is of highest quality (Loon and Georgette 1989; Burch 2006). Brown bears are predominantly hunted in northwest Alaska during the spring and fall (Loon and Georgette 1989; Burch 2006). Spring hunting takes place earlier inland where warmer conditions arrive sooner. When bears emerge from their dens in the spring, they are still fat and gradually become lean; thus subsistence brown bear harvests occur between spring emergence from hibernation until snow machine travel is no longer possible.

Many residents prefer to hunt smaller bears because the meat is tender (Loon and Georgette 1989). Brown bear meat is preserved dried, half-dried, frozen and aged. The fat is also aged then cooked before being eaten. It is also common for dried fish and meat to be dipped in bear fat similar to the way that seal oil is used. Bear livers are not consumed. Bear fat is also considered a valuable source of medicine in the region for curing illnesses and sores. It has been used to treat colds, itchy throats, and coughs by ingesting or applying to the chest. Cooked bear meat with fat is said to increase appetite among the ill. It is also used to treat persistent sores and boils.

Usually the hide is in good condition at the same time the bear is the fattest (Loon and Georgette 1989). Some residents of the region harvest brown bears in the fall once their diet has transitioned to berries, roots, fish, and caribou. Later in the fall bears regain much of their body fat before hibernation and therefore harvest at this time is also preferred. In the spring hunters utilize tracks to locate bears and in the fall they concentrate efforts along salmon spawning streams and in areas with prolific berries.

In modern times brown bears are rarely hunted in the winter or summer because they are considered lean and their hides are of lesser quality (Loon and Georgette 1989). In the summer, bears are also considered more dangerous. Traditionally the Inupiaq people hunted brown bears in their dens in the winter. These bears were less likely to fight and before firearms were available, killing a hibernating bear with a spear was likely easier and safer as compared to outside of the den in other seasons. This was also a good source of winter meat when other resources were depleted or unavailable. Some hunters would stake bear dens in the late fall and return to the den later in the year to harvest the bear. In Noatak some hunters routinely pursue bears at night along rivers and streams in the fall, a technique that is considered quite dangerous.

Brown bear hunting is a very specialized activity (Loon and Georgette 1989). Before the arrival of firearms bears were largely hunted with spears and arrows. Traditionally, bears harvested by the Inupiat were almost exclusively harvested by a small number of men from each community and the harvest was distributed to other local households. Men continue to be the primary bear hunters in the region. Often, bears are harvested opportunistically while in pursuit of other subsistence resources or while traveling for other purposes. Hunting areas are generally accessed by boat in the fall and by snow machine in spring. Traditionally however, travel was often accomplished by dog team. Hides are sometimes discarded in the field if packing it out presents logistical challenges.

It is a cultural tradition in the region for a hunter to remove the hyoid bone from beneath a bear's tongue immediately after it is killed (Loon and Georgette 1989). In some places this bone is placed between willow branches, on a tussock, or simply discarded in the field. This practice was meant to ensure that the spirit of the bear has left the area and that there would be no retaliation on the hunter. Traditionally, the head of a brown bear was never brought back to the village and was either buried or placed on a tree or shrub (Burch 2006). When meat is served, family members could not discuss or make comments about the meal. The hunters believed that these practices prevented bad luck, safeguarded their camps, and reduced the potential for future conflict with bears. Removing the hyoid bone and leaving the head in the field remains a common practice.

Beyond nutritional value, brown bears also provide the raw materials for production. Bear hides, bones, teeth, and claws were traditionally used to make spearheads, fishhooks, rope, snowshoe bindings, dog harnesses, scraping tools, doors, mattresses, ruffs, and mukluks (Loon and Georgette 1989). More recently bear hides have been used primarily for mattresses, rugs, ruffs, mukluks and masks while claws are sometimes used for necklaces. Rope made of bear hide is said to be tougher and last longer than that of caribou or bearded seal. Narrow bones of the bear foreleg were used for spearheads and snares while knee joints were made into scraping tools. The hides were traditionally used to make dog harnesses and were preferred since dogs did not chew them as they did for other species. Travelers often carried bear hides to use as mattresses and as doors for sod houses; today they are carried as winter survival gear.

Sharing of brown bear meat, fats, and raw materials is common in northwest Alaska. Loon and Georgette (1989) stated that all of the hunters interviewed in their study shared their brown bear harvests with other households. The hunter typically only keeps a small amount of the bear meat and fat for his family and the rest is given to elders, widows, sick people, and other residents of the community. The hides were traditionally retained by the member of the hunting party that made the most decisive moves in killing the bear (Burch 2006).

Customary trade is a long-standing practice among Alaska Native cultures and closely resembles bartering practices with the introduction of monetary exchange (Ikuta and Slayton 2012, Magdanz et al. 2007). Within all rural communities in Alaska there are customary and traditional patterns of distributing and exchanging subsistence goods (Wolfe et al. 2000). In the literature, the term trade often refers to many different kinds of reciprocal exchanges including sharing, barter, purchasing, and sales (Magdanz et al. 2007, Ikuta and Slayton 2012). These forms of distribution may be understood as a continuum of subsistence activities rather than discreet or fundamentally separate activities (Ikuta and Slayton 2012).

Trading relationships are common and have been documented among the Inupiaq (Huntington 1966, Burch 1970, Burch 1988, Magdanz et al. 2007, Braem et al. 2013). Burch (1988) identified nine categories of property transfer (including subsistence foods) among the Inupiaq, ranging from a free gift with no expectation of reciprocity to exchange for cash, though traditionally this was for other subsistence foods, other products, or raw materials (Krieg et al. 2007). By the 18th century, Russian goods and Siberian reindeer skins were traded along the northwest coast of Alaska for furs, maritime products, jade and wood (Burch 1988, Ikuta and Slayton 2012).

Cash was introduced relatively recently to trading networks of exchange and has become another commodity that facilitates local, noncommercial distribution of subsistence goods (Wheeler 1998, Ikuta and Slayton 2012). The influx of cash into trading networks may also represent the replacement of a portion of bartering networks that facilitate local, noncommercial distribution of subsistence products in rural Alaska (Ikuta and Slayton 2012). Cash in a mixed cash-subsistence economy has been adopted to enhance the importance of wild foods and is used among many resources; there is not a conflict between cash and subsistence products (Wheeler 1998:268). Similar to other resources, the value of cash is relative, varies by availability, and is often controlled by the season (Wheeler 1998). Wheeler (1998) notes that strategies to use cash are similar to the use of other resources "when it is available, use it to the maximum extent possible, and when it is not available, make do with other resources."

In 2010, data on customary trade for one Inupiaq community in the Northwest Arctic Borough (NAB), Selawik, was documented by ADF&G. Selawik is the second largest among 12 communities in the NAB and had a population of approximately 829 individuals as of 2010 (Braem et al. 2013). During the study year (2010-2011), approximately 32% of households engaged in customary trade (Braem 2013). The average estimated amount per trade was $109 and the total reported trades for the community was $3,675 (Braem et al. 2013). Households primarily traded berries and whitefish and lesser amount of caribou and other fish species (Braem et al. 2013). Most customary trades (82%) occurred among Selawik residents with fewer trades occurring between Selawik and Noatak, Kivalina, Noorvik, and Kotzebue (Braem et al 2013).

While the Board has not yet authorized the use of brown bears in customary trade, the species may play a role in local subsistence distribution and sharing networks given its availability and relationships to cultural practice (see Cultural Knowledge and Traditional Practices section above).

Harvest History

There are two resident and four nonresident brown bear hunts in Unit 23 under State regulations. Residents can hunt under the general season, which requires sealing or under the State's subsistence hunt, which requires a registration permit and has similar requirements as the Federal hunt (i.e. salvage of edible meat, no use of aircraft, no sealing required). Spring and fall drawing and registration permits are available to nonresidents. To date, nonresident hunts have been undersubscribed (ADF&G 2017b).

Brown bear harvest from Unit 23 has increased steadily since 1992, although the number of bears taken for food by local residents is low (Westing 2013, Braem et al. 2015). The liberalization of brown bear hunting regulations in Unit 23 in order to reduce bear densities, human-bear conflicts, and bear predation on moose as well as to provide for traditional hunting practices and increase opportunity for other hunters has contributed to increased harvests (Westing 2013). Harvest data is from harvest reports and community household surveys and also includes bears taken in defense of life or property (DLP). However, many DLP kills are not reported because Unit 23 residents consider the reporting requirement as onerous or fear they have broken the law (Westing 2013). Local and nonlocal residents are considered Alaska residents living within and outside of Unit 23, respectively.

Between 1990 and 2016, reported Unit 23 brown bear harvest averaged 50 bears/year, ranging from 30-78 bears/year (**Figure 1**, Westing 2013, Saito 2017, pers. comm.). Over the same time period, Unit 23 residents, nonlocal residents, and nonresidents averaged 28%, 44%, and 27% of the reported Unit 23 brown bear harvest, respectively (**Figure 1**, Westing 2013, Saito 2017, pers. comm.). Prior to 1981, nonresidents accounted for most of the reported brown bear harvest in Unit 23; however, since 1992, nonlocal residents have reported the higher harvests (Westing 2013).

Most brown bears in Unit 23 are harvested under the general hunt by both local and nonlocal residents (**Figure 2**). Between 2002 and 2016, 68% of the harvest occurred under the general hunt and averaged 37 bears/year. Over the same time period, harvest under the subsistence registration permit accounted for only 3.5% of the harvest and averaged 1.8 bears/year (**Figure 2**, Westing 2013, Saito 2017, pers. comm.). Between 2011 and 2016, DLP kills averaged 1 bear/year and ranged from 0-3 bears/year (Saito 2017, pers. comm.).

Many bears taken by local residents are not reported (Ayers 1991, Westing 2013). According to household surveys between 1998 and 2012, brown bear harvest by Unit 23 communities (excluding Kotzebue) was approximately 17 bears/year and annual per capita harvest averaged 0.004 bears/person (Westing 2013). Westing (2013) combined the average annual Kotzebue brown bear harvest (8 bears/year) with the village per capita harvest estimates to determine that an estimated 20-30 brown bears are taken annually by local hunters. This is substantially more than the reported harvest by local residents, which averaged 14 bears/year between 1990 and 2016 (28% of 50 bears/year).

Between 1992 and 2011, the percent of males in the Unit 23 brown bear harvest exceeded the State management goal of a 3-year mean annual reported harvest of >50% boars (**Figure 3**). Harvest data do not indicate that overharvesting is occurring in Unit 23 based on data from the Lower Noatak River drainage (Westing 2013, ADF&G 2017b). However, due to the large number of unreported bear harvests and lack of population data across most of Unit 23, the impact of hunting on the Unit 23 brown bear population is unknown.

Additionally, overharvesting may already be occurring within accessible areas of GAAR such as floatable fishing rivers, which attract both people and bears. As bear density and productivity is low within GAAR, low levels of harvest may impact the population (Joly 2017, pers. comm.).

Bears are traditionally harvested in the spring and fall (FSB 1992). Most Unit 23 brown bear harvest occurs in September, often opportunistically when hunting moose or caribou. The second highest harvest month is April (Westing 2013). Airplanes are the most common transport method used to hunt brown bears in Unit 23, followed distantly by snowmachines and boats (Westing 2013). Federally qualified subsistence users usually access brown bear hunting locations by boat and snowmachines (Loon and Georgette 1989). Many local residents view brown bears as a nuisance or threat to subsistence activities (i.e. picking berries, drying fish) and conflicts with bears seem to be increasing (Westing 2013, ADF&G 2017b).

Most brown bears are harvested from the Noatak River drainage followed by the Kobuk River drainage. Few brown bears are harvested from the Selawik River, Wulik/Kivalina Rivers, and Northern Seward Peninsula drainages (Westing 2013). Westing (2013) suggests that heavily hunted portions of Unit 23 may be acting as "population sinks" where bears, especially boars, are continually replaced by bears from lightly hunted areas such the upper Noatak drainage and Brooks Range.

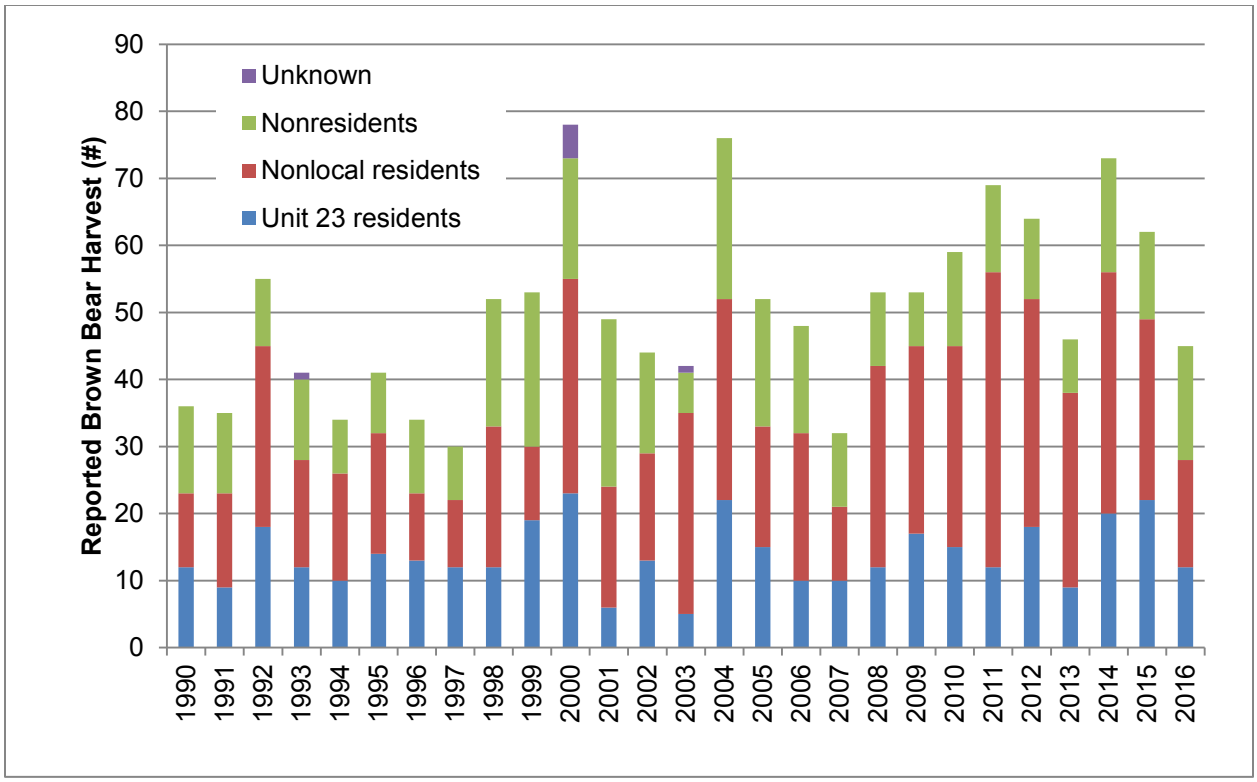


Figure 1. Reported Unit 23 brown bear harvest by residency (Westing 2013, Ayres 1991, Saito 2017, pers. comm.).

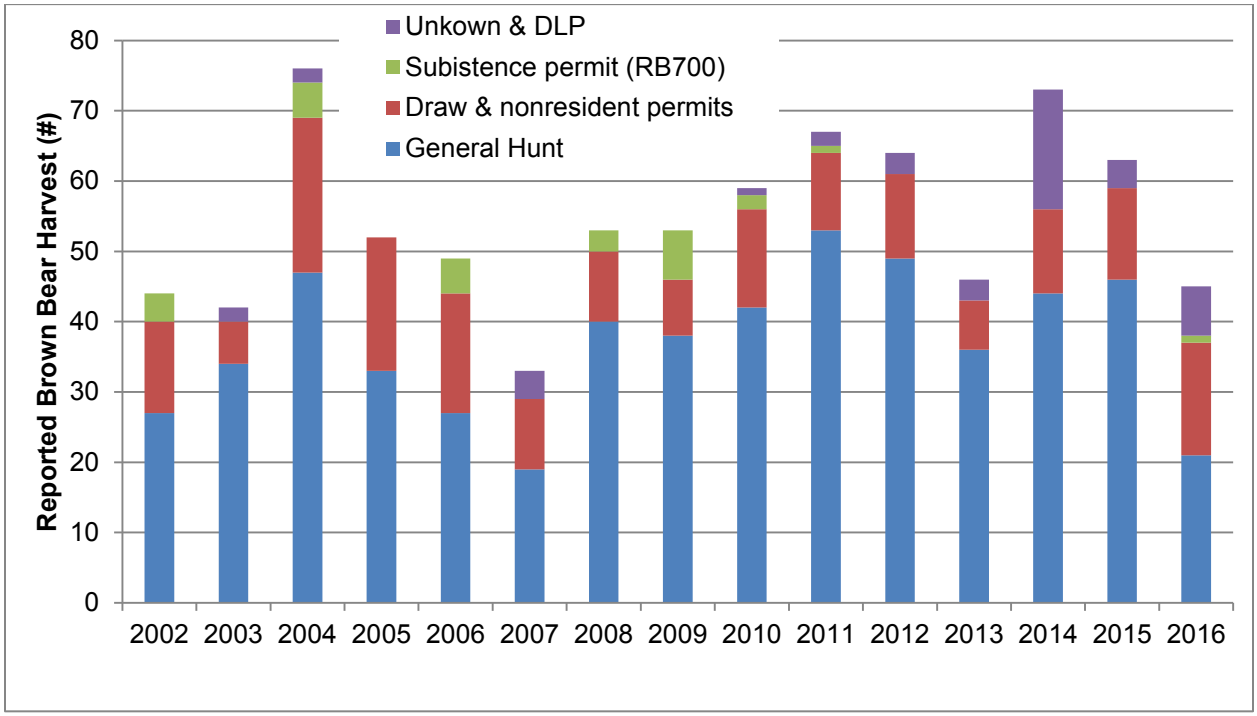


Figure 2. Reported Unit 23 brown bear harvest by hunt type (Westing 2013, Saito 2017, pers. comm.).

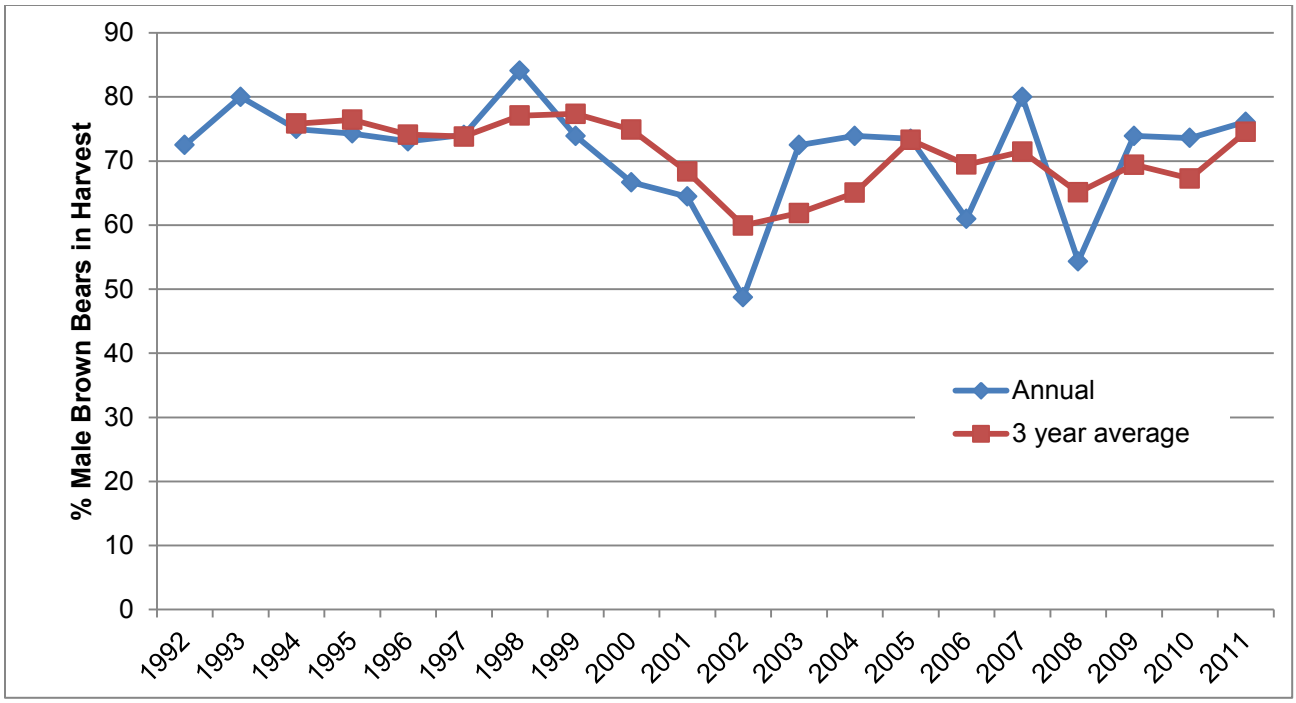


Figure 3. Percent of male brown bears in Unit 23 harvest.

Other Alternatives Considered

One alternatived considered would be to adopt this proposal with modification to create a general season for brown bears in Unit 23 and authorize the customary trade of brown bear hides and skulls in Unit 23.

The modified regulation would read:

> §___100.25 Subsistence taking of fish, wildlife, and shellfish: general regulations
>
> *(j) Utilization of fish, wildlife, or shellfish*
>
> *(13) You may sell the raw/untanned and tanned hide or cape from a legally harvested caribou, deer, elk, goat, moose, musk ox, and sheep.*
>
> ***(i) You may sell through customary trade, the skull or raw/untanned or tanned hide, with claws attached, and the skull, from up to two brown bears legally harvested on Federal public lands in Unit 23, annually. Any skull or hide must be sealed by an ADF&G representative prior to its sale.***

Unit 23 – Brown Bear	
Unit 23 – 1 bear by State subsistence registration permit	*Aug. 1 – May 31*
OR	
1 bear by Federal registration permit	*Aug. 1 – May 31*

This alternative would provide Federally qualified subsistence users with additional opportunities to utilize, through customary trade, parts of legally harvested brown bears without significant modification of those parts under Federal regulations. Under this scenario, creating a general season for brown bears in Unit 23 would be necessary to provide a hunt that is uncoupled from the State's subsistence registration permit, given that State regulations for this hunt require that the front claws be removed and retained by the State at the time of sealing. While the proponent does not explicitly request the creation of a Federal general hunt, they do request the ability to retain and sell the front claws as is currently allowed under the State's general hunt. However, it should be made clear that according to 50 CFR 100.25(j)(2)(ii), the edible meat of any bear harvested under this general hunt would still need to be salvaged for human use.

This alternative may also increase harvest reporting as a result of sealing requirements associated with the sale of brown bear hides and skulls. However, if a Federally qualified subsistence user did not wish to sell the skull and hide of a harvested brown bear as provided for in this proposal, there would be no way to track harvest of bears in Unit 23. Requiring the use of a Federal registration permit would alleviate this concern and allows for better management of the species.

Effects of the Proposal

If this proposal is adopted, the unaltered/untanned hides (with claws attached) and skulls of up to two brown bears annually could be sold under customary trade, provided that the brown bears are legally harvested by Federally qualified subsistence users on Federal public lands in Unit 23. This would provide Federally qualified subsistence users with an increased ability to legally utilize brown bear parts that are sometimes discarded in the field.

It is difficult to determine if adoption of this proposal would increase actual harvest or harvest reporting. As subsistence use of brown bears has been low, and all edible meat must be salvaged under Federal regulations, allowing the sale of up to two unaltered hides and skulls per year is not expected to result in a substantial increase in harvest. Additionally, Federally qualified subsistence users can already sell the unaltered hides and/or skulls of brown bears legally harvested in Unit 23 under State regulations. Furthermore, current Federal regulations require Federally qualified subsistence users to acquire a State subsistence registration permit to hunt brown bears in Unit 23. This permit allows hides and skulls of up to two bears annually to remain unsealed, unless "removed from subsistence area or presented for commercial tanning." If sealing is required under the State subsistence permit, the skin of the head and front claws are

removed and kept by ADF&G. However, this proposal request seeks the retention of hides with claws attached. If this proposal is adopted, there may be an increase in reporting of harvested brown bears due to the sealing requirements.

The sale of raw/unaltered brown bear hides under customary trade would need to support personal and family needs and not constitute a significant commercial enterprise as per the definition of customary trade set forth in 50 CFR §100.4. Because Federal hunting regulations link brown bear harvest in Unit 23 to the State's subsistence registration permit for this species, and because the State now provides a resident harvest limit of two bears per regulatory year, unaltered brown bear hides and skulls may already be sold without sealing, provided that they are not removed from the subsistence area or presented for commercial tanning. If hides and skulls of bears legally harvested under State subsistence registration regulations are removed from the subsistence area or presented for commercial tanning, the skin of the head and front claws are removed and kept by ADF&G. Conversely, residents hunting under general State regulations may sell two tanned or untanned hides (with claws attached) and skulls, after sealing. The proponent of this proposal wishes to sell the raw / untanned hides (with claws attached) and skulls of brown bears under Federal subsistence regulations, which would require both the removal of the link to the State's subsistence registration hunt in order to be able to retain and sell the front claws of brown bears after sealing, and the adoption of specific regulatory language authorizing the customary trade of brown bear hides and skulls in Unit 23.

There may be conservation concerns for this proposal. While biological data on brown bears in Unit 23 is sparse, the best available information suggests that the brown bear population is stable or increasing (Westing 2013, ADF&G 2017c, NPS 2017). Recent liberalization of State brown bear regulations (increase resident harvest limit, extend nonresident season) were widely supported by local ACs, ADF&G, and the BOG, indicating no conservation concerns. While brown bear densities in GAAR are low and overharvesting may already be occurring in this area (Joly 2017, pers. comm.), GAAR comprises a minority of the Federal public lands in Unit 23. Additionally, most of the Unit 23 reported harvest occurs within the lower, not the upper, Noatak river drainage (Westing 2013). Therefore, the density estimates from the Lower Noatak survey area should be considered more appropriate for this proposal analysis. However, there are still many uncertainties regarding brown bear populations and harvest in Unit 23 and brown bear population are slow to recover from overharvest.

Additionally, this proposal would only apply to Federally qualified subsistence users who comprise a minority of reported Unit 23 brown bear harvest and an unknown proportion of total harvest. Adoption of this proposal would allow for increased utilization of harvested brown bears and provide an economic opportunity to Federally qualified subsistence users. It would also recognize a general pattern of customary trade of wildlife in Unit 23 and provide increased opportunity to engage in this practice within the mixed cash-subsistence economy of the region.

OSM CONCLUSION

Oppose Proposal WP18-44.

Justification

Adoption of this proposal is unlikely to significantly increase subsistence opportunities for area residents. Federally qualified subsistence users can already sell the unaltered hides and/or skulls of brown bears legally harvested in Unit 23 under the State's general hunting regulations. This includes brown bears harvested on Federal public lands (excluding NPS managed parks and monuments). Few residents of Unit 23 hunt brown bears under Federal or State subsistence regulations due to meat salvage and sealing requirements; these requirements would remain in place if this proposal was adopted.

There are law enforcement and conservation concerns regarding the sale of brown bear products. Global markets drive high prices for brown bear parts and are known to encourage poaching. Increasing market availability and/or prices of brown bear products may intensify illegal harvest from those populations. Tracking the illegal harvest and sale of brown bear products is difficult. Furthermore, customary trade of animal products may not rise to the level of a "significant commercial enterprise", but defining and enforcing the parameters of this is challenging. Given the unaltered nature of the products requested in this proposal, these products also do not meet the requirements of a "handicraft" which may already be sold under Federal subsistence regulations.

While there is evidence of a general pattern of customary trade of wildlife in Unit 23, there is no documented pattern as it relates specifically to brown bears, especially the hides and skulls of this species. The most recently documented harvest data for brown bears suggests that harvest by local residents for food is low. Additionally, the proponent lists several justifications for their request but none of these indicate that adoption of this proposal would facilitate patterns of customary trade. A member of the Northwest Arctic Council indicated that people of the region traditionally discarded the skull of brown bears in the field, and that they do not generally utilize the hide of brown bears, but rather they more frequently utilize the meat and fat of the species.

Lastly, population data for brown bears in Unit 23 is sparse and variable. In GAAR, brown bear populations are considered low and overharvest may already be occurring. Brown bear populations are slow to recover from overharvest and commercial incentivization may increase the risk of overharvest from potentially vulnerable populations.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Western Interior Alaska Subsistence Regional Advisory Council

Take No Action on WP18-44. The Council deferred to the home region. The Council discussed whether a permitting process would make the proposal more palatable to OSM, but that it was necessary for the Northwest Arctic Council to wade through the issue and deal with the complexity of the issue.

Northwest Arctic Subsistence Regional Advisory Council

Support WP18-44 **with modification** to create a general season for brown bears in Unit 23 and authorize the customary trade of brown bear hides and skulls in Unit 23.

The modified regulation would read:

> §___100.25 Subsistence taking of fish, wildlife, and shellfish: general regulations
>
> *(j) Utilization of fish, wildlife, or shellfish*
>
> *(13) You may sell the raw/untanned and tanned hide or cape from a legally harvested caribou, deer, elk, goat, moose, musk ox, and sheep.*
>
> ***(i) You may sell through customary trade, the skull or raw/untanned or tanned hide, with claws attached, and the skull, from up to two brown bears legally harvested on Federal public lands in Unit 23, annually. Any skull or hide must be sealed by an ADF&G representative prior to its sale.***
>
> Unit 23 – Brown Bear
>
> *Unit 23 – 1 bear by State subsistence registration permit* *Aug. 1 – May 31*
>
> ***OR***
>
> ***1 bear by Federal registration permit*** *Aug. 1 – May 31*

Some Council members noted it was not part of local traditional values to sell bear parts, but that it helps people to put money in their pockets and support their families during times of hardship, prevent conflicts

between bears and people, and helps to reduce the bear population. Others on the Council noted the proposal might encourage some hunters to sell the gall bladder and lead to illegal trade of animal parts.

North Slope Subsistence Regional Advisory Council

Support WP18-44 **with modification** to create a general season for brown bears in Unit 23 and authorize the customary trade of brown bear hides and skulls in Unit 23.

The modified regulation would read:

> *(j) Utilization of fish, wildlife, or shellfish*
>
> *(13) You may sell the raw/untanned and tanned hide or cape from a legally harvested caribou, deer, elk, goat, moose, musk ox, and sheep.*
>
> ***(i) You may sell through customary trade, the skull or raw/untanned or tanned hide, with claws attached, and the skull, from up to two brown bears legally harvested on Federal public lands in Unit 23, annually. Any skull or hide must be sealed by an ADF&G representative prior to its sale.***
>
> Unit 23 – Brown Bear
>
> *Unit 23 – 1 bear by State subsistence registration permit* *Aug. 1 – May 31*
>
> ***OR***
>
> ***1 bear by Federal registration permit*** *Aug. 1 – May 31*

The Council wanted to support the subsistence users of the region and the RAC and SRC most directly affected by the proposal. The Council noted that the additional economic opportunity for subsistence hunters in this region would be beneficial since the high price of gas and other essentials has been a hardship for many rural residents. While the majority vote supported this proposal, the two nay votes, expressed concern that it could have overriding potential negative impacts on subsistence hunting of brown bear. They noted that brown bear meat can be an important supplemental meat source, the hide and skin are very useful and used frequently for blankets, tents, and whaling activities. The claws are ornamental and also used in traditional handicrafts. Furthermore, customary trade and barter and gifting of bear skins is very important especially for whaling captains. However, concerns were expressed about the commercialization of raw brown bear hides and skulls and the negative scrutiny and complications it may cause for subsistence hunters.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee (ISC) found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

The primary justification for submitting this proposal is to align with State regulations that were put in place last year to allow for the sale of bear hides and skulls. The proponent also states that the proposal is intended to increase utilization of harvested brown bears, increase opportunity for profit, reduce overpopulation of brown bears in Unit 23, reduce conflicts with bears in communities and at camps, and to reduce danger due to increased bear activity. The last three justifications are outside the Board's purview; the reduction of brown bear populations falls under predator control while the final two are issues of defense of life and property.

Customary trade is defined in 50 CFR 100.4 as, "Exchange for cash of fish and wildlife resources regulated in this part, not otherwise prohibited by Federal law or regulation to support personal and family needs; and does not include trade which constitutes a significant commercial enterprise." Worldwide, the trade of bear parts and hides has evolved into a lucrative market with both legal and illegal components. The legal online market for brown bear skulls and claws appears to be well established and profitable. For example, a brown bear skull advertised on the SafariWorks Taxidermy Sales website has a selling price of $425. The Moscow Hide and Fur website has "grizzly bear" claws for sale ranging in price from $499 for a 4.5 inch front claw to $350 for a 3.5 inch front claw. Back claws are not as valuable, but Moscow Hide and Fur prices them between $50 and $60 each. Since each brown bear has one skull and a hide with ten front and ten rear claws attached, there is a very real potential for the customary trade requested by this proposal to constitute a significant commercial enterprise.

As noted in the OSM justification opposing this proposal, global markets drive high prices for brown bear parts and are known to encourage poaching. Increasing market availability and/or prices of brown bear products may intensify illegal harvest from those populations. The analysis also states that tracking the illegal harvest and sale of brown bear parts is difficult, which creates challenges for law enforcement. In addition, the analysis notes while there is evidence of a general pattern of customary trade in Unit 23, there is no documented pattern as it relates specifically to brown bears, especially the hides and skulls of the species. If that is indeed the case, then creating a special provision under customary trade to allow the sale of up to two brown bear skulls and two untanned brown bear hides with claws attached is not appropriate since it would create an allowance under Federal customary trade regulations for a practice that does not currently exist.

Under ANILCA Section 805(c), the Board may choose not to follow a Council recommendation if it, 1) is not supported by substantial evidence; 2) violates recognized principles of fish and wildlife conservation; or 3) would be detrimental to the satisfaction of subsistence needs. With respect to this proposal, there is insufficient evidence that residents of Unit 23 have an established pattern of customary trade involving brown bear hides and skulls to justify the creation of a Federal customary trade regulation that mirrors existing state regulations. In addition, adoption of this proposal would violate sound principles of fish and

wildlife conservation by turning brown bear parts into commodities to be sold for profit and permitting the sale of a species that already has an extensive illegal black market established.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-44: This proposal would allow for the sale of the up to two brown bears per year by federally qualified subsistence users in Unit 23.

Introduction: This proposal asks to allow the sale of up to two raw/untanned brown bear hides (with claws attached) and or/skulls per regulatory year. If adopted, this proposal would align the state and federal regulations so that a subsistence-harvested bear could also be sold. Very few bears are harvested per year using the state subsistence permit RB700. In the past five years zero to three bears have been harvested using this permit.

Impact on Subsistence Uses: If adopted, this proposal would allow federally qualified subsistence users to harvest and sell up to two brown bears per year in Unit 23.

Impact on Other Uses: The impact will be small. The current state regulations allow for the sale of brown bears in areas where the brown bear bag limit is two bears for non-federally qualified users.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for brown bears in Units 23, 24, and 26 combined.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for brown bears in Units 23, 24, and 26 combined is 25-35 animals.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
23	2 bears every regulatory year	August 1 – May 31	
	2 bears every regulatory year	August 1 – May 31 (RB700)	
	1 bear per regulatory year		August 1-Oct 31 Apr 15 – May 31

Special instructions: Hunters using the RB700 have additional permit conditions they must follow. Hunters must salvage the meat for human consumption, no use of aircraft for hunting is allowed, and sealing of the head and hide is not required unless they are removed from the hunt area.

Conservation Issues: At this time there are no conservation issues with subsistence harvest of brown bears. Hunters wishing to use the RB700 permit are required to salvage the meat for human consumption and the number of people who get permits is small, with a high of 41 and a low of 5 permits issued in the past 5 years. The proposal asks to change the daily bag limit in an area where ADF&G feels harvest does not need to be limited at this time.

Enforcement Issues: Adoption of this proposal would come close to aligning the federal and state bear regulations in Unit 23.

Recommendation: ADF&G **SUPPORTS** this proposal. The intent of the proposal is to align federal and state brown bear regulations. Whenever possible we support the alignment of federal and state regulations. If adopted, the Board should require use of the state permit so these sales can be tracked.

WRITTEN PUBLIC COMMENTS

12
July 13, 2017

RECEIVED
JUL 18 2017
BY:

Federal Subsistence Board
Office of Subsistence Management
1011 East Tudor Road, MS 121
Anchorage, Alaska 99503
EMAILED TO: subsistence@FWS.gov

RE: Comments on subsistence proposalsWP18-43 and WP18-44 and some general recommendations on approaches toward similar proposals

Sirs:

We write out of concern with the above-mentioned proposals to urge that they not be adopted.

Neither proposal provides any justification that includes mention of a "customary and traditional" use that would support their adoption. The Board should not adopt proposals that do not have a credible justification in customary and traditional use of the resource much less one that has no justification whatsoever of such a use.

Although we are aware that Loon and Georgette (1989) document customary and traditional use of brown bear meat in non-coastal areas of Unit 23, Proposal 43 (to increase the federal subsistence bag limit to 3 bears/year) is undercut by the acknowledgement in Proposal 44 (to allow sale of bear hides) that "...traditionally the Iñupiat do not care to obtain coastal brown bear meat and fat because they feed on carrion". Proposal 44 also states that "traditionally, Iñupiat peoples of the region did not make handicrafts from bears skulls and hides as this was taboo". Given these acknowledgements and the absence of description of how bears are/were used in a customary and traditional way, there is no basis provided that would support these proposals. Given the lack of direct justification based on customary and traditional uses, we believe these proposals have a basis in the desire of the proponents to reduce the bear population to some unspecified lower level because they find bears to be inconvenient in the various ways identified in the proposals. Inconvenience is not a customary and traditional use. What is customary and traditional is the ways the Native Americans of northwestern Alaska found to cope with co-existing with bears.

The justification for Proposal 43 has the following justifications which are addressed below:

1. The proponents assert that there is an "over-abundance" of brown bears in Unit 23". No basis for this assertion is provided except for mentions of ways bears are inconvenient. The closest density estimates are in GMU 22 (Schmidt et al. 2017; Miller et al. 1997) and another one in Red Dog Mine area in Unit 23 (Ballard et al. 1993 and also reported in Miller et al. 1997). These estimates are both in the range considered typical for interior Alaska (Miller et. al. 1997). Another estimate by NPS for the Lower Noatak was recently conducted 2017 and is in process of being prepared; this estimate is reportedly higher than the others. Ecologically brown bears are an archetypical "K-selected" species characterized by low reproductive rates and population stability at carrying capacity of their environments or lower. We further note that harvests have been increasing in GMU 23 since the State initiated its "intensive management" program in 1995 (see figure at end of this letter). The 3 year running average harvest in 1997 was 29 bears

compared to 59 bears in 2015 (see figure below). This is a doubling of harvest over a 20 year period and if there is any demographic consequence from this it is unlikely to be an "overpopulation of bears".

2. "Reduce conflicts with brown bears". We have little doubt that such conflicts occur. However, the proponents of this proposal provide no information documenting levels of these conflicts or trends. Neither is information provided indicating an increase in bag limit would reduce such conflicts. Human-bear conflicts are best addressed by techniques that eliminate or reduce the ability of bears to obtain anthropogenic foods. If these steps are not taken, such conflicts will persist regardless of the level to which bears are reduced. We note that in North American, no group has a longer history of co-existence with bears (all 3 species) than native Alaskans and that some of this expertise could and should be used to reduce conflicts without reducing bear abundance. These techniques included elevated food caches which are proven effective and have been adopted by non-native peoples around the world to reduce conflicts with bears. Solar-powered electric fences are a modern innovation that could be usefully adopted as well to prevent bears from accessing cabins or food storage areas without resorting to killing bears.

3. "Reduce the effects of brown bears on disrupting caribou migratory patterns". The authors provide no support for the assertion that bears "disrupt" such patterns or that a change in bag limit would address such disruptions if they do exist. Bears will congregate where food is available and if this is, for example, in areas where caribou traditionally cross rivers or other natural corridors, bears will continue to seek out caribou in these areas of food availability. Trying to eliminate "disruptions" if they occur in such areas is a classic case of a population "sink" for bears. Bears will continue to show up in such attractive areas and be killed thereby depopulating bears from the much larger "source" population.

4. "Reduce destruction of cabins and taking of meat from boats by brown bears". We address this in point #2 above. Although these activities by bears are doubtless nuisances to some local residents, it is hard to see how they would be reduced without greatly reducing bear numbers to the point of near elimination.

Proposal 44 proposes to allow the sale of up to 2 raw/untanned brown bear hides (with claws attached and/or skulls) per regulatory year for qualified CT users. Such sales were initially allowed by state regulations last year and everyone in the state can already do this including all residents of Unit 23. Justifications offered are:

1. "Promote alignment with state with state regulations." We note that no "alignment" is needed as under state regulations such sales are already permitted for bears taken in Unit 23 under the state's general hunting regulations with a bag limit of 2/year. Adoption of this proposal would, in fact, misalign with state regulations with regard to where take can occur that would allow such sales. Most significantly, extension of subsistence regulations designed to reduce numbers of bears in federal conservation areas like National Parks, National Preserves, and National Wildlife Refuges will likely conflict with federal obligations to manage such areas for "natural diversity" consistent with NPS regulations adopted last year and published in the Federal Register. There should be a compelling reason based on well-established CT uses by qualified subsistence users before undercutting federal mandates to manage these areas in the national interest rather in the parochial interests of local residents. We further observe that a federal

subsistence bag limit of 3 bears/year would "misalign" these regulations from the state bag limit and create confusion about whether the federal bag limit was additive to the state bag limit.

2. "Promote the increased utilization of harvested brown bears". No "utilization" of brown bears is mentioned in this proposal which is internally inconsistent as it specifically acknowledges that brown bears are **not** traditionally used by Iñupiat people for either food or the making of handicraft items from brown bear parts. What this proposal would actually do is allow the commercialization by sale of hides from brown bears taken in National Parks, National Preserves, and National Wildlife Refuges (created by ANILCA in 1980) where only qualified CT users are allowed to hunt. This proposal provides no valid justification based on need or customary and traditional use that would justify such commercialization of wildlife on these National Interest Conservation units.

3. "Provide opportunity for profit". The sale of untanned bear hides with claws attached and skulls is already allowed, since last year, under state regulations. Since this was just adopted last year there can be no recent customary and traditional use based on such sales and it would very likely be exceedingly dangerous to bear populations to institutionalize commercialization of bear parts especially on federal conservation areas like National Parks, Preserves, and Refuges. The commercialization of bears taken on federal national interest conservation lands conflicts with the objectives for management of these lands by federal land managers as described above in point #1 for Proposal 43. We believe that the subsistence provisions that are part of ANILCA are designed to assure continuation of customary and traditional uses by subsistence users and that the opportunity to "profit" by sale of wildlife parts is inconsistent with the intent of ANILCA.

4. "Reduce the overpopulation of bears in Unit 23." This assertion is addressed above in point # 1 for Proposal 43.

5. "Reduce conflicts with brown bears in communities and camps". This assertion is addressed above in point # 2 for Proposal 43.

5. "Reduce danger resulting from human and bear interactions." This point is addressed above in point #2 for Proposal 43. We further note that the State has regulations allowing the take of bears in Defense of Life and Property situations so this justification is redundant.

As a general comment, we believe that the most likely reason for these proposals and others like them is to reduce the abundance of bears and other predators in the hope that this will result in making it easier for hunters to harvest caribou and moose in Unit 23. Although the western Arctic caribou is declining, there exist no evidence that this is a result of natural predation which has occurred for millennia and is cyclic. We believe the federal subsistence board should not adopt proposals designed to reduce predators on National Conservation Units and certainly not without sound justifications based on solid science. We suspect that such "uses" predicated on the assumed need for reducing predators are outside the intended scope of the subsistence provisions of ANILCA, conflict with other federal mandates to manage wildlife on National Interest Conservation Units for natural diversity in the national interest, have little likelihood of accomplishing the desired objectives absent extreme reductions in predator abundance, and have no justification based on the ways aboriginal Americans utilized wildlife populations during historical or prehistorical periods.

Thanks you for your consideration of these comments.

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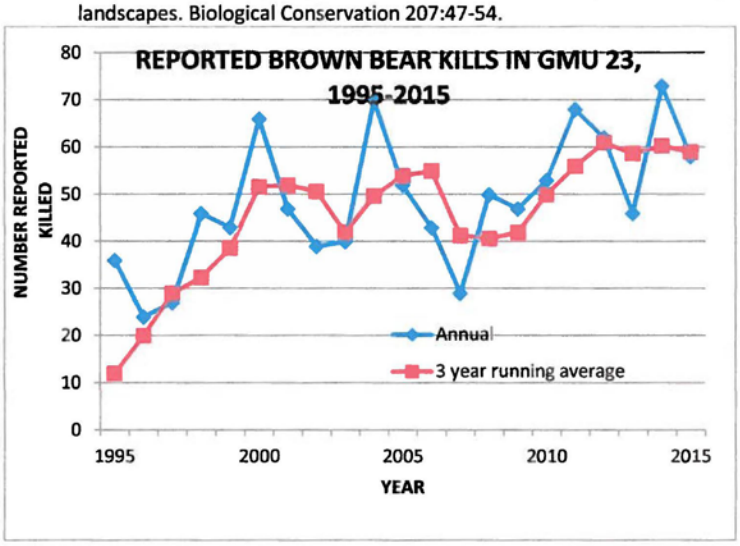
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WP18–48/49 Executive Summary	
General Description	Proposal WP18-48/49 requests that Federal reporting requirements for caribou in Units 22, 23, and 26A be aligned with the State's registration permit requirements. *Submitted by: Western Arctic Caribou Herd Working Group and Louis Cusack.*
Proposed Regulation	**Unit 22—Caribou** *Unit 22B—that portion west of Golovnin Bay and west of a line along the west bank of the Fish and Niukluk Rivers to the mouth of the Libby River, and excluding all portions of the Niukluk River drainage upstream from and including the Libby River drainage—5 caribou per day* ***by State registration permit****. Calves may not be taken* — *Oct. 1-Apr. 30. May 1-Sep. 30, a season may be announced.* *Units 22A—that portion north of the Golsovia River drainage, 22B remainder, that portion of Unit 22D in the Kuzitrin River drainage (excluding the Pilgrim River drainage), and the Agiapuk River drainages, including the tributaries, and Unit 22E—that portion east of and including the Tin Creek drainage—5 caribou per day* ***by State registration permit****. Calves may not be taken* — *July 1-June 30.* *Unit 22A, remainder—5 caribou per day* ***by State registration permit****. Calves may not be taken* — *July 1-June 30, season may be announced.* *Unit 22D, that portion in the Pilgrim River drainage—5 caribou per day* ***by State registration permit****. Calves may not be taken* — *Oct. 1-Apr. 30. May 1-Sep. 30, season may be announced.* *Units 22C, 22D remainder, 22E remainder—5 caribou per day* ***by State registration permit****. Calves may not be taken* — *July 1-June 30, season may be announced*

WP18–48/49 Executive Summary	
	Unit 23—Caribou
	Unit 23—that portion which includes all drainages north and west of, and including, the Singoalik River drainage—5 caribou per day as follows ***by State registration permit****: Calves may not be taken*
	Bulls may be harvested — *July 1-Oct. 14. Feb. 1-June 30.*
	Cows may be harvested. However, cows accompanied by calves may not be taken July 15-Oct. 14 — *July 15-Apr. 30.*
	Unit 23, remainder—5 caribou per day, as follows ***by State registration permit****: Calves may not be taken.*
	Bulls may be harvested — *July 1-Oct. 14. Feb. 1-June 30.*
	Cows may be harvested. However, cows accompanied by calves may not be taken July 31-Oct. 14 — *July 31-Mar. 31*
	Unit 26A—Caribou
	Unit 26A—that portion of the Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Sea south and west of, and including the Utukok River drainage—5 caribou per day as follows ***by State registration permit****: Calves may not be taken.*
	Bulls may be harvested — *July 1-Oct. 14. Dec. 6-June 30. July 16-Mar. 15.*
	Cows may be harvested; however, cows accompanied by calves may not be taken July 16-Oct. 15

WP18–48/49 Executive Summary	
	*Unit 26A remainder—5 caribou per day as follows **by State registration permit**: Calves may not be taken.* *Bulls may be harvested* — *July 1-Oct. 15. Dec. 6-June 30.* *Up to 3 cows per day may be harvested; however, cows accompanied by calves may not be taken July 16-Oct. 15* — *July 16-Mar. 15.* *You may not transport more than 5 caribou per regulatory year from Unit 26 except to the community of Anaktuvuk Pass*
OSM Conclusion	**Support** Proposal WP18-48; and **Take No Action** on Proposal WP18-49.
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	**Support** WP18-48 **Take No Action** on WP18-49

WP18–48/49 Executive Summary	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	**Support** WP18-48 **Take No Action** on WP18-49
Northwest Arctic Subsistence Regional Advisory Council Recommendation	**Oppose**
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	**Support** WP18-48 **Take No Action** on WP18-49
Interagency Staff Committee Comments	The Interagency Staff Committee (ISC) found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal. The ISC noted the North Slope Council's concern in their recommendation to the Board about "individuals that hunt to provide for many families in the community and for those that are not able to hunt such as widows and elders" who may not be able to continue these traditional practices using a state registration permit. While State proxy hunting can occur only under specific circumstances, Federal regulations allow federally qualified subsistence users to designate another qualified subsistence user to take fish and wildlife on his or behalf using the Federal Designated Harvester Permit. The Federal Designated Harvester must be a Federally qualified subsistence user, have the other user's state registration permits and a Federal Designated Harvester Permit in their possession while hunting. The Federal Designated Harvester may hunt for an unlimited number of other users with state registration permits but, as per Federal regulation, may have no more than two harvest limits in possession at any one time. If this proposal is adopted and State registration permits are required, the availability of Federal Designated Harvester Permits should be publicized widely to ensure awareness of this opportunity under the Federal program.

WP18–48/49 Executive Summary	
	Relevant Federal Regulations §100.10 (d)(5)(ii) A qualified subsistence user may designate another qualified subsistence user (by using the Federal Designated Harvester Permit) to take fish and wildlife on his or her behalf; §100.25 Subsistence taking of fish, wildlife, and shellfish: general regulations. (a) *Definitions.* The following definitions apply to all regulations contained in this part: *Designated hunter or fisherman* means a Federally qualified hunter or fisherman who may take all or a portion of another Federally qualified hunter's or fisherman's harvest limit(s) only under situations approved by the Board. (e) *Hunting by designated harvest permit.* If you are a Federally qualified subsistence user (recipient), you may designate another Federally qualified subsistence user to take deer, moose, and caribou, and in Units 1-5, goats, on your behalf unless you are a member of a community operating under a community harvest system or unless unit-specific regulations in §100.26 preclude or modify the use of the designated hunter system or allow the harvest of additional species by a designated hunter. The designated hunter must obtain a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for any number of recipients but may have no more than two harvest limits in his/her possession at any one time except for goats, where designated hunters may have no more than one harvest limit in possession at any one time, and unless otherwise specified in unit-specific regulations in §100.26.
ADF&G Comments	**Support**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-48/49

ISSUES

Proposal WP18-48, submitted by the Western Arctic Caribou Herd Working Group (WACH Working Group) and Proposal WP18-49, submitted by Louis Cusack, requests that Federal reporting requirements for caribou in Units 22, 23, and 26A be aligned with the State's registration permit requirements.

DISCUSSION

The WACH Working Group recognizes the registration permit hunt as a useful tool to monitor harvest and inform herd management, which is particularly important given the WACH population decline.

Mr. Cusack states that the intent of Proposal WP18-49 is to improve harvest data, herd management, and opportunity for all hunters. The proponent states that registration permits will help managers make sound decisions and determine the best means to curtail the current caribou population declines without taking more drastic measures. The proponent notes that given the current population decline, the impact of hunting on the WACH, and the inaccuracy of present harvest estimation methods for local harvest, more accurate reporting of both total harvest and composition of the harvest are needed. The proponent states that given the mix of Federal and non-Federal lands in these units, caribou hunting would be very cumbersome and confusing to manage under different Federal and State reporting requirements. The proponent references several reports to support the need for more accurate harvest reporting. He also notes that all users should be willing to work together in order to protect important natural resources.

Existing Federal Regulations

Unit 22—Caribou

Unit 22B—that portion west of Golovnin Bay and west of a line along the west bank of the Fish and Niukluk Rivers to the mouth of the Libby River, and excluding all portions of the Niukluk River drainage upstream from and including the Libby River drainage—5 caribou per day. Calves may not be taken	*Oct. 1-Apr. 30. May 1-Sep. 30, a season may be announced.*
Units 22A—that portion north of the Golsovia River drainage, 22B remainder, that portion of Unit 22D in the Kuzitrin River drainage (excluding the Pilgrim River drainage), and the Agiapuk River drainages, including the tributaries, and Unit 22E—that portion east of and including the Tin Creek drainage—5 caribou per day. Calves may not be taken	*July 1-June 30.*

Unit 22A, remainder—5 caribou per day. Calves may not be taken	*July 1-June 30, season may be announced.*
Unit 22D, that portion in the Pilgrim River drainage—5 caribou per day. Calves may not be taken	*Oct. 1-Apr. 30.* *May 1-Sep. 30, season may be announced.*
Units 22C, 22D remainder, 22E remainder—5 caribou per day. Calves may not be taken	*July 1-June 30, season may be announced*

Unit 23—Caribou

Unit 23—that portion which includes all drainages north and west of, and including, the Singoalik River drainage—5 caribou per day as follows: Calves may not be taken	
Bulls may be harvested	*July 1-Oct. 14.* *Feb. 1-June 30.*
Cows may be harvested. However, cows accompanied by calves may not be taken July 15-Oct. 14	*July 15-Apr. 30.*
Unit 23, remainder—5 caribou per day, as follows: Calves may not be taken.	
Bulls may be harvested	*July 1-Oct. 14.* *Feb. 1-June 30.*
Cows may be harvested. However, cows accompanied by calves may not be taken July 31-Oct. 14	*July 31-Mar. 31*

Unit 26A—Caribou

Unit 26A—that portion of the Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Sea south and west of, and including the Utukok River drainage—5 caribou per day as follows: Calves may not be taken.	
Bulls may be harvested	*July 1-Oct. 14.* *Dec. 6-June 30.*
Cows may be harvested; however, cows accompanied by calves may not be taken July 16-Oct. 15	*July 16-Mar. 15.*
Unit 26A remainder—5 caribou per day as follows: Calves may not be taken.	

Bulls may be harvested	*July 1-Oct. 15.* *Dec. 6-June 30.*
Up to 3 cows per day may be harvested; however, cows accompanied by calves may not be taken July 16-Oct. 15	*July 16-Mar. 15.*

Proposed Federal Regulations

Unit 22—Caribou

Unit 22B—that portion west of Golovnin Bay and west of a line along the west bank of the Fish and Niukluk Rivers to the mouth of the Libby River, and excluding all portions of the Niukluk River drainage upstream from and including the Libby River drainage—5 caribou per day ***by State registration permit****. Calves may not be taken*	*Oct. 1-Apr. 30.* *May 1-Sep. 30, a season may be announced.*
Units 22A—that portion north of the Golsovia River drainage, 22B remainder, that portion of Unit 22D in the Kuzitrin River drainage (excluding the Pilgrim River drainage), and the Agiapuk River drainages, including the tributaries, and Unit 22E—that portion east of and including the Tin Creek drainage—5 caribou per day ***by State registration permit****. Calves may not be taken*	*July 1-June 30.*
Unit 22A, remainder—5 caribou per day ***by State registration permit****. Calves may not be taken*	*July 1-June 30, season may be announced.*
Unit 22D, that portion in the Pilgrim River drainage—5 caribou per day ***by State registration permit****. Calves may not be taken*	*Oct. 1-Apr. 30.* *May 1-Sep. 30, season may be announced.*
Units 22C, 22D remainder, 22E remainder—5 caribou per day ***by State registration permit****. Calves may not be taken*	*July 1-June 30, season may be announced*

Unit 23—Caribou

Unit 23—that portion which includes all drainages north and west of, and including, the Singoalik River drainage—5 caribou per day as follows ***by State registration permit****: Calves may not be taken*

Bulls may be harvested	*July 1-Oct. 14.* *Feb. 1-June 30.*
Cows may be harvested. However, cows accompanied by calves may not be taken July 15-Oct. 14	*July 15-Apr. 30.*

Unit 23, remainder—5 caribou per day, as follows ***by State registration permit****: Calves may not be taken.*

Bulls may be harvested	*July 1-Oct. 14.* *Feb. 1-June 30.*
Cows may be harvested. However, cows accompanied by calves may not be taken July 31-Oct. 14	*July 31-Mar. 31*

Unit 26A—Caribou

Unit 26A—that portion of the Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Sea south and west of, and including the Utukok River drainage—5 caribou per day as follows ***by State registration permit****: Calves may not be taken.*

Bulls may be harvested	*July 1-Oct. 14.* *Dec. 6-June 30.*
Cows may be harvested; however, cows accompanied by calves may not be taken July 16-Oct. 15	*July 16-Mar. 15.*

Unit 26A remainder—5 caribou per day as follows ***by State registration permit****: Calves may not be taken.*

Bulls may be harvested	*July 1-Oct. 15.* *Dec. 6-June 30.*
Up to 3 cows per day may be harvested; however, cows accompanied by calves may not be taken July 16-Oct. 15	*July 16-Mar. 15.*

You may not transport more than 5 caribou per regulatory year from Unit 26 except to the community of Anaktuvuk Pass

Existing State Regulations

Unit 22—Caribou

22A, north of the Golsovia River drainage	*Residents—Twenty caribou total, up to 5 per day; however, calves may not be taken. Permit available online at http://hunt.alaska.gov or in person at Nome ADF&G, and license vendors within Unit 22 beginning June 15*	*Bulls*	*RC800*	*no closed season*
		Cows	*RC800*	*July 1-Mar. 31*
	Nonresidents—one bull; however, calves may not be taken		*HT*	*Aug. 1-Sept. 30*
22A remainder	*Residents—Twenty caribou total, up to 5 per day; however, calves may not be taken, bulls may not be taken Oct 15-Jan 31, and cows may not be taken Apr 1-Aug 31. Permit available online at http://hunt.alaska.gov or in person at Nome ADF&G, and license vendors within Unit 22 beginning June 15*		*RC800*	*May be announced*
	Nonresidents—one bull; however, calves may not be taken		*HT*	*May be announced*
Unit 22B, west of Golovnin Bay, west of the west banks of Fish and Niukluk rivers below the Libby river (excluding the Libby River drainage and Niukluk River drainage above the mouth of the Libby River)	*Residents—Twenty caribou total, up to 5 per day; however, calves may not be taken. Permit available online at http://hunt.alaska.gov or in person at Nome ADF&G, and license vendors within Unit 22 beginning June 15*	*Bulls*	*RC800*	*Oct. 1-Apr. 30*
		Cows	*RC800*	*Oct. 1-Mar. 31*
	Residents- Twenty caribou total, up to 5 per day; however, calves may not be taken, and bulls may not be taken Oct 15-Jan 31, and cows may not be taken Apr 1-Aug 31. Permit available online at http://hunt.alaska.gov or in person at Nome ADF&G, and license vendors within Unit 22 beginning June 15		*RC800*	*may be announced*
	Nonresidents: one bull; however, calves may not be taken		*HT*	*may be announced*

22B remainder	*Residents—Twenty caribou total, up to 5 per day; however, calves may not be taken. Permit available online at http://hunt.alaska.gov or in person at Nome ADF&G, and license vendors within Unit 22 beginning June 15*	*Bulls*	*RC800*	*no closed season*
		Cows	*RC800*	*July. 1-Mar. 31.*
	Nonresidents—one bull; however, calves may not be taken		*HT*	*Aug. 1-Sept. 30*
22C	*Residents—Twenty caribou total, up to 5 per day; however, calves may not be taken, bulls may not be taken Oct 15-Jan 31, and cows may not be taken Apr 1-Aug 31. Permit available online at http://hunt.alaska.gov or in person at Nome ADF&G, and license vendors within Unit 22 beginning June 15*		*RC800*	*May be announced*
	Nonresidents—one bull; however, calves may not be taken		*HT*	*May be announced*
22D Pilgrim River drainage	*Residents—Twenty caribou total, up to 5 per day; however, calves may not be taken. Permit available online at http://hunt.alaska.gov or in person at Nome ADF&G, and license vendors within Unit 22 beginning June 15*	*Bulls*	*RC800*	*Oct. 1-Apr. 30*
		Cows	*RC800*	*Oct. 1-Mar. 31*
	Residents- Twenty caribou total, up to 5 per day; however, calves may not be taken, and bulls may not be taken Oct 15-Jan 31, and cows may not be taken Apr 1-Aug 31. Permit available online at http://hunt.alaska.gov or in person at Nome ADF&G, and license vendors within Unit 22 beginning June 15		*RC800*	*may be announced*
	Nonresidents: one bull; however, calves may not be taken		*HT*	*may be announced*

22D, in the Kuzitrin River drainage (excluding the Pilgrim River drainage) and the Agiapuk river drainage	*Residents—Twenty caribou total, up to 5 per day; however, calves may not be taken. Permit available online at http://hunt.alaska.gov or in person at Nome ADF&G, and license vendors within Unit 22 beginning June 15*	*Bulls*	*RC800*	*no closed season*
		Cows	*RC800*	*July. 1-Mar. 31.*
	Nonresidents—one bull; however, calves may not be taken		*HT*	*Aug. 1-Sept. 30*
22D remainder	*Residents—Twenty caribou total, up to 5 per day; however, calves may not be taken, bulls may not be taken Oct 15-Jan 31, and cows may not be taken Apr 1-Aug 31. Permit available online at http://hunt.alaska.gov or in person at Nome ADF&G, and license vendors within Unit 22 beginning June 15*		*RC800*	*May be announced*
	Nonresidents—one bull; however, calves may not be taken		*HT*	*May be announced*
22E, east of and including the Sanaguich River drainage	*Residents—Twenty caribou total, up to 5 per day; however, calves may not be taken. Permit available online at http://hunt.alaska.gov or in person at Nome ADF&G, and license vendors within Unit 22 beginning June 15*	*Bulls*	*RC800*	*no closed season*
		Cows	*RC800*	*July. 1-Mar. 31.*
	Nonresidents—one bull; however, calves may not be taken		*HT*	*Aug. 1-Sept. 30*
22E remainder	*Residents—Twenty caribou total, up to 5 per day; however, calves may not be taken, bulls may not be taken Oct 15-Jan 31, and cows may not be taken Apr 1-Aug 31. Permit available online at http://hunt.alaska.gov or in person at Nome ADF&G, and license vendors within Unit 22 beginning June 15*		*RC800*	*May be announced*
	Nonresidents—one bull; however, calves may not be taken		*HT*	*May be announced*

Unit 23—Caribou

23, north of and including Singoalik River drainage	*Residents—Five caribou per day; however, calves may not be taken.*	*Bulls*	*RC907*	*July 1-Oct. 14* *Feb. 1-June 30*
		Cows	*RC907*	*Jul. 15-Apr. 30*
	Nonresidents—One bull; however, calves may not be taken		*HT*	*Aug. 1-Sept. 30*
23 remainder	*Residents—Five caribou per day; however, calves may not be taken.*	*Bulls*	*RC907*	*July 1-Oct. 14* *Feb. 1-June 30*
		Cows	*RC907*	*Sept. 1-Mar. 31*
	Nonresidents—One bull; however, calves may not be taken		*HT*	*Aug. 1-Sept. 30*

Unit 26—Caribou

26A, the Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Sea south and west of, and including the Utukok River drainage	*Residents—Five caribou per day; however, calves may not be taken.*	*Bulls*	*RC907*	*July 1-Oct. 14* *Feb. 1-June 30*
		Cows	*RC907*	*Jul. 15-Apr. 30*
	Nonresidents—One bull; however, calves may not be taken		*HT*	*July 15-Sept. 30*
26A, Remainder	*Residents—Five bulls per day; however, calves may not be taken;*		*RC907*	*July 1-July 15* *Mar. 16-June 30*
	Five caribou per day three of which may be cows; calves may not be taken, and cows with calves may not be taken		*RC907*	*July 16-Oct. 15*
	Three cows per day however, calves may not be taken		*RC907*	*Oct. 16-Dec. 31*
	Five caribou per day three of which may be cows; calves may not be taken		*RC907*	*Jan. 1-Mar. 15*

Nonresidents—One bull however, calves may not be taken	*HT*	*July 15-Sept. 30*

Extent of Federal Public Lands

Federal public lands comprise approximately 43% of Unit 22 and consist of 28% Bureau of Land Management (BLM) managed lands, 12% National Park Service (NPS) managed lands, and 3% U.S. Fish and Wildlife Service (USFWS) managed lands.

Federal public lands comprise approximately 71% of Unit 23 and consist of 40% NPS managed lands, 22% BLM managed lands, and 9% USFWS managed lands.

Federal public lands comprise approximately 73% of Unit 26A and consist of 66% BLM managed lands and 7% NPS managed lands.

Customary and Traditional Use Determinations

Residents of Units 21D west of the Koyukuk and Yukon Rivers, 22 (except residents of St. Lawrence Island), 23, 24, Kotlik, Emmonak, Hooper Bay, Scammon Bay, Chevak, Marshall, Mountain Village, Pilot Station, Pitka's Point, Russian Mission, St. Marys, Nunam Iqua, and Alakanuk have a customary and traditional use determination for caribou in Unit 22A.

Residents of Units 21D west of the Koyukuk and Yukon Rivers, 22 (excluding residents of St. Lawrence Island), 23, and 24 have a customary and traditional use determination for caribou in Unit 22 remainder.

Residents of Unit 21D west of the Koyukuk and Yukon Rivers, Galena, 22, 23, 24 including residents of Wiseman but not including other residents of the Dalton Highway Corridor Management Area, and 26A have a customary and traditional use determination for caribou in Unit 23.

Residents of Unit 26, Anaktuvuk Pass, and Point Hope have customary and traditional use determination for caribou in Unit 26A.

Regulatory History

In 1984, the Alaska Department of Fish and Game (ADF&G) changed harvest reporting requirements for individuals hunting caribou north of the Yukon River. Instead of a standard harvest ticket and report, individuals were required to register with ADF&G (at specified vendors) and then return a harvest report form that was mailed to them by ADF&G later in the season (Georgette 1994). In 1989, harvest tickets were once again required for individuals living south (but hunting caribou north) of the Yukon River while the hunter registration system was retained for individuals living and hunting caribou north of the Yukon River (Georgette 1994).

In 1990, the Federal caribou hunting seasons in Units 22A, 22B, 23, and 26A were open year round with a 5 caribou/day harvest limit and a restriction on the take of cows May 16-June 30. There was no open caribou season in Units 22C, 22D, and 22E.

In 1994, the Federal Subsistence Board (Board) adopted Proposal P94-63A with modification to allow snowmachines to be used to take caribou and moose in Unit 22. The Board also adopted Proposal P94-82 with modification to allow motor-driven boats and snowmachines to be used to take caribou in Unit 26 and to allow swimming caribou to be taken with a firearm using rimfire cartridges in Unit 26. (Swimming caribou could be taken with a firearm using rimfire cartridges in Unit 23 since 1990).

In 1995, the Board adopted Proposal P95-51 to increase the caribou harvest limit in Unit 23 from 5 to 15 caribou per day so that subsistence hunters could maximize their hunting efforts when caribou were available. The Board also adopted Proposal P95-64 to increase the harvest limit from 5 caribou per day to 10 caribou per day in Unit 26 to increase harvest opportunity for subsistence hunters. The Board also adopted Proposal P95-62 which closed the area east of the Killik River and south of the Colville River to caribou hunting by non-Federally qualified users from Aug. 1-Sept. 30. This closure was enacted to prevent non-Federally qualified users from harvesting lead animals, which may have caused the migration to move away from the area that local subsistence users hunted in Unit 26A.

In 1996, the Board adopted Proposal P96-049 with modification to provide a customary and traditional use determination for caribou in Unit 22 for rural residents of Unit 21D west of the Koyukuk and Yukon rivers, and Units 22 (except St. Lawrence Island), 23, and 24. The proposal also provided a customary and traditional use determination for caribou in Unit 22A for residents of Kotlik, Emmonak, Marshall, Mountain Village, Pilot Station, Pitka's Point, Russian Mission, St. Mary's, Sheldon Point, and Alakanuk.

In 1997, the Board adopted Proposal P97-54 with modification to add residents of Hooper Bay, Scammon Bay, and Chevak to the customary and traditional use determination for caribou in Unit 22A.

In 1997, the Board adopted Proposal P97-66 with modification to provide a customary and traditional use determination for caribou in Unit 23 for rural residents of Unit 21D west of the Koyukuk and Yukon rivers, Galena, Units 22, 23, 24 including residents of Wiseman, but not other residents of the Dalton Highway Corridor Management Area and Unit 26A.

In 2000, the Board adopted Proposal WP00-53 with modification allowing the use of snowmachines to position a hunter to select individual caribou for harvest in Units 22 and 23. This was done to recognize a customary and traditional practice in the region.

In 2003, the Board adopted Proposal WP03-40 with modification to establish a harvest season of July 1-June 30 and a 5 caribou per day harvest limit in portions of Units 22D and 22E. This was done because caribou had expanded their range into these subunits and harvest was not expected to impact the caribou or reindeer herds, to provide additional subsistence hunting opportunities, and to align State and Federal regulations.

In 2006, the Board adopted Proposal WP06-37 with modification, which designated a new hunt area in Unit 22B with an open season of Oct. 1-Apr. 30 and a closed season from May 1-Sept. 30 unless opened by a Federal land manager. This was done to prevent incidental take of privately-owned reindeer and to reduce user conflicts.

Also in 2006, the Board adopted Proposal WP06-65 which opened the area east of the Killik River and south of the Colville River to non-Federally qualified users. The 1995 closure was lifted for several reasons. First, due to changes in land status, lands formerly managed by BLM were transferred to Alaska Native corporations or the State pursuant to the Alaska Native Claims Settlement Act or the Statehood Act, respectively. After these land transfers, only lands east of Anaktuvuk Pass were affected by the closure, making the closure less effective. Second, the population was at a point where it could support both subsistence and non–subsistence uses.

In 2013, an aerial photo census indicated significant declines in the Teshekpuk Caribou Herd (TCH), WACH, and possibly the Central Arctic Caribou Herd (CACH) populations (Caribou Trails 2014). In response, the Alaska Board of Game (BOG) adopted modified Proposal 202 (RC76) in March 2015 to reduce harvest opportunities for both Alaska residents and nonresidents within the range of the WACH and the TCH, including Units 22, 23, and 26A. These regulation changes – which included lowering bag limits for nonresidents from two caribou to one bull, reductions in bull and cow season lengths, the establishment of new hunt areas, and prohibiting calf harvest – were adopted to slow or reverse the population decline.

In 2015, two special actions, WSA15-03/05, requesting changes to caribou regulations in Units 23 and 26A, were submitted by the North Slope Subsistence Regional Advisory Council (North Slope Council). Temporary Special Action WSA15-03 requested designation of a new hunt area for caribou in the northwest corner of Unit 23 where the harvest limit would be reduced from 15 to 5 caribou per day, the harvest season would be shortened for bulls and cows, and the take of calves would be prohibited. Temporary Special Action WSA15-05, requested that the bull caribou harvest limit in Unit 26A be reduced from 10 caribou per day to 5 caribou per day, the cow harvest limit be reduced to 3 per day, the harvest seasons for bulls and cows be reduced, and the take of calves and cows with calves be prohibited. Compared to the new State caribou regulations, it requested 3 additional weeks to the bull harvest season (Dec. 6- Dec. 31).

The Board approved Temporary Special Actions WSA15-03/04/05/06 with modification to simplify and clarify the regulatory language; maintain the current hunt areas in Units 23; decrease the harvest limit from 15 to 5 caribou per day and shorten the cow and bull seasons throughout Unit 23; prohibit the harvest of cows with calves throughout the affected units; and reduce the harvest limit in Unit 26B remainder from 10 to 5 caribou per day and shorten the season. These special actions took effect on July 1, 2015. These State and Federal regulatory changes in 2015 were the first time that harvest restrictions had been implemented for the WACH in over 30 years.

In 2015, the Northwest Arctic Subsistence Regional Advisory Council (Northwest Arctic Council) submitted a temporary special action request (WSA16-01) to close caribou hunting on Federal public lands in Unit 23 to non-Federally qualified users for the 2016/17 regulatory year. The Council stated that its request was necessary for conservation purposes but also needed because nonlocal hunting activities were negatively affecting subsistence harvests. In April 2016, the Board approved WSA16-01, basing its decision on the strong support of the Northwest Arctic and North Slope Councils, public testimony in favor of the request, as well as concerns over conservation and continuation of subsistence uses.

Six proposals (WP16-37, WP16-48, WP16-49/52, WP16-61, and WP16-63) concerning caribou regulations in Units 22, 23, and 26A were submitted to the Board for the 2016-2018 wildlife regulatory cycle. In April 2016, the Board adopted WP16-48 with modification to allow the positioning of a caribou, wolf, or wolverine for harvest in Unit 23 on BLM lands only. Proposal WP16-37 requested that Federal caribou regulations mirror the new State regulations across the ranges of the WACH and TCH (Units 21D, 22, 23, 24, 26A, and 26B). The Board adopted Proposal WP16-37 with modification to reduce the harvest limit to 5 caribou per day, restrict bull season during rut and cow season around calving, prohibit the harvest of calves and the harvest of cows with calves before weaning (mid-Oct.) in some areas, to create new hunt areas, and to establish new seasons in Unit 22. The Board took no action on the remaining proposals (WP16-49/52, WP16-61, and WP16-63) because of action taken on WP16-37.

In 2016, the BOG adopted Proposal 140 as amended to make the following changes to Unit 22 caribou regulations: establish a registration permit hunt (RC800), set an annual harvest limit of 20 caribou total, and lengthen cow and bull seasons in several hunt areas. The BOG also adopted a portion of Proposal 85, removing the caribou harvest ticket and report exception for residents living north of the Yukon River in Units 21, 24, 25, 26B, and 26C. The BOG deferred Proposal 85 for the remaining units (Units 18, 22, 23, and 26A) to the Arctic/Western Region meeting in Jan. 2017.

In June 2016, the State submitted a special action request (WSA16-03) to reopen caribou hunting on Federal public lands in Unit 23 to non-Federally qualified users, providing new biological information (e.g. calf recruitment, weight, body condition) on the WACH. The State specified that there was no biological reason for the closure and that it could increase user conflicts. In January 2017, the Board rejected WSA16-03 due to the position of all four affected Councils (Northwest Arctic, North Slope, Seward Peninsula, and Western Interior) as well as public testimony and tribal consultation comments opposing the request. Additionally, the Board found the new information provided by the State to be insufficient to rescind the closure.

In January 2017, the BOG adopted Proposal 2, requiring registration permits for residents hunting caribou within the ranges of the WACH and TCH in Units 23 and 26A. ADF&G submitted the proposal in order to better monitor harvest and improve management flexibility. The BOG rejected Proposal 3 (deferred Proposal 85 from 2016) due to action taken on Proposal 2.

In March 2017, the Northwest Arctic and North Slope Councils submitted temporary special action requests (WSA17-03 and -04, respectively) to close caribou hunting on Federal public lands in Unit 23 and in Units 26A and 26B, respectively, to non-Federally qualified users for the 2017/18 regulatory year. Both Councils stated that the intent of the proposed closures was to ensure subsistence use in the 2017/18 reg-

ulatory year, to protect declining caribou populations, and to reduce user conflicts. The Board voted to approve WSA17-03 with modification to close all Federal public lands within a 10 mile wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage, to caribou hunting except by Federally qualified subsistence users for the 2017/18 regulatory year. The Board considered the modification a reasonable compromise for all users and that closure of the specified area was warranted in order to continue subsistence use. The Board rejected WSA17-04 due to recent changes to State regulations that should reduce caribou harvest.

Current Events

Several proposals concerning Federal caribou harvest regulations in Units 23 and 26A were submitted for the 2018-2020 wildlife regulatory cycle (WP18-32, 45, 46/47, and 57). At the WACH Working Group meeting in December 2016, the group voted to submit two wildlife proposals. Proposal WP18-46 is to close Federal public lands in Unit 23 to caribou hunting by non-Federally qualified users. It also voted to submit this proposal (WP18-48).

At the Western Interior Council meeting in February 2017, the Council voted to submit Proposal WP18-32 to align caribou seasons across the ranges of the WACH, TCH, and CACH. The intent of this proposal is to protect cows during migration. The Council expressed its intent to submit a similar proposal to the BOG.

At the Northwest Arctic Council meeting in March 2017, the Council voted to submit Proposal WP18-45 to decrease the caribou harvest limit in Unit 23 from 5 to 3 caribou per day.

At the North Slope Council meeting in March 2017, the Council voted to submit Proposal WP18-57 to close Federal public lands to caribou hunting by non-Federally qualified users in Units 26A and 26B (similar to WSA17-04). This is in response to declines in the WACH, TCH, and CACH, which are seasonally present in the area.

Enoch Mitchell submitted Proposal WP18-47 to close Federal public lands in Unit 23 to caribou hunting by non-Federally qualified users for the 2018/19- 2020/21 regulatory years. The proposal was co-sponsored by the Native Village of Noatak, the Cape Krusenstern National Monument Subsistence Resource Commission (SRC), the Kobuk Valley National Park SRC, and the Noatak/Kivalina Fish and Game Advisory Committee.

Biological Background

Caribou abundance naturally fluctuates over decades (Gunn 2001, WACH Working Group 2011). Gunn (2001) reports the mean doubling rate for Alaskan caribou as 10 ± 2.3 years. Although the underlying mechanisms causing these fluctuations are uncertain, climatic oscillations (i.e. Arctic and Pacific Decadal Oscillations) may play an important role (Gunn 2001, Joly et al. 2011). Climatic oscillations can influence factors such as snow depth, icing, forage quality and growth, wildfire occurrence, insect levels, and

predation, which all contribute to caribou population dynamics (Joly et al. 2011). Density-dependent reduction in forage availability, resulting in poorer body condition may exacerbate caribou population fluctuations (Gunn 2001).

Caribou calving generally occurs from late May to mid-June (Dau 2013). Weaning generally occurs in late October and early November before the breeding season (Taillon et al. 2011). Calves stay with their mothers through their first winter, which improves calves' access to food and body condition (Holand et al. 2012). Calves orphaned after weaning (October) have greater chances of survival than calves orphaned before weaning (Holand et al. 2012, Joly 2000, Russell et al. 1991, Rughetti and Fest-Bianchet 2014).

The TCH, WACH, and CACH have ranges that overlap in Unit 26A (**Map 1**), and there can be considerable mixing of herds during the fall and winter. During the 1970s, there was little overlap between these herds, but the degree of mixing seems to be increasing. Thus, interpretation of population estimates is difficult due to both temporary and permanent immigration (Person et al. 2007).

The total number of caribou among the various herds wintering on the North Slope peaked at over 700,000 animals in the early 2000s (this includes the Porcupine Caribou Herd in northeast Alaska and Northwest Territories, Canada), which may have been the highest number since the 1970s. This number has declined substantially since the early 2000s. Currently, the WACH, TCH, and CACH populations are all declining (Dau 2011, 2015a, Lenart 2011, Parrett 2011, 2015c, 2015d).

Western Arctic Caribou Herd

The WACH has historically been the largest caribou herd in Alaska and has a home range of approximately 157,000 square miles in northwestern Alaska. In the spring, most mature cows move north to calving grounds in the Utukok Hills, while bulls and immature cows lag behind and move toward summer range in the Wulik Peaks and Lisburne Hills (**Map 2**, Dau 2011, WACH Working Group 2011).

Dau (2013) determined the calving dates for the WACH to be June 9–13. This is based upon long-term movement and distribution data obtained from radio-collared caribou (these are the dates cows ceased movements). After the calving period, cows and calves move west toward the Lisburne Hills where they mix with the bulls and non-maternal cows. During the summer, the herd moves rapidly to the Brooks Range.

In the fall, the herd moves south toward wintering grounds in the northern portion of the Nulato Hills. Rut occurs during fall migration (Dau 2011, WACH Working Group 2011). Dau (2013) determined the WACH rut dates to be October 22–26. This is based on back-calculations from calving dates using a 230-day gestation period. Since about 2000, the timing of fall migration has been less predictable, often occurring later than in previous decades (Dau 2015a). From 2010-2015, the average date that GPS collared caribou crossed the Noatak River ranged from Sep. 30 – Oct. 23 (Joly and Cameron 2017). The proportion of caribou using certain migration paths varies each year (**Figure 1**, Joly and Cameron 2017). In recent years (2012-2014), the path of fall migration has shifted east (Dau 2015a).

The WACH Working Group developed a WACH Cooperative Management Plan in 2003, and revised it in 2011 (WACH Working Group 2011). The WACH Management Plan identifies seven plan elements: cooperation, population management, habitat, regulations, reindeer, knowledge, and education as well as associated goals, strategies, and management actions. As part of the population management element, the WACH Working Group developed a guide to herd management determined by population size, population trend, and harvest rate. Population sizes guiding management level determinations were based on recent (since 1970) historical data for the WACH (WACH Working Group 2011). Revisions to recommended harvest levels under liberal and conservative management (+/- 100 - 2,850 caribou) were made in December 2015 (WACH Working Group 2015, **Table 1**). The State of Alaska manages the WACH to protect the population and its habitat, provide for subsistence and other hunting opportunities on a sustained yield basis, and provide for viewing and other uses of caribou (Dau 2011). State management objectives for the WACH are the same as the goals specified in the WACH Management Plan (Dau 2011, WACH Working Group 2011) and include:

- Encourage cooperative management of the WACH among State, Federal, local entities, and all users of the herd.
- Manage for healthy populations using management strategies adapted to fluctuating population levels and trends.
- Assess and protect important habitats.
- Promote consistent and effective State and Federal regulations for the conservation of the WACH.
- Seek to minimize conflict between reindeer herders and the WACH.
- Integrate scientific information, traditional ecological knowledge of Alaska Native users, and knowledge of all users into management of the herd.
- Increase understanding and appreciation of the WACH through the use of scientific information, traditional ecological knowledge of the Alaska Native users, and knowledge of all other users.

The WACH population declined rapidly in the early 1970s, bottoming out at about 75,000 animals in 1976. Aerial photo censuses have been used since 1986 to estimate population size. The WACH population increased throughout the 1980s and 1990s, peaking at 490,000 animals in 2003 (**Figure 2**). Since 2003, the herd has declined at an average annual rate of 7.1% from approximately 490,000 caribou to 200,928 caribou in 2016 (Caribou Trails 2014; Dau 2011, 2014, Parrett 2016a). In 2017, the herd increased to an estimated 259,000 caribou (Parrett 2017a).

Between 1982 and 2011, the WACH population was within the liberal management level prescribed by the WACH Working Group (**Figure 2, Table 1**). In 2013, the herd population estimate fell below the population threshold for liberal management of a decreasing population (265,000), slipping into the conservative management level. In July 2015, ADF&G attempted an aerial photo census of the herd. However, the photos taken could not be used due to poor light conditions that obscured unknown portions of the herd (Dau 2015b). ADF&G conducted a successful photocensus of the WACH on July 1, 2016. This census resulted in a minimum count of 194,863 caribou with a point estimate of 200,928 (Standard Error = 4,295), suggesting the WACH was still within the conservative management level, although close to the threshold for preservative management (**Figure 2, Table 1**). Results of this census indicate an

average annual decline of 5% per year since 2013, representing a much lower rate than the 15% annual decline between 2011 and 2013. The large cohorts of 2015 and 2016, which currently comprise a substantial proportion of the herd, contributed to the recent decreased rate of decline, but remain vulnerable to difficult winter conditions due to their young age (Parrett 2016a).

ADF&G conducted another photocensus in the summer of 2017 and also transitioned from film to digital cameras, which enhanced their ability to complete a successful and timely census (Parrett 2017a). The 2017 photocensus yielded a minimum count of 239,055 caribou with a point estimate of 259,000 caribou (Standard Error = 29,000) (Parrett 2017a). However, the use of new technology (digital cameras) may have influenced the counts, complicating comparisons between 2017 and past years. At their 2017 meeting, the WACH Working Group voted on the status of the herd, agreeing upon the conservative stable level (WACH WG 2017, **Table 1**). While population numbers alone indicate liberal management, the Working Group supported maintaining conservative management due to the use of new technology and because a large proportion of the herd is currently young caribou that are still vulnerable to harsh winters (WACH WG 2017).

Between 1970 and 2017, the bull:cow ratio exceeded critical management levels (40 bulls:100 cows, **Table 1**) in all years except 1975, 2001, and 2014 (**Figure 3**). Reduced sampling intensity in 2001 likely biased the 2001 bull:cow ratio low (Dau 2013). Since 1992, the bull:cow ratios has trended downward (Dau 2015a). The average annual number of bulls:100 cows was greater during the period of population growth (54:100 between 1976–2001) than during the recent period of decline (44:100 between 2004–2016). Additionally, Dau (2015a) states that while trends in bull:cow ratios are accurate, actual values should be interpreted with caution due to sexual segregation during sampling and the inability to sample the entire population, which likely account for more annual variability than actual changes in composition.

Although factors contributing to the population decline are not known with certainty, fall and winter icing events likely initiated the decline (Dau 2015a). Increased adult cow mortality, and decreased calf recruitment and survival also played a role (Dau 2011). Since the mid-1980s, adult mortality has slowly increased while recruitment has slowly decreased (Dau 2013, **Figure 4**). In a population model developed specifically for the WACH, Prichard (2009) found adult survival to have the largest impact on population size.

Calf production has likely had little influence on the population trajectory (Dau 2013, 2015a). Between 1990 and 2003, the June calf:cow ratio averaged 66 calves:100 cows/year. Between 2004 and 2016, the June calf:cow ratio averaged 71 calves:100 cows/year (**Figure 5**). In June 2016, 85 calves:100 cows were observed, which approximates the highest parturition (calving) level ever recorded for the herd (86 calves:100 cows in 1992) (Dau 2016a).

Decreased calf survival through summer and fall and recruitment into the herd are likely contributing to the current population decline (Dau 2013, 2015a). Fall calf:cow ratios indicate calf survival over summer. Between 1976 and 2017, the fall calf:cow ratio ranged from 35 to 59 calves:100 cows/year, averaging 47 calves:100 cows/year (**Figure 5**). Fall calf:cow ratios declined from an average of 46 calves:100 cows/year between 1990-2003 to an average of 42 calves:100 cows/year between 2004-2016 (Dau 2015a,

Figure 5). Since 2008, ADF&G has recorded calf weights at Onion Portage as an index of herd nutritional status. In September 2015, calf weights averaged 100 lbs., the highest average ever recorded (Parrett 2015b).

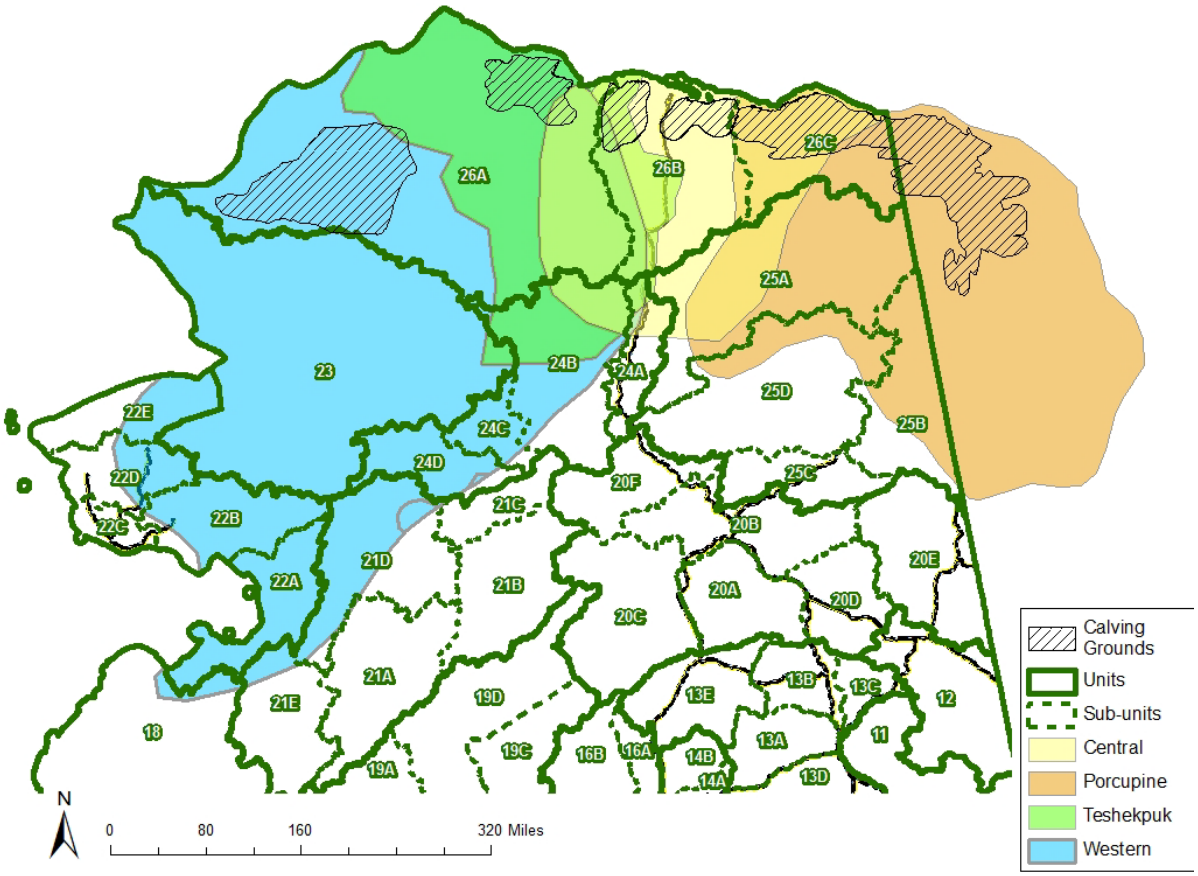
Similarly, the ratio of short yearlings (SY, 10-11 months old caribou) to adults provides a measure of overwintering calf survival and recruitment. Between 1990 and 2003, SY:adult ratios averaged 20 SY:100 adults/year. Since the decline began in 2003, SY:adult ratios have averaged 16 SY:100 adults/year (2004-2016, Dau 2013, 2015a, 2016b, **Figure 5**). However, 23 SY:100 adults were observed during spring 2016 surveys, the highest ratio recorded since 2007 (Dau 2016b). The overwinter calf survival for the 2015 cohort (Oct. 2015-Jun. 2016) was 84% (Parrett 2016b). While 2016 indices suggest improvements in recruitment, the overall trend since the early 1980s has been downward (Dau 2015a, 2016b).

Increased cow mortality is likely affecting the trajectory of the herd as well (Dau 2011, 2013). The annual mortality rate of radio-collared adult cows increased from an average of 15% between 1987 and 2003 to 23% from 2004–2014 (Dau 2011, 2013, 2014, 2015a, **Figure 4**). Estimated mortality includes all causes of death including hunting (Dau 2011). Dau (2015a) states that cow mortality estimates are conservative due to exclusion of unhealthy (i.e. diseased) and yearling cows. Dau (2013) attributed the high mortality rate for 2011–2012 (33%, **Figure 4**) to a winter with deep snows, which weakened caribou and enabled wolves to prey on them more easily. Prior to 2004, estimated adult cow mortality only exceeded 20% twice, but has exceeded 20% in 7 out of 9 regulatory years between 2004 and 2012 (**Figure 4**). The annual mortality rate was 8% as of April 2016 (Dau 2016b). This may fluctuate substantially throughout the year based on changing local conditions and harvest levels. Dau (2015a) indicates that mortality rates may also change in subsequent management reports as the fate of collared animals is determined, and that these inconsistencies are most pronounced for the previous 1–3 years.

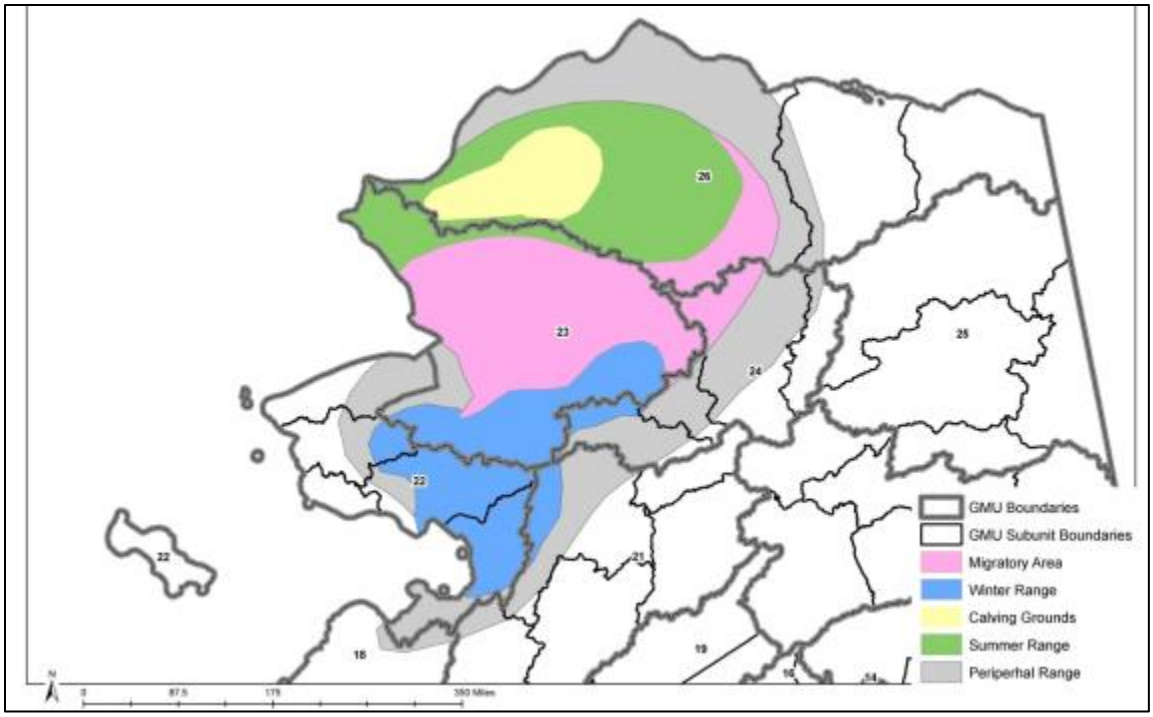
Far more caribou died from natural causes than from hunting between 1992 and 2012 (Dau 2013). Cow mortality remained constant throughout the year, but natural and harvest mortality for bulls spiked during the fall. Predation, particularly by wolves, accounted for the majority of natural mortality (Dau 2013). However as the WACH has declined and estimated harvest has remained relatively stable, the percentage of mortality due to hunting has increased relative to natural mortality. For example, during the period October 1, 2013 to September 30, 2014, estimated hunting mortality was approximately 42% and estimated natural mortality about 56% (Dau 2014). In previous years (1983–2013), the estimated hunting mortality exceeded 30% only once in 1997-1998 (Dau 2013). Additionally, Prichard (2009) and Dau (2015a) suggest that harvest levels and rates of cows can greatly impact population trajectory. If bull:cow ratios continue to decline, harvest of cows may increase, exacerbating the current population decline.

Although icing events likely precipitated the population decline, increased predation, hunting pressure, deteriorating range condition (including habitat loss and fragmentation), climate change, and disease may also be contributing factors (Dau 2015a, 2014). Joly et al. (2007) documented a decline in lichen cover in portions of the wintering areas of the WACH. Dau (2011, 2014) reported that degradation in range condition is not thought to be a primary factor in the decline of the herd because animals have generally maintained good body condition since the decline began. Body condition is assessed on a subjective scale

from 1-5. The fall body condition of adult females in 2015 was characterized as "fat" (mean = 3.9/5) with no caribou being rated as skinny or very skinny (Parrett 2015b). However, the body condition of the WACH in the spring may be a better indicator of the effects of range condition versus the fall when the body condition of the herd is routinely assessed and when caribou are in prime condition (Joly 2015, pers. comm.).



Map 1. Herd overlap and ranges of the WACH, TCH, CACH, and PCH.



Map 2. Range of the WACH.

Table 1. Western Arctic Caribou Herd management levels using herd size, population trend, and harvest rate (WACH Working Group 2011, 2015).

Management and Harvest Level	Population Trend			Harvest Recommendations May Include:
	Declining Low: 6%	**Stable Med: 7%**	**Increasing High: 8%**	
Liberal	Pop: 265,000+	Pop: 230,000+	Pop: 200,000+	• Reduce harvest of bulls by nonresidents to maintain at least 40 bulls: 100 cows • No restriction of bull harvest by resident hunters unless bull:cow ratios fall below 40 bulls:100 cows
	Harvest: 16,000-22,000	Harvest: 16,000-22,000	Harvest: 16,000-22,000	
Conservative	Pop: 200,000-265,000	Pop: 170,000-230,000	Pop: 150,000-200,000	• No harvest of calves • No cow harvest by nonresidents • Restriction of bull harvest by nonresidents • Limit the subsistence harvest of bulls only when necessary to maintain a minimum 40:100 bull:cow ratio
	Harvest: 12,000-16,000	Harvest: 12,000-16,000	Harvest: 12,000-16,000	
Preservative	Pop: 130,000-200,000	Pop: 115,000-170,000	Pop: 100,000-150,000	• No harvest of calves • Limit harvest of cows by resident hunters through permit hunts and/or village quotas • Limit the subsistence harvest of bulls to maintain at least 40 bulls:100 cows • Harvest restricted to residents only, according to state and federal law. Closure of some federal public lands to nonqualified users may be necessary
	Harvest: 8,000-12,000	Harvest: 8,000-12,000	Harvest: 8,000-12,000	
Critical Keep Bull:Cow ratio ≥ 40 Bulls:100 Cows	Pop: < 130,000	Pop: < 115,000	Pop: < 100,000	• No harvest of calves • Highly restrict the harvest of cows through permit hunts and/or village quotas • Limit the subsistence harvest of bulls to maintain at least 40 bulls:100 cows • Harvest restricted to residents only, according to state and federal law. Closure of some federal public lands to nonqualified users may be necessary
	Harvest: 6,000-8,000	Harvest: 6,000-8,000	Harvest: 6,000-8,000	

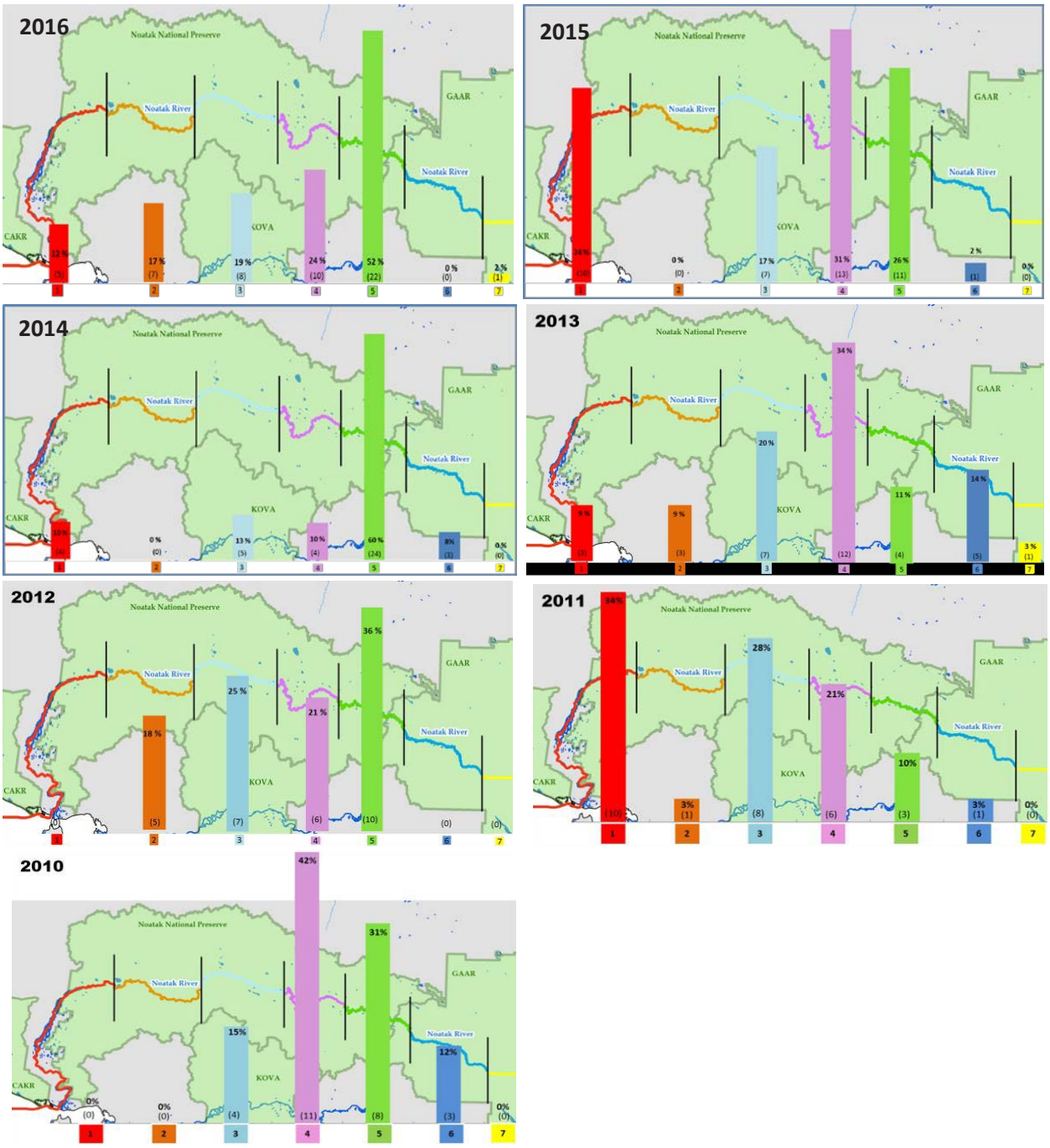


Figure 1. Distribution of caribou crossing the Noatak River during fall. Histograms depict where collared female caribou crossed the Noatak River, generally from north to south, on their fall migration. Relative percentages (top number) and the absolute number (middle number) of caribou are provided. The river is divided into seven (lowest number) color-coded segments which are displayed in the background. The middle five segments are 100 river kilometers long, while the westernmost segment (red) is 200 km (before extending into the Chukchi Sea) and the easternmost (yellow) runs as far east as WAH caribou are known to migrate. The number of caribou with GPS collars ranged from 39-79 caribou/year with later years having more collared caribou than earlier years (Joly and Cameron 2017).

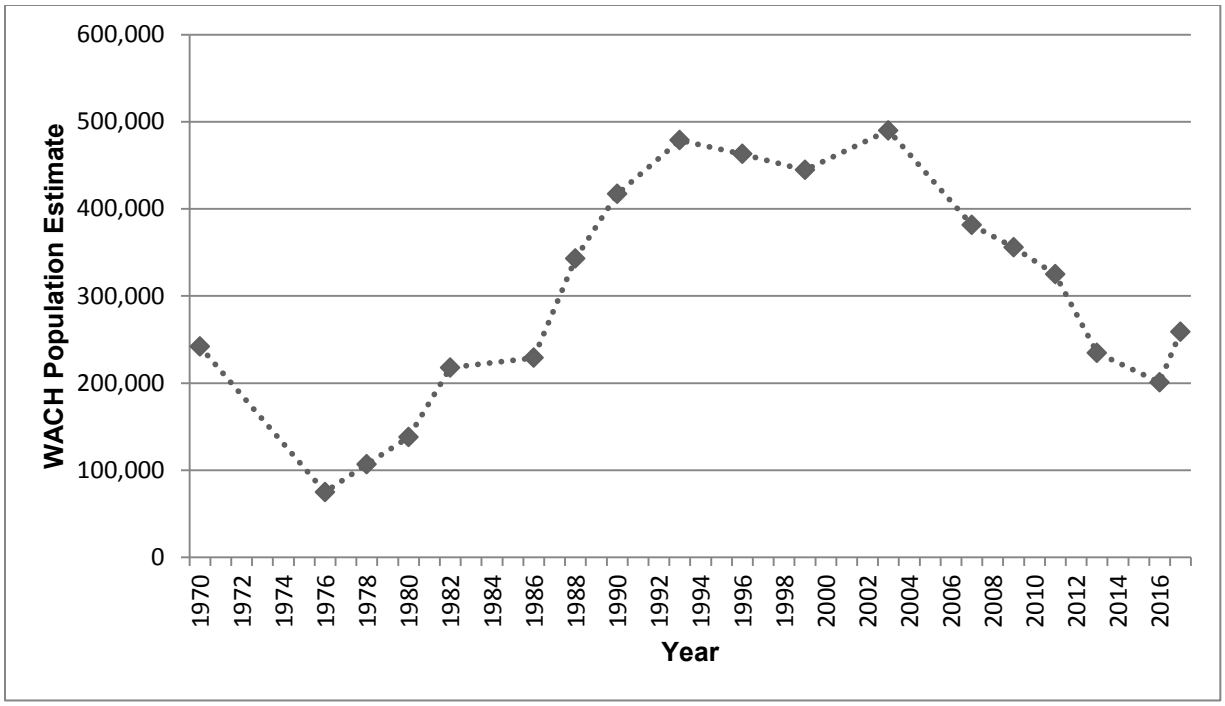


Figure 2. The WACH population estimates from 1970–2015. Population estimates from 1986–2016 are based on aerial photographs of groups of caribou that contained radio-collared animals (Dau 2011, 2013, 2014, Parrett 2016a, Parrett 2017a).

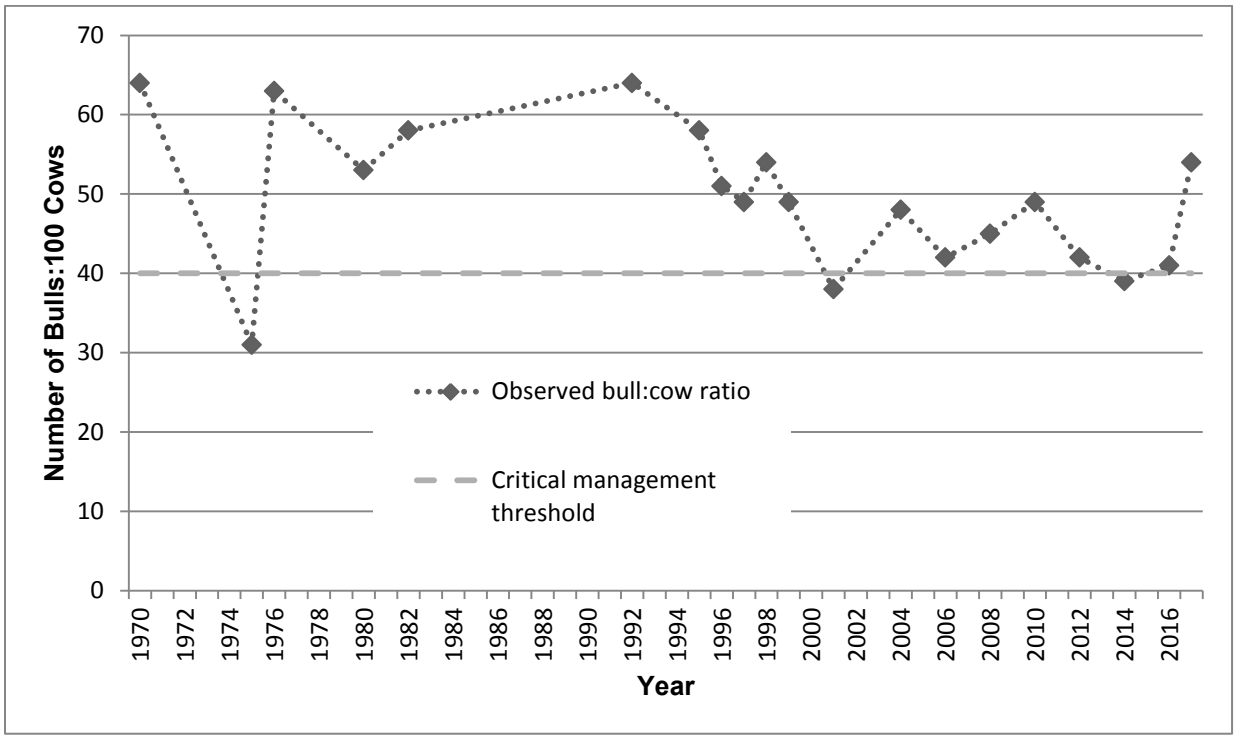


Figure 3. Bull:Cow ratios for the WACH (Dau 2015a, ADF&G 2017c, Parrett 2017a).

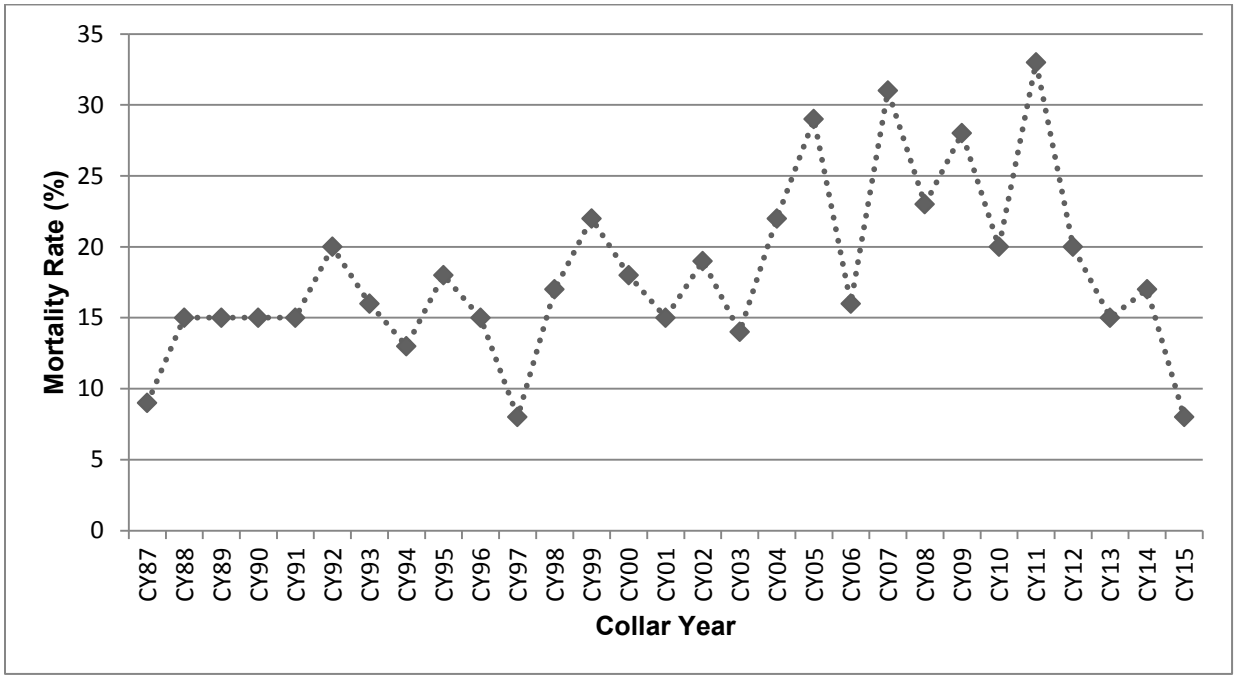


Figure 4. Mortality rate of radio-collared caribou in the Western Arctic caribou herd (Dau 2013, 2015a, 2016b). Collar Year = 1 Oct-30 Sept. 2015 collar year is Oct. 2015-Apr. 2016.

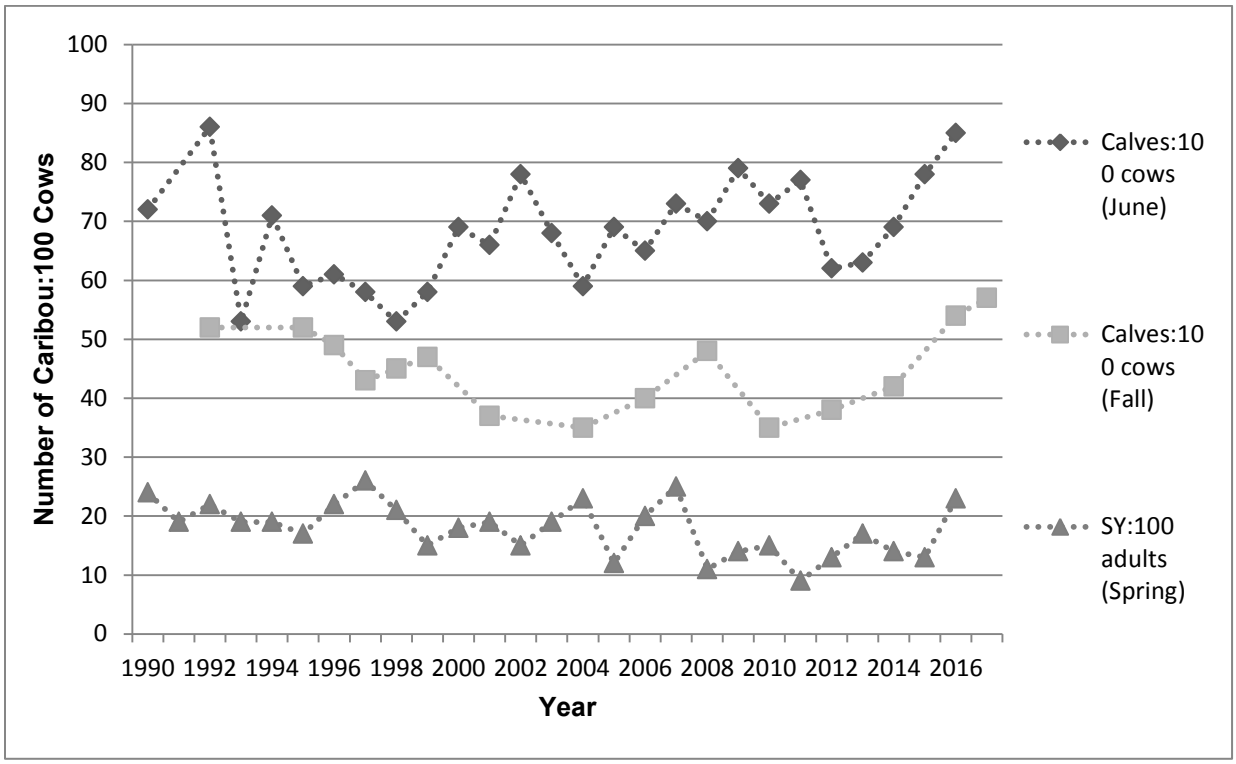


Figure 5. Calf:cow and short yearling (SY):adult ratios for the WACH (Dau 2013, 2015a, 2016a, ADF&G 2017c, Parrett 2017a). Short yearlings are 10-11 months old caribou.

Teshekpuk Caribou Herd

The TCH calving and summering areas overlap with the eastern portion of the National Petroleum Reserve–Alaska. Most of the TCH moves toward Teshekpuk Lake in May to calve in early June. The primary calving grounds of the TCH (approximately 1.8 million acres) occur to the east, southeast and northeast of Teshekpuk Lake (**Map 1**, Person et al. 2007, Wilson et al. 2012).

From late June through July cows and bulls move to the Beaufort Sea coast from Dease Inlet to the mouth of the Kogru River (Utqiagvik to the Colville Delta), around the north and south side of the Teshekpuk Lake, and the sand dunes along the Ikpikpuk River to seek relief from insects (Carroll 2007, Parrett 2007). The narrow corridors of land to the east and northwest of the Teshekpuk Lake are important migratory corridors to insect relief areas (Yokel et al. 2009). River corridors are also used more during periods of insect harassment (Parrett 2015c).

Fall migration routes are variable due in part to highly variable wintering locations. Some TCH caribou are classified as non-migratory due to a lack of directional, seasonal movements. A substantial portion of the TCH remains on the coastal plain during the winter while other common wintering locations include the central Brooks Range and river drainages in Unit 23 (Parrett 2015c).

The State manages the TCH to provide for subsistence and other hunting opportunities on a sustained yield basis, ensure that adequate habitat exists, and provide for viewing and other uses of caribou (Parrett 2013). Specific State management objectives for the TCH are as follows (Parrett 2013):

- Attempt to maintain a minimum population of 15,000 caribou, recognizing that caribou numbers naturally fluctuate.
- Maintain a harvest level of 900–2,800 caribou using strategies adapted to population levels and trends.
- Maintain a population composed of least 30 bulls per 100 cows.
- Monitor herd characteristics and population parameters (on an annual or regular basis).
- Develop a better understanding of the relationships and interactions among North Slope caribou herds.
- Encourage cooperative management of the herd and its habitat among State, Federal, and local entities and all users of the herd.
- Seek to minimize conflicts between resource development and the TCH.

The TCH population is estimated from aerial photocensuses and using methods described by Rivest et al. (1998). Between 1984 and 2008, the TCH population increased from an estimated 18,292 caribou to 68,932 caribou. Since 2008, the TCH population declined 40% to an estimated 41,542 caribou in 2015 (**Figure 6**, Parrett 2015c, 2015d).

Between 1991 and 2016, the TCH bull:cow ratio averaged 53 bulls:100 cows, although surveys were not conducted every year (**Figure 7**). However, since 1993, the bull:cow ratio has exhibited a downward

trend. The 2016 bull:cow ratio (28 bulls:100 cows) was the lowest ratio since 1991 and is below management objectives of 30 bulls:100 cows (Parrett 2013, 2015c, ADF&G 2017c).

TCH calf production is measured as the percent of collared cows with calves at the end of June calving surveys. Between 1999 and 2016, calf production averaged 56%. However, from 2006-2014, calf production exhibited a declining trend, bottoming out at 16% in 2014. Production increased substantially in 2016 to 81% (**Figure 8**, Parrett 2015c, ADF&G 2017c).

Between 2009 and 2016, fall calf:cow ratios averaged 33 calves:100 cows and exhibited an increasing trend (**Figure 9**, Parrett 2015c, ADF&G 2017c). Over the same time period, spring SY:adult ratios averaged 16.5 SY:100 adults. This ratio was static between 2009 and 2014 (13-15 SY:100 adults), but increased substantially in 2016 to 29 SY:100 adults (**Figure 9**, Parrett 2015c, ADF&G 2017c).

The mortality rate for the TCH is measured from radio-collared cows by collar year (CY). CY is defined as July 1-June 30. Between CY 2000/01 and CY 2015/16, the TCH mortality rate averaged 16%. However, the highest mortality rates ever recorded for this herd occurred in 2012 (32%) and 2013 (28%), which contributed substantially to the current decline (**Figure 10**, Parrett 2015c, ADF&G 2017c). Mortality decreased substantially in CY 2015/16 to only 8% (ADF&G 2017c).

Mean calf weights from 2011-2014 were among the lightest weights ever recorded in North America (Parrett 2015c). Similarly, the 2014 parturition (calving) rate was only 28%, which is very low for caribou. These metrics suggest poor nutrition may be affecting the TCH (Parrett 2015c, ADF&G 2017c). However, in 2016, both metrics improved (ADF&G 2017c).

From 2011-2013, ADF&G conducted a TCH calf survival study. Survival on the calving grounds and through the summer was high (~80%) while over winter survival and recruitment into the herd was low (~25-40%). The primary causes of calf mortality included predation and starvation. Starvation was especially important spatially as calves that wintered in the Brooks Range had higher survival than calves wintering on the North Slope (ADF&G 2017c).

While recent population estimates (2013-2015) suggest that the TCH population may be stabilizing, demographic metrics (i.e. parturition and mortality rates) indicate that the population was likely still declining during those years. It is possible that the 2013 population estimate was an underestimate (Parrett 2015d). However, improved herd performance in 2016 (i.e. recruitment, calf production, calf weight) suggest that the TCH population may be stabilizing or declining at a slower rate (ADF&G 2017c).

Habitat

Caribou feed on a wide variety of plants including lichens, fungi, sedges, grasses, forbs, and twigs of woody plants. Arctic caribou depend primarily on lichens during the fall and winter, but during summer they feed on leaves, grasses and sedges (Miller 2003).

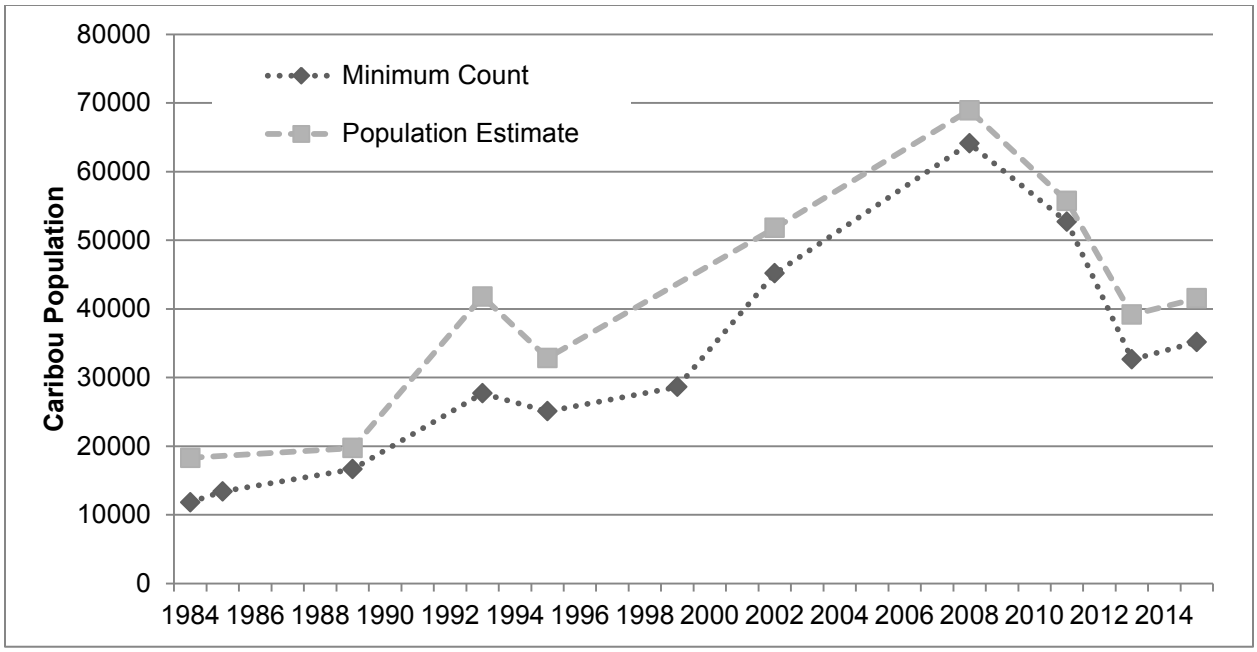


Figure 6. Minimum counts and population estimates of the Teshekpuk Caribou Herd from 1980-2015. Population estimates are based on aerial photographs of groups of caribou that contained radio–collared animals (Parrett 2011, 2013, 2015a, 2015d).

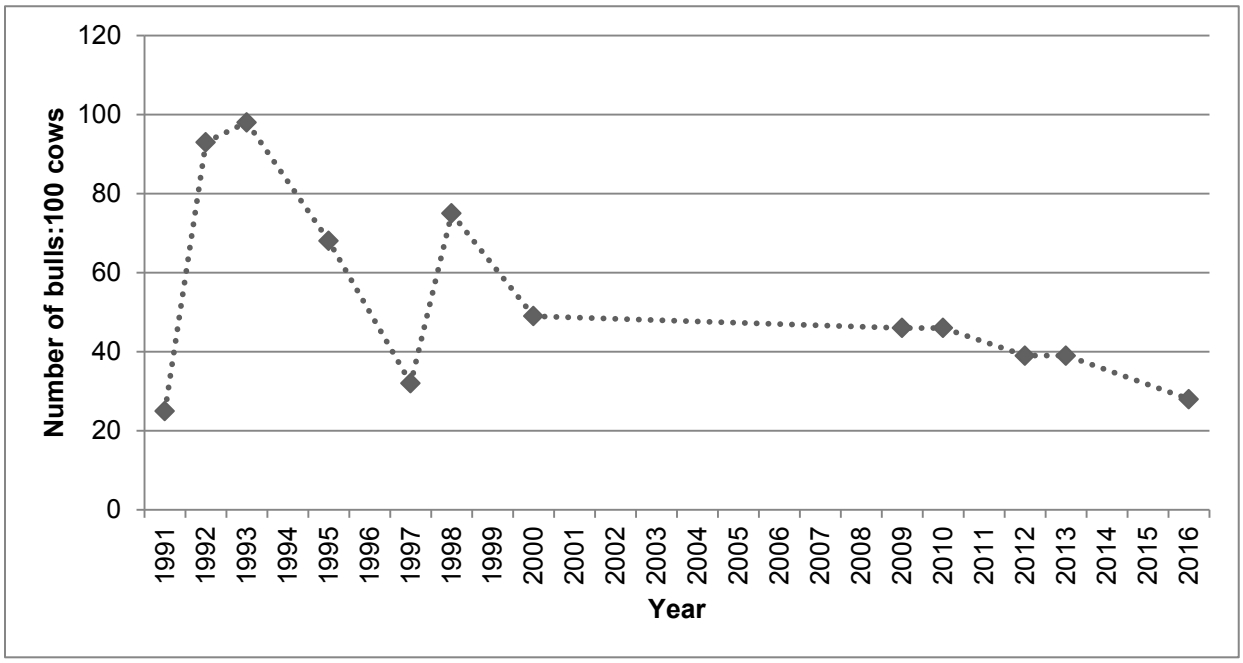


Figure 7. Bull:cow ratios of the Teshekpuk Caribou Herd. From 1991-2000, surveys were conducted in July. From 2009 onward, surveys were conducted in Nov. (Parrett 2013, 2015c, ADF&G 2017c).

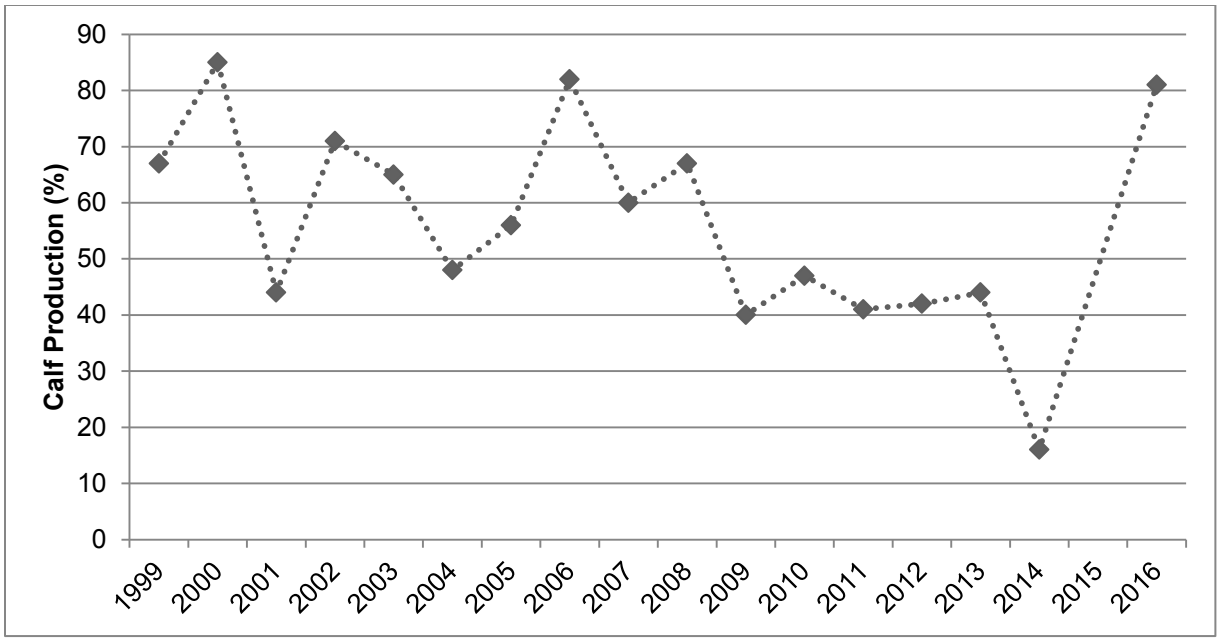


Figure 8. Teshekpuk caribou herd calf production (% of collared cows with calves) (Parrett 2015c, ADF&G 2017c).

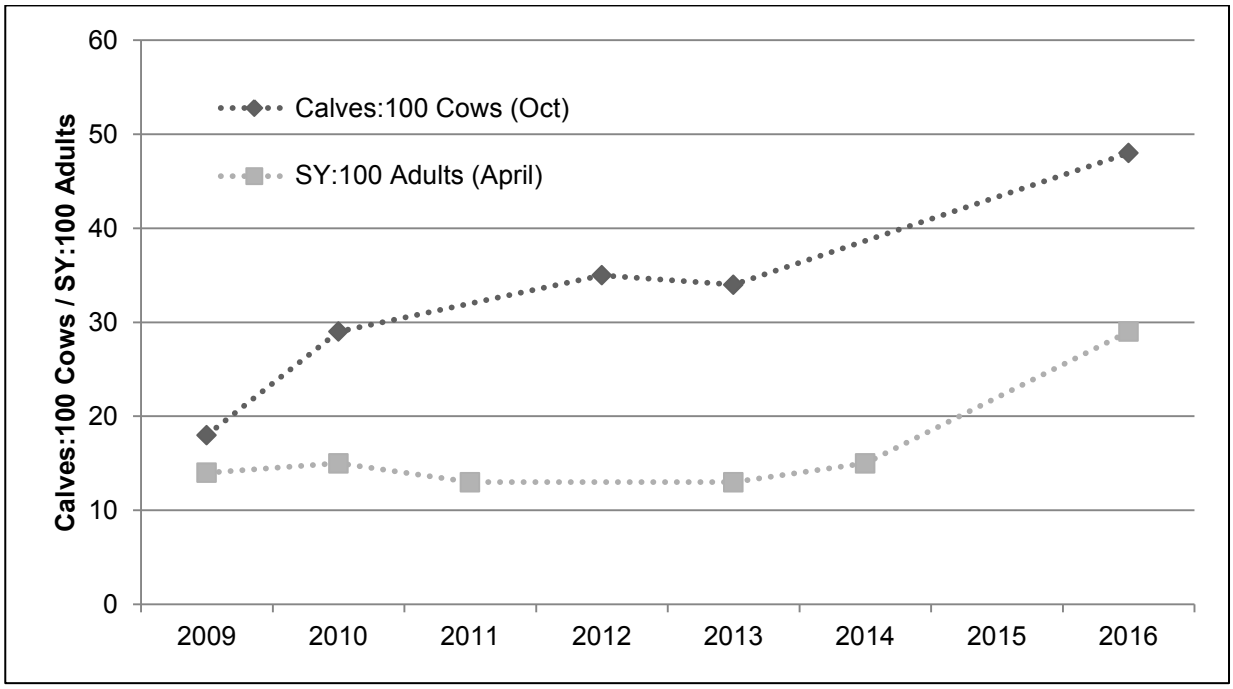


Figure 9. Fall calf:cow and spring short yearling (SY):adult ratios for the Teshekpuk Caribou Herd (Parrett 2015c, ADF&G 2017c). Short yearlings are 10-11 month old caribou.

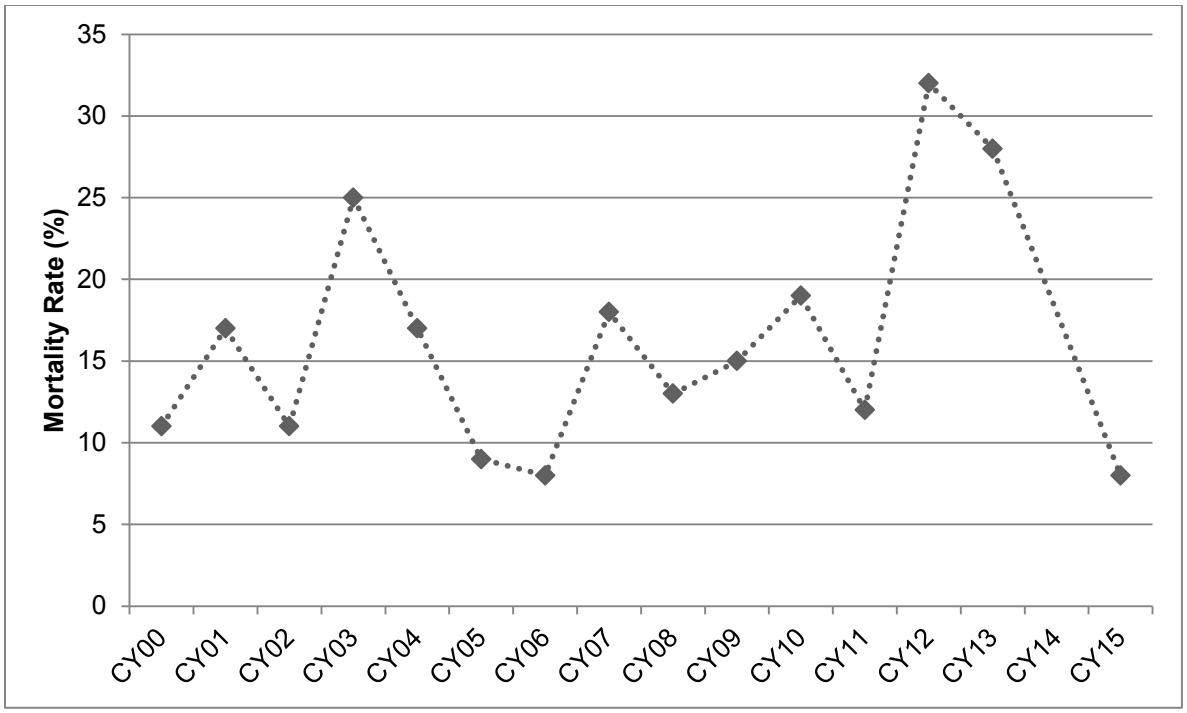


Figure 10. Annual mortality rate of radio-collared cows in the TCH (Parrett 2015c, ADF&G 2017c). Collar year (CY) is defined as July 1-June 30.

Cultural Knowledge and Traditional Practices

Meeting the nutritional and caloric needs of Arctic communities is vitally important and is the foundation of subsistence activities. Still, the meaning of subsistence extends far beyond human nutrition for Alaska's native peoples. Holthaus (2012) describes subsistence as the base on which Alaska Native culture establishes its identity though "philosophy, ethics, religious belief and practice, art, ritual, ceremony, and celebration." Fienup-Riordan (1990) also describes subsistence in terms of the cultural cycles of birth and death representing the close human relationship and reciprocity between humans and the natural world. Concerning caribou specifically, Ms. Esther Hugo – a lifelong resident of Anaktuvuk Pass - describes the human-caribou relationship as a "way of life".

Caribou have been an important resource for the Iñupiat of the Seward Peninsula, Northwest Arctic, and North Slope regions for thousands of years. Caribou bones dating from 8,000 to 10,000 years ago have been excavated from archeological sites on the Kobuk River (ADF&G 1992). Foote (1959, 1961) wrote about caribou hunting in the Noatak region forty years ago, noting that life would not be possible in Noatak without this source of meat. Caribou were traditionally a major source of both food and clothing and continues today to be the most important land animal consumed in many communities (Burch 1984, 1994, 1998, ADF&G 1992).

Historically, during fall and spring caribou migrations, people built "drive fences" out of cairns, bundles of shrubs, or upright logs. These fences were sometimes several miles long and two to three miles wide. Ideally, the closed end of the fence crossed a river, and caribou were harvested while crossing the river and

retrieved later; or the fence would end in a corral where caribou were snared and killed with spears (Burch 2012). Burch (2012:40) notes, "The landscape of Northwest Arctic, especially in hills and mountains, is littered with the remains of drive fences that were in every stage of construction when they were abandoned."

The WACH population declined rapidly beginning in the late 1800s. At its low point, its range had shrunk to less than half its former size. Famine ensued, primarily due to the absence of caribou. In the early 1900s, reindeer were introduced to fill the need for food and hides. The WACH began to rebound in the 1940s. Currently, among large terrestrial mammals, caribou are among the most abundant; however, the population in any specific area is subject to wide fluctuations from year to year as caribou migration routes change (Burch 2012).

Caribou were traditionally harvested any month of the year they were available. The objective of the summer hunt was to obtain the hides of adult caribou with their new summer coats. They provided the best clothing material available to the Iñupiat. The fall hunt was to acquire large quantities of meat to freeze for winter (Burch 1994). The timing and routing of migration determined caribou hunting. Hunting seasons change from year to year according to the availability of caribou (ADF&G 1991). The numbers of animals and the duration of their stays varies from one year to the next (Burch 1994) and harvest varies from community to community depending on the availability of caribou.

Caribou can be harvested in large numbers, when available, and can be transported back to villages by boat before freeze-up. Hunters search for caribou and attempt to intercept them at known river crossings. Some villages such as Anaktuvuk Pass settled specifically in locations where caribou migrate through, and residents of these communities await the annual arrival of caribou (NS RAC 2017). Ideally, caribou harvesting occurs when the weather is cool enough to prevent spoilage of meat. If not, meat is frozen for later use. Prior to freeze-up, bulls are preferred because they are fatter than cows (Braem et al. 2015, Georgette and Loon 1993).

Small groups of caribou that have over-wintered may be taken by hunters in areas that are accessible by snowmachine. Braem et al. (2015:141) explain, "Hunters harvest cows during the winter because they are fatter than bulls . . . . Caribou harvested during the winter can be aged completely without removing the skin or viscera . . . . Then in the spring, the caribou is thawed. Community members cut it into strips to make dried meat, or they package and freeze it." In spring, caribou start their northward migration. The caribou that are harvested are "lean and good for making dried meat (*paniqtuq*) during the warm, sunny days of late spring" (Georgette and Loon 1993:80).

Harvest History

Western Arctic Caribou Herd

The State manages the WACH on a sustained yield basis (i.e. managing current harvests to ensure future harvests). The harvestable surplus when the WACH population is declining is calculated as 6% of the estimated population (WACH working group 2011, Parrett 2017b, pers. comm.). In recent years, as the WACH population has declined, the total harvestable surplus for the WACH has also declined (Dau 2011,

Parrett 2015a). In 2016, the WACH harvestable surplus was 12,056 caribou (6% of 200,928 caribou). Comparatively, the harvestable surplus was 14,085 caribou in 2013 when the WACH numbered approximately 234,757 caribou. While there is substantial uncertainty in harvestable surplus estimates, it is likely that sustainable harvest will soon be exceeded (Parrett 2015a, Dau 2015a). Of particular concern is the overharvest of cows, which has probably occurred since 2010/11 (Dau 2015a). Dau (2015a:14-29) states, "even modest increases in the cow harvest above sustainable levels could have a significant effect on the population trajectory of the WACH."

Harvest from the WACH, which has remained fairly consistent since 1990, now represents a larger proportion of the annual mortality. This is one of the factors that prompted the BOG and the Board to enact restrictions on WACH harvest in March 2015 and April 2016, respectively.

Caribou harvest by local hunters is estimated from community harvest surveys, if available, and from models developed by A. Craig with ADF&G's Division of Wildlife Conservation, Region V. These models incorporate factors such as community size, availability of caribou, and per capita harvests for each community (Dau 2015a). In 2015, Craig's models replaced models developed by Sutherland (2005), resulting in changes to local caribou harvest estimates from past years. While Craig's models accurately reflect harvest trends, they do not accurately reflect actual harvest numbers (Dau 2015a). (Note: no model accurately reflects harvest numbers). This analysis only considers the updated harvest estimates using Craig's new model as cited in Dau (2015a). Caribou harvest by nonlocal residents and nonresidents are based on harvest ticket reports (Dau 2015a). Local and nonlocal hunters are defined in ADF&G management reports as living within and outside the range of the WACH, respectively.

From 2000–2014, the average annual estimated harvest from the WACH was 11,984 caribou, ranging from 10,666-13,537 caribou per year (Dau 2015a, **Figure 11**). While these harvest estimates are within or below the conservative harvest level specified in the WACH Management Plan (**Table 1**), they approach or exceed the current harvestable surplus. Additionally, harvest estimates do not include wounding loss, which may be hundreds of caribou (Dau 2015a).

Local hunters account for approximately 95% of the total WACH harvest. Residents of Units 22, 23, and 26A account for approximately 17%, 58%, and 10% of the total WACH harvest, respectively (**Figure 12**, ADF&G 2017c). Comparison of caribou harvest by community from household survey data (**Appendix A)** with **Figure 1** demonstrates that local community harvests parallel WACH availability rather than population trends. For example, Ambler only harvested 325 caribou when the WACH population peaked in 2003, but harvested 685 caribou in 2012 when most of the WACH migrated through western Unit 23. Similarly, Noatak only harvested 66 caribou in 2010 when zero GPS-collared caribou migrated through eastern Unit 23. Harvest increased substantially the following year when 37% of the GPS-collared caribou (and thus, a greater proportion of the WACH) migrated through eastern Unit 23.

From 2001-2013, total nonlocal WACH harvest averaged 598 caribou per year (**Figure 13**). Most (~76%) nonlocal WACH harvest occurs in Unit 23. In recent years (2012–2014), numbers of nonlocal hunters are slightly lower, partially because transporters have had to travel further to find caribou and thus, could not book as many clients (Dau 2015a).

From 1999-2013, 72% of nonlocal hunters on average accessed the WACH by plane. Most nonlocal harvest (85-90%) occurs between Aug. 25 and Oct. 7. In contrast, most local, subsistence hunters harvest WACH caribou whenever they are available using boats, 4-wheelers, and snowmachines (Dau 2015a, Fix and Ackerman 2015). In Unit 23, caribou are generally available during fall migration. The temporal concentration of nonlocal hunters during times of intensive subsistence hunting is responsible for user conflicts in Unit 23 (Dau 2015a). Commercially licensed transporters and guides assist approximately 60% and 10% of nonlocal hunters in Unit 23, respectively (Unit 23 Working Group 2016).

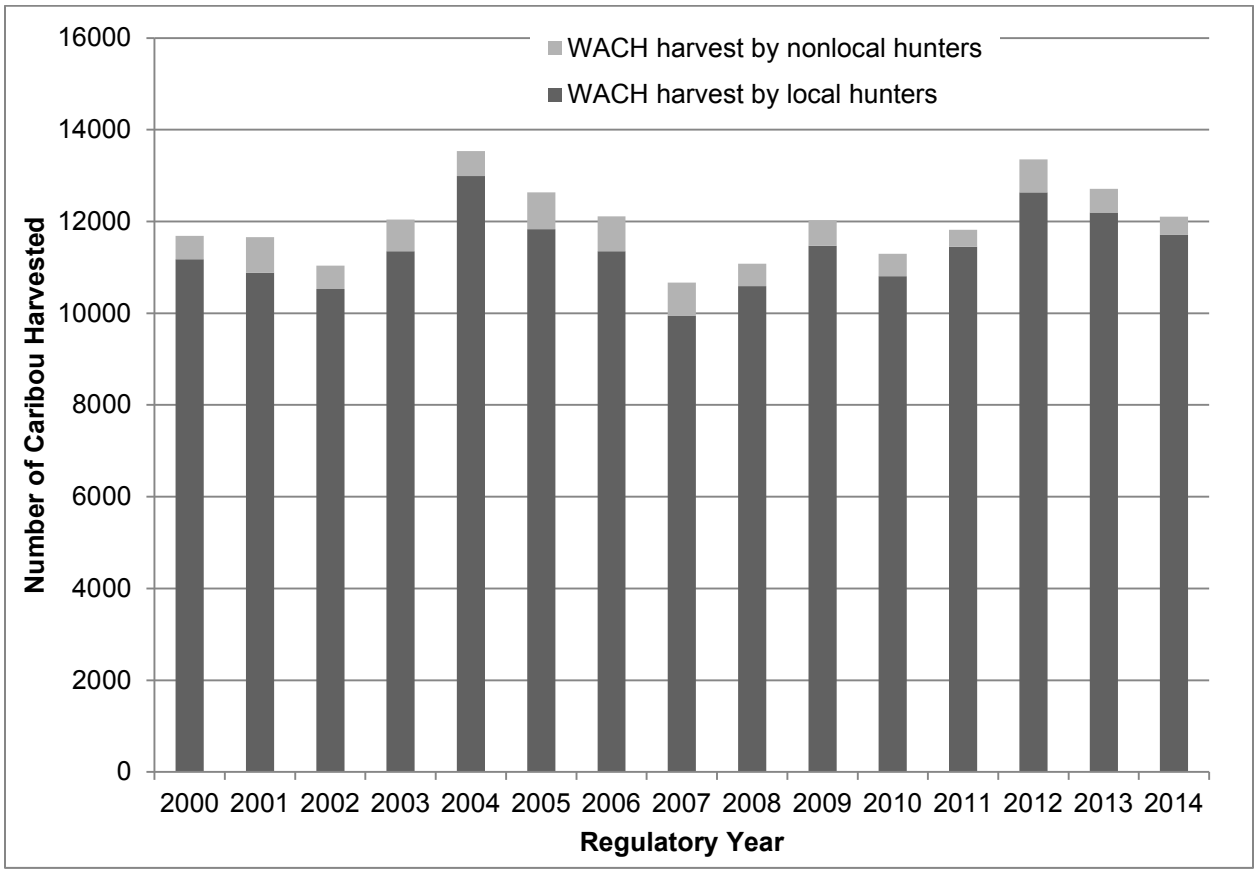


Figure 11. Estimated number of caribou harvested from the WACH by residency (Dau 2015a).

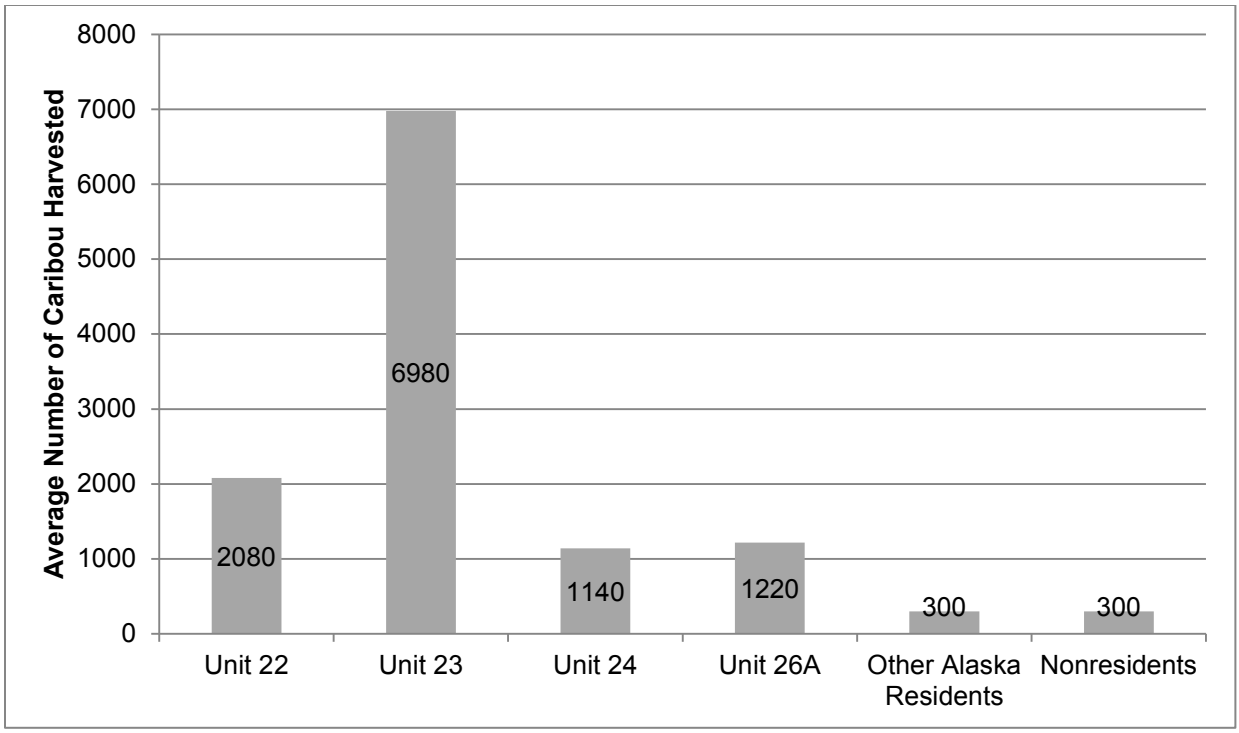


Figure 12. Average number of caribou harvested by unit and residency from 1998-2015 (ADF&G 2017c).

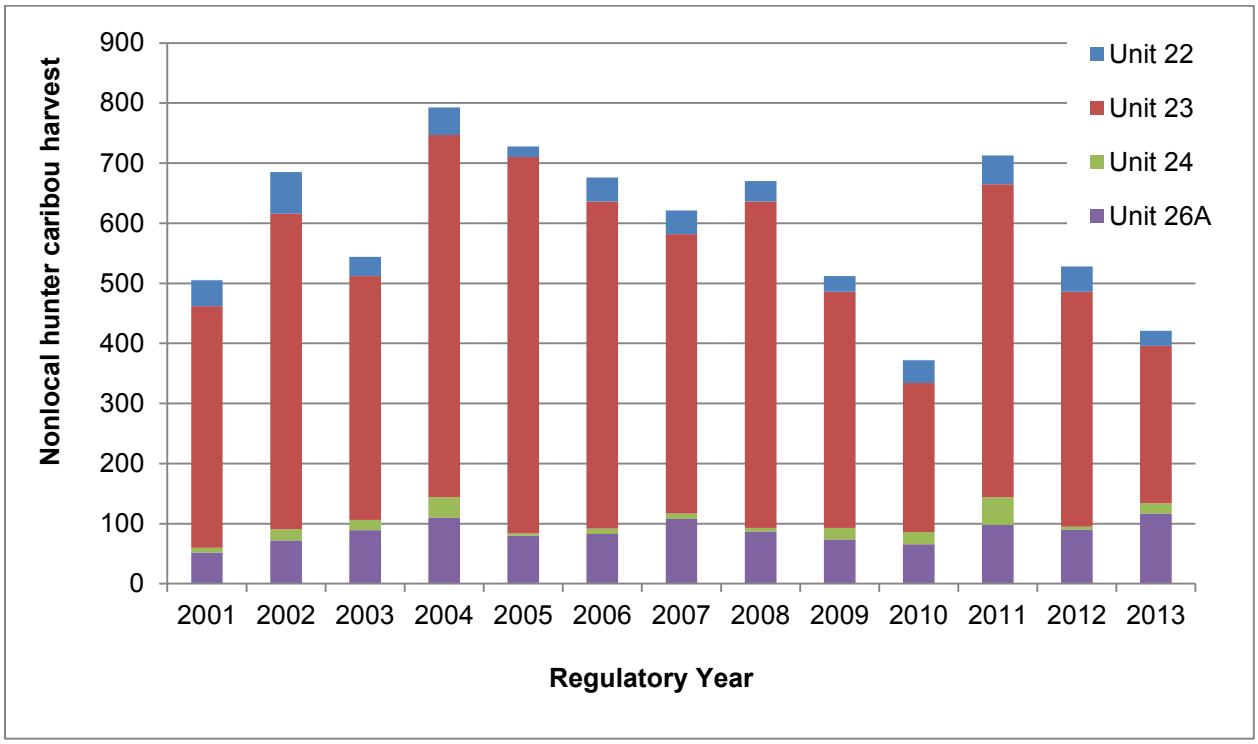


Figure 13. Nonlocal WACH harvest by unit (Dau 2015a, Dau 2013). Unit 21D was not included as only 0-2 caribou have been harvested from this unit each year.

Teshekpuk Caribou Herd

The State also manages the TCH on a sustained yield basis. The current TCH harvestable surplus is 2,500 caribou at a 6% harvest rate. However, if the herd declines below 35,000, the recommended harvest rate will decrease to 4-5% (ADF&G 2017c).

Estimating harvest from the TCH is difficult due to lack of harvest data, annual variation in community harvest survey effort and location, widely varying wintering distribution of the TCH, and overlap between herds within village harvest areas (Parrett 2015c). The recent (1984-2016) hunter registration and reporting system was not effective in estimating TCH harvest by local communities as few local hunters registered with ADF&G (Parrett 2015c). Therefore, local harvest from the TCH is estimated from community harvest surveys and extrapolated from long-term averages of per-capita caribou harvest and community population size (Parrett 2015c, ADF&G 2017d). Some community harvest estimates can be apportioned by herd using community harvest survey and satellite collared caribou data (ADF&G 2017d, 2017e).

Nonlocal resident harvest estimates are derived from harvest ticket reports (Parrett 2015c, ADF&G 2017d). Ten percent of the harvest reported from harvest tickets in Unit 26A is apportioned to the TCH while the remaining 90% is attributed to the WACH (ADF&G 2017d, 2017e). Local and nonlocal residents are considered those hunters living within and outside the range of the TCH, respectively.

TCH harvest primarily occurs in Unit 26A. While some harvest of TCH caribou does occur in Units 23, 24, and 26B, it is considered insignificant due to the small percentage of TCH caribou relative to WACH and CACH caribou in those units (Parrett 2015c, ADF&G 2017d). Local residents account for the vast majority of the TCH harvest. While nonlocal harvest in Unit 26A is low (~100 caribou per year), 90% of that harvest is apportioned to the WACH as it mostly occurs in southern Unit 26A (Parrett 2015c, ADF&G 2017e).

From 2002-2014, the estimated TCH harvest averaged 3,022 caribou (ADF&G 2017e). While there is much uncertainty in this estimate, it exceeds the current harvestable surplus and represents a 7% harvest rate. Harvest by local residents averaged 3,013 caribou, comprising 99.7% of the TCH harvest (**Table 2**). Harvest by nonlocal Alaska residents and nonresidents averaged 4.7 caribou and 4.5 caribou, respectively (ADF&G 2017d, 2017e).

The proportion of caribou harvested from a particular herd varies by community and year depending on village location, weather, terrain, caribou migration routes, fuel costs, etc. (**Table 2**). Most of the caribou harvested by Utqiagvik, Atqasuk, and Nuiqsut residents is apportioned to the TCH while a lesser proportion of the harvest by Wainwright and Anaktuvuk Pass residents is usually apportioned to the TCH as these communities are on the herd's peripheral range. Harvest of TCH caribou by other communities is considered insignificant due to the overwhelming presence of caribou from other herds (ADF&G 2017d, 2017e).

Local residents primarily hunt caribou from July-Oct. by boat or ATV. Nonlocal hunters are concentrated in August and September and primarily use aircraft to access caribou (Parrett 2015c).

Table 2. Percent of caribou harvest by local communities apportioned to the Teshekpuk Caribou Herd and average annual (2002-2014) TCH harvest by community (ADF&G 2017e).

Community	% Harvest from the TCH			Average TCH Harvest (# caribou/year)
	2002-2007	2011-2012	2014	
Atqasuk	84%	98%	86%	186.5
Utqiagvik	66%	97%	93%	2015.8
Nuiqsut	77%	77%	45%	359.0
Wainwright		60%		246.1
Anaktuvuk Pass	20%	30%	38%	205.5
Total				3012.9

Effects of the Proposal

If this proposal is adopted, registration permits will be required to hunt caribou in Units 22, 23, and 26A. This would align Federal and State reporting requirements, which would reduce regulatory complexity and user confusion. The difficulty in obtaining, and the inaccuracy of caribou harvest estimates for Units 22, 23, and 26A have presented continual challenges for herd management and conservation (Georgette 1994, Parrett 2015c, ADF&G 2017d). Registration permits would provide better harvest monitoring and herd management, which is particularly important given the current population declines and dwindling harvestable surpluses.

However, for this regulation to be adopted, concurrence would be needed from the State to allow Federally qualified subsistence users to use a State registration permit while hunting under Federal regulations. Requiring registration permits may burden Federally qualified subsistence users who would have to go into a licensed vendor and register. It is currently unclear whether there would be vendors in every village or whether permits could be obtained on-line as 2017 is the first year permits are required under State regulations. However, many rural residents in the region do not have internet access. If there are no vendors in a village, obtaining a registration permit may be a more substantial burden on residents of that village.

No biological impacts are expected from this proposal. While compliance with a new reporting system will likely take time, more accurate harvest data provided by registration permits could benefit the caribou resource and subsistence use via more informed herd management and hunting regulations.

OSM CONCLUSION

Support Proposal WP18-48; and **Take No Action** on Proposal WP18-49.

Justification

Requiring registration permits would improve harvest data and herd management, which is particularly important during periods of population declines. Additionally, adoption of this proposal would reduce regulatory complexity and user confusion by aligning Federal and State reporting requirements for caribou in Units 22, 23, and 26A. However, concurrence from the State to allow Federally qualified subsistence users to use a State registration permit while hunting under Federal regulations would be needed.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Western Interior Alaska Subsistence Regional Advisory Council

Support WP18-48. **Take No Action** on WP18-49. The Council noted that providing the harvest data through the registration permit ensures that managers have that useful information and helps to protect the allocation of the resource to Federally qualified subsistence users in the future.

Seward Peninsula Subsistence Regional Advisory Council

Support WP18-48. **Take No Action** on WP18-49. The Council agreed that this proposal may improve reporting and reduce confusion. The Council was assured that the State would manage the registration hunt, and that permits would be valid on both State and Federal lands, and outreach and education was already underway to encourage public participation. The Council took no action on WP18-49 due to its similarity to WP18-48.

Northwest Arctic Subsistence Regional Advisory Council

Oppose WP18-48/49. The Council expressed concerns regarding the potential burden on Federally qualified subsistence users and the feasibility for implementing the proposal. The Council noted the potential for Federally qualified subsistence users to experience difficulty in obtaining hunting registration permits. The Council requested an update from the agencies on how communities would get permits and report their harvests. The Council also emphasized concern about Federally qualified subsistence users getting in trouble if they do not have the correct permit.

North Slope Subsistence Regional Advisory Council

Support WP18-48. **Take No Action** on WP18-49. Overall the Council voted to support a registration permit in order to gain more data and insight into caribou harvest in support of conservation management efforts. It was recognized that the Federal government could use more information for informed management, and a State registration permit hunt for caribou was recently enacted but there was still a reluctance to give up local control on the process of information gathering related to harvest. The Council expressed concern over duplication of effort in harvest data collection and the additional imposition placed upon users. It was noted that the North Slope Borough Wildlife Department and Inupiat Community of the Arctic Slope have already been involved in subsistence harvest data collection with communities in the region.

There was a bit of discussion expressing concern about impact on younger hunters, but it was made clear that those under 10 can hunt with an adult, and that starting at 10 a hunter could get their own permit and hunt without a license until 18. However, the permit is at no cost and hopefully it will provide good information to managers and better inform management of the caribou herds and subsistence needs. In particular there was an interest in better understanding community harvest needs and what the harvest is in

low years when the caribou are not around. The Council requested that informational outreach and support be provided to communities to assist with the new permitting process and stressed that this is a critical part of supporting this proposal.

Concern was also expressed for communities like Wainwright specifically that have "super hunters" - individuals that hunt to provide for many families in the community and for those that are not able to hunt such as widows and elders. A permit system would undermine these traditional ways of hunting and those few hunters that provide for much of the community in this case.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee (ISC) found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

The ISC noted the North Slope Council's concern in their recommendation to the Board about "individuals that hunt to provide for many families in the community and for those that are not able to hunt such as widows and elders" who may not be able to continue these traditional practices using a state registration permit. While State proxy hunting can occur only under specific circumstances, Federal regulations allow federally qualified subsistence users to designate another qualified subsistence user to take fish and wildlife on his or her behalf using the Federal Designated Harvester Permit. The Federal Designated Harvester must be a Federally qualified subsistence user, have the other user's State registration permit and a Federal Designated Harvester Permit in their possession while hunting. The Federal Designated Harvester may hunt for an unlimited number of other users with state registration permits but, as per Federal regulation, may have no more than two harvest limits in possession at any one time. If this proposal is adopted and state registration permits are required, the availability of Federal Designated Harvester Permits should be publicized widely to ensure awareness of this opportunity under the Federal program.

Relevant Federal Regulations

§100.10 (d)(5)(ii) A qualified subsistence user may designate another qualified subsistence user (by using the Federal Designated Harvester Permit) to take fish and wildlife on his or her behalf;

§100.25 Subsistence taking of fish, wildlife, and shellfish: general regulations.

(a) *Definitions.* The following definitions apply to all regulations contained in this part:

Designated hunter or fisherman means a Federally qualified hunter or fisherman who may take all or a portion of another Federally qualified hunter's or fisherman's harvest limit(s) only under situations approved by the Board.

(e) *Hunting by designated harvest permit.* If you are a Federally qualified subsistence user (recipient), you may designate another Federally qualified subsistence user to take deer, moose, and caribou, and in Units

1-5, goats, on your behalf unless you are a member of a community operating under a community harvest system or unless unit-specific regulations in §100.26 preclude or modify the use of the designated hunter system or allow the harvest of additional species by a designated hunter. The designated hunter must obtain a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for any number of recipients but may have no more than two harvest limits in his/her possession at any one time except for goats, where designated hunters may have no more than one harvest limit in possession at any one time, and unless otherwise specified in unit-specific regulations in §100.26.

ALASKA DEPRTMENT OF FISH AND GAME COMMENTS

Wildlife Proposals WP18-48 and WP18-49: These proposals, submitted by the Western Arctic Caribou Herd Working Group (WP18-48) and Louis A. Cusack (WP18-49), would require hunters to obtain state registration permits before hunting on federal public lands in Units 22, 23 and 26A. This would align federal and state regulations for caribou hunting in these units.

Introduction: In their March 2016 and January 2017 meetings, the Alaska Board of Game (BOG) changed the regulations for hunters hunting caribou in Units 22, 23 and 26A to require all hunters to obtain either a RC800 registration permit (Unit 22) or RC907 registration permit (Units 23 and 26A) to hunt caribou. This proposed change was discussed with the Western Arctic Herd Working group on several occasions.

ADF&G has primarily relied upon permits in the Nome area (Unit 22), and community-based harvest assessment surveys outside the Nome area (units 23 and 26A) to understand WAH caribou harvest.

Impact on Subsistence Uses: ADF&G recognizes that a new permit requirement could be a burden to subsistence hunters with little to no access to state fish and game services. Since the BOG has adopted registration permits, ADF&G has been actively working to ensure hunters have the appropriate registration permit paperwork. ADF&G added vendors and made visits to villages to issue permits so as to ensure minimal impact on subsistence users.

Impact on Other Uses: There would be no effect on non-federally qualified users.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for the Western Arctic and Teshekpuk Lake caribou herds in Units 21, 22, 23, 24, and 26.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for Western Arctic and Teshekpuk Lake caribou is 8,000-12,000 animals.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
Unit 22	twenty caribou total, up to 5 per day	Varies (RC800)	
Unit 22A north of Golsovia River	1 Bull calves may not be taken		Aug 1 – September 30 (Harvest ticket)
Unit 22Aremainder 22B, 22C. 22D, 22E	1 Bull calves may not be taken		may be announced (Harvest ticket)
Units 23 & 26A	5 per day (varies by season and sex) calves may not be taken	Varies (RC907)	
Units 23 & 26A	1 Bull calves may not be taken		July 15 – September 30 (Harvest ticket)

Special instructions:

For RC800:

- PERMIT AVAILABILITY: Permits available online, at the Nome ADF&G office, and license vendors within Unit 22 beginning June 15.
- WHEN AND WHERE: Unit 22A, north of Golsovia River drainage; remainder of 22B; 22D, in the Kuzitirin River drainage (excluding the Pilgrim River drainage) and the Agiapuk River drainages; and 22E, east of and including Sanaguich River drainage:
    - Bulls: July 1 - June 30, Cows: July 1 - March 31
    - BAG LIMIT: Five (5) caribou per day, calves may not be taken; annual bag limit of 20 caribou.
- Unit 22B, west of Golovnin Bay, west of the west banks of Fish and Niukluk rivers below the Libby River, and excluding the Niukluk River drainage above, and including the Libby River drainage; 22D, Pilgrim River drainage:
    - Bulls: October 1 - April 30, Cows: October 1 - March 31

    - BAG LIMIT: Five (5) caribou per day, calves may not be taken; annual bag limit of 20 caribou.
- Remainder of 22A, 22C, remainder of 22D, and remainder of 22E:
    - May be announced

For RC907

- PERMIT AVAILABILITY: Permits available online, at the Kotzebue and Barrow ADF&G offices, and license vendors within Units 23 and 26A beginning June 15.
- WHEN AND WHERE: Unit 23 north of and including Singoalik River drainage AND 26A, that portion of the Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Seas south and west of and including the Utukok River drainage:
    - Bag Limit: Five caribou per day, calves may not be taken
    - Season:
        - Bulls: July 1 - Oct 14; February 1 - June 30
        - Cows: July 15 - April 30
- Remainder of Unit 23:
    - Bag Limit: Five caribou per day, calves may not be taken
    - Season:
        - Bulls: July 1 - Oct 14; February 1 - June 30
        - Cows: Sept 1 - March 31
- Remainder of 26A:
    - Bag Limit: Five bulls per day, calves may not be taken
    - Season: July 1 - July 15; March 16 - June 30
    - Five caribou per day, three of which may be cows; calves may not be taken, and cows with calves may not be taken July 16 - October 15
    - Three cows per day, calves may not be taken Oct 16 - December 31
    - Five caribou per day, three of which may be cows; calves may not be taken January 1 - Mar 15

For RC800 & RC907:

- REPORTING: Successful Hunters: Report within 15 days of taking a legal annual bag limit. Unsuccessful hunters, those who did not hunt, and hunters who were successful but harvested less than 20 caribou must submit their report by July 15. Report in person, online at hunt.alaska.gov, by telephone (907) 443-2271 or (800) 560-2271 (you can leave a recorded message at Ext 8191), outside drop box at Nome ADF&G, or by pre-paid mail.
- WHO QUALIFIES: Alaska residents are qualified to hunt in all areas. Immediately upon taking an animal you must completely remove the number corresponding to that part of your bag limit and fill in the date you killed the animal as well as its sex in ink.

- PENALTY FOR FAILURE TO REPORT: If you fail to report you will not be eligible to receive any permits (Drawing, Targeted, Tier II, or Registration, including Tier I Nelchina Caribou) during the next regulatory year. In addition, your name may be turned over to the Alaska Wildlife Troopers for enforcement action.
- SIGNATURE: You must sign your permit and comply with the permit hunt conditions and any additional restrictions found in the Alaska Hunting Regulations. You must carry your signed permit while hunting or transporting caribou within the registration permit area and you must show it to any person authorized to enforce state and federal laws who requests to see it.

Conservation Issues: For several decades, resident hunting regulations on the WAH and TCH have been liberal, with extensive seasons and large daily bag limits. Between 2008 and 2015, both herds declined to less than half of their peak abundances (201,000 caribou in the WAH based on a 2016 count and 41,500 caribou in the TCH based on a 2015 count). In July 2017, both herds were counted and have grown to 259,000 for the WAH and 56,255 for the TCH.

Ensuring that harvest levels do not exceed allowable rates of these populations is vital. In addition to increased information on harvest levels, the timing and sex of harvest is becoming increasingly important. A benefit of a registration permit hunt structure over the current hunt management system is its reporting requirement, which improves harvest reporting and promotes maximized harvest opportunity relative to what is available for harvest.

Enforcement Issues: None identified.

Recommendation: ADF&G **SUPPORTS** these proposals, although we recognize that a registration permit is a significant change to historical hunt administration. The recent actions by the BOG to require caribou registration permits for all resident hunters in Unit 22, 23 and 26A has been through an extensive public process with the Advisory Committees, the Western Arctic Herd working group, Council and the BOG. Adopting this proposal will align hunting seasons and bag limits on federal and state managed lands and should be a useful tool to monitor harvest and provide data for herd management. Broad public support is needed for a registration permit hunt type to be effective for management. ADF&G will continue to engage in education and outreach to implement the registration permit hunt structure by building awareness and support. Household surveys will continue to be necessary to estimate total harvest and the contexts for those harvests.

Appendix A

Estimated total caribou harvest by community, per capita caribou harvest by community, and data sources for Unit 23: Western Arctic caribou herd (ADF&G 2015).

Unit 23

Community	Year/Period	Est Caribou Harv.	# caribou per capita	Source
Ambler	2003	325	1.12	Georgette et al. 2005, unpublished data
	2009	456	1.75	Braem 2012
	2012	685	2.54	Braem et al. 2015
Buckland	2003	637	1.56	Magdanz et al. 2011
	2009	561	1.30	Braem 2012
Deering	1994	142	0.96	Magdanz et al. 2002
	2007-2008	182	1.37	Braem 2011
	2011-2012	237	1.91	Braem 2011
	2013	393	2.85	ADF&G unpublished data
Kiana	1999	488	1.23	ADF&G unpublished data
	2006	306	0.77	Magdanz et al. 2011
	2009	440	1.18	Braem 2012
Kivalina	1982	346	0.48	CSIS
	1983	564	0.78	CSIS
	1992	351	0.49	CSIS
	2007	268	0.67	Magdanz et al. 2010
	2010-2011	86	0.23	Braem et al. 2014
Kobuk	2004-2005	134	1.06	ADF&G unpublished data
	2009	210	1.72	Braem 2012
	2012	119	0.84	Braem et al. 2015
Kotzebue	1986	1917	0.71	Georgette and Loon 1993
	1991	3782	1.04	CSIS
	2001	2376	0.77	Whiting 2003
	2002	1719	0.56	Whiting 2003
	2003	1915	0.61	Whiting 2003
	2012-2013	1804	0.56	CSIS
	2013-2014	1629	0.51	ADF&G unpublished data
Noatak	1994	615	1.62	Magdanz et al. 2002
	1999	683	1.61	Georgette et al 2000., unpubd data
	2002	410	0.90	Georgette et al. 2004, unpubd data
	2007	441	0.90	Magdanz et al. 2010
	2010	66	0.13	Braem et al. 2014
	2011	360	0.66	Mikow et al. 2014
Noorvik	2002	988	1.46	Georgette et al. 2004, unpubd data
	2008	767	1.19	Braem et al. 2012
	2012	851	1.36	CSIS

-continued-

Unit 23, continued

Community	Year/Period	Est Caribou Harv.	# caribou per capita	Source
Point Hope	1994-1995	355	0.49	Bacon et al. 2009, rev. 2011
	2000-2001	219	0.31	Bacon et al. 2009, rev. 2011
Selawik	1999	1289	1.68	CSIS
	2006	934	1.11	CSIS
	2011	683	0.79	Braem et al. 2013
Shungnak	1998	561	2.17	Georgette 1999, unpubd data
	2002	403	1.62	Magdanz et al. 2004
	2008	416	1.53	Braem 2012
	2012	396	1.47	Braem et al. 2015

WP18–51 Executive Summary	
General Description	Proposal WP18-51 requests that Federal (statewide) bear baiting restrictions be aligned with State regulations, specifically the use of biodegradable materials. *Submitted by: Eastern Interior Alaska Subsistence Regional Advisory Council.*
Proposed Regulation	*§__.26(b) Prohibited methods and means. Except for special provisions found at paragraphs (n)(1) through (26) of this section, the following methods and means of taking wildlife for subsistence uses are prohibited:* * * * * *(14) Using bait for taking ungulates, bear, wolf, or wolverine; except you may use bait to take wolves and wolverine with a trapping license, and you may use bait to take black bears and brown bears with a hunting license as authorized in Unit-specific regulations at paragraphs (n)(1) through (26) of this section. Baiting of black bears and brown bears is subject to the following restrictions:* * * * * *(iii) You may use only biodegradable materials for bait;* ***if fish or game is used as bait,*** ~~*you may use*~~ *only the head, bones, viscera, or skin of legally harvested fish and* ***big game, the skinned carcasses of furbearers and fur animals, small game (including the meat, except the breast meat of birds), and unclassified game*** ~~*wildlife for bait*~~ ***may be used, except that in Units 7 and 15, fish or fish parts may not be used as bait. Scent lures may be used at registered bait stations****;*
OSM Conclusion	**Support** Proposal WP18-51 **with modification** to establish a definition for scent lure and clarify the regulatory language. The modified regulation should read: *§__.25(a) Definitions. The following definitions apply to all regulations contained in this part:* ***scent lure (in reference to bear baiting) means any biodegradable material to which biodegradable scent is applied or infused.*** *§__.26(b)(14)(iii) You may use only biodegradable materials for bait;* ***if fish or wildlife is used as bait,*** ~~*you may use*~~ *only the head, bones, viscera, or skin of legally harvested fish and wildlife* ~~*for bait*~~***, the skinned carcasses of furbearers, and unclassified wildlife may be used, except that in Units 7 and 15, fish or fish parts***

WP18–51 Executive Summary	
	may not be used as bait. Scent lures may be used at registered bait stations;
Southeast Alaska Subsistence Regional Advisory Council Recommendation	**Support as modified by OSM**
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	**Support as modified by OSM**
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	**Take No Action**
Bristol Bay Subsistence Regional Advisory Council Recommendation	**Support as modified by OSM**
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	**Support**
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	**Support as modified by OSM**
Seward Peninsula Subsistence Regional Advisory Council Recommendation	**Support as modified by OSM**
Northwest Arctic Subsistence Regional Advisory Council Recommendation	**Support as modified by OSM**
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	**Support as modified by OSM**

WP18–51 Executive Summary	
North Slope Subsistence Regional Advisory Council Recommendation	**Support**
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient bases for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Support**
Written Public Comments	**1 Support, 3 Oppose**

STAFF ANALYSIS
WP18-51

ISSUES

Proposal WP18-51, submitted by the Eastern Interior Alaska Subsistence Regional Advisory Council, requests that Federal (statewide) bear baiting restrictions be aligned with State regulations, specifically the use of biodegradable materials.

DISCUSSION

The proponent states that the current Federal bear baiting restrictions are much more restrictive than the State's and do not provide for a Federal subsistence priority. The proponent proposes to align Federal and State bear baiting restrictions in order to reduce regulatory complexity, reduce user confusion, and allow baiting with items (e.g. dogfood, anise, popcorn, baked goods, grease, syrup, etc.) that have traditionally been used as bear bait by Federally qualified subsistence users and are currently allowed under State regulations.

Existing Federal Regulations

§__.26(b) Prohibited methods and means. Except for special provisions found at paragraphs (n)(1) through (26) of this section, the following methods and means of taking wildlife for subsistence uses are prohibited:

* * * *

(14) Using bait for taking ungulates, bear, wolf, or wolverine; except you may use bait to take wolves and wolverine with a trapping license, and you may use bait to take black bears and brown bears with a hunting license as authorized in Unit-specific regulations at paragraphs (n)(1) through (26) of this section. Baiting of black bears and brown bears is subject to the following restrictions:

* * * *

(iii) You may use only biodegradable materials for bait; you may use only the head, bones, viscera, or skin of legally harvested fish and wildlife for bait;

Proposed Federal Regulations

§__.26(b) Prohibited methods and means. Except for special provisions found at paragraphs (n)(1) through (26) of this section, the following methods and means of taking wildlife for subsistence uses are prohibited:

* * * *

(14) Using bait for taking ungulates, bear, wolf, or wolverine; except you may use bait to take wolves and wolverine with a trapping license, and you may use bait to take black bears and brown bears with a hunting license as authorized in Unit-specific regulations at paragraphs (n)(1) through (26) of this section. Baiting of black bears and brown bears is subject to the following restrictions:

* * * *

(iii) You may use only biodegradable materials for bait; ***if fish or game is used as bait,*** ~~*you may use*~~ *only the head, bones, viscera, or skin of legally harvested fish and* ***big game, the skinned carcasses of fur-bearers and fur animals, small game (including the meat, except the breast meat of birds), and unclassified game*** ~~*wildlife for bait*~~ ***may be used, except that in Units 7 and 15, fish or fish parts may not be used as bait. Scent lures may be used at registered bait stations****;*

Note: The proposal as submitted omitted the word "fish". However, this was an oversight as the proponent's intention was to align State and Federal regulations.

State Regulations

5 AAC 92.044. Permit for hunting bear with the use of bait or scent lures.
(a) A person may not establish a bear bait station to hunt bear with the use of bait or scent lures without first obtaining a permit from the department under this section.

(b) In addition to any condition that the department may require under 5 AAC 92.052, a permit issued under this section is subject to the following provisions:
* * * *
(8) only biodegradable materials may be used as bait; if fish or big game is used as bait, only the head, bones, viscera, or skin of legally harvested fish and game may be used, except that in Units 7 and 15, fish or fish parts may not be used as bait;

5 AAC 92.085. Unlawful methods of taking big game; exceptions: The following methods and means of taking big game are prohibited in addition to the prohibitions in 5 AAC 92.080:
* * * *
(4) with the use of bait for ungulates and with the use of bait or scent lures for any bear, except that bears may be taken with the use of bait or scent lures as authorized by a permit issued under 5 AAC 92.044;

5 AAC 92.210. Game as animal food or bait. A person may not use game as food for a dog or furbearer, or as bait, except for the following:
(1) the hide, skin, viscera, head, or bones of game legally taken or killed by a motorized vehicle, after salvage as required under 5 AAC 92.220;
(2) parts of legally taken animals that are not required to be salvaged as edible meat, if the parts are moved from the kill site;
(3) the skinned carcass of a bear, furbearer, or fur animal, after salvage as required under 5 AAC 92.220;
(4) small game; however, the breast meat of small game birds may not be used as animal food or bait;
(5) unclassified game;
(6) deleterious exotic wildlife;
(7) game that died of natural causes, if the game is not moved from the location where it was found; for purposes of this paragraph, "natural causes" does not include death caused by a human;
(8) game furnished by the state, as authorized by a permit under 5 AAC 92.040.

Extent of Federal Public Lands

Federal public lands comprise approximately 54% of Alaska and consist of 20% U.S. Fish and Wildlife Service (USFWS) managed lands, 15% Bureau of Land Management (BLM) managed lands, 14% National Park Service (NPS) managed lands, and 6% U.S. Forest Service (USFS) managed lands.

Customary and Traditional Use Determinations

Customary and traditional use determinations for specific areas and species are found in subpart C of 50 CFR part 100, §___.24(a)(1) and 36 CFR 242 §___.24(a)(1).

Regulatory History

In 1990, Federal regulations for bear baiting were adopted from State regulations. These regulations, specifically §__*.26(b)(14)(iii)*, have not been modified since that time.

In 1992, Proposal P92-149 requested that bear baiting be prohibited due to habituation of bears to bait stations and human garbage, which results in bears becoming more dangerous. The Federal Subsistence Board (Board) rejected the proposal as there was no biological reason to restrict subsistence opportunity.

Currently, black bears may be taken at bait stations under Federal regulations in all units, except Units 1C, 4, 8, 9, 10, 14, 18, 22, 23, and 26. In 2014, the Board adopted Proposal WP14-50, allowing brown bears to be taken at bait stations in Unit 25D. In 2016, the Board adopted Proposal WP16-18, allowing brown bears to be taken at bait stations in Units 11 and 12.

In 2001, the Alaska Board of Game (BOG) adopted Proposal 156 to prohibit the use of fish parts as bear bait in Units 7 and 15 (ADF&G 2001). The intent of the proposal was to minimize human-bear interactions and to reduce defense of life or property (DLP) brown bear kills on the Kenai Peninsula (ADF&G 2001).

In 2015, the NPS published Final Rule 36 CFR 13.42(g)(10) prohibiting the take of black and brown bears over bait on National Preserves under State regulations. In 2016, the USFWS published a similar rule prohibiting the take of brown bears over bait on National Wildlife Refuges under State regulations. The USFWS rule was nullified when the President of the United States signed House Joint Resolution 69 into law on April 3, 2017. The Resolution invoked the Congressional Review Act, a law that permits regulations passed during the last six months of a previous administration to be overturned.

In 2016, the BOG adopted Proposal 61 as amended to insert the word “big” before game in 5 AAC 92.044(8) (see State regulations above). This was done to clarify that the skinned carcasses of legally harvested furbearers could be used as bear bait (ADF&G 2016).

In January 2017, the NPS published Final Rule 36 CFR 13.480(b) limiting types of bait that may be used for taking bears under Federal Subsistence Regulations to native fish or wildlife remains from natural mortality

or parts not required to be salvaged from a legal harvest. Based on public comment, the final rule includes a provision that allows to allow the superintendent of Wrangell-St. Elias National Park and Preserve (WRST) to issue a permit to allow use of human-produced foods upon a determination that such use is compatible with park purposes and values and the applicant does not have reasonable access to natural materials that could be used as bait (36 CFR 13.1902(d)). The exception for WRST was based on documented history of bear baiting.

Cultural Knowledge and Traditional Practices

Both black bears and brown bears are traditionally and contemporarily harvested, used, and shared across much of Alaska, though regional variations in harvest patterns, seasonal rounds and methods exist (Blackman 1990; Burch 1984; Clark 1981; Crow & Obley 1981; de Laguna & McClellan; de Laguna 1990; Hosley 1981; Lantis 1984; Slobodin 1981; Snow 1981; Townsend 1981). Historical methods of harvest among Alaska Native cultural groups included spearing (Brown 2012; Crow & Obley 1981; de Laguna & McClellan 1981; de Laguna 1990; Townsend 1981), harvest at winter den sites (Brown 2012; Hosley 1981; de Laguna 1990), snaring (Burch 1984; de Laguna & McClellan 1981; de Laguna 1990), bow and arrows (de Laguna 1990; Townsend 1981), deadfalls (de Laguna & McClellan 1981; de Laguna 1990), and with dogs (de Laguna & McClellan 1981; de Laguna 1990). Today, bears are frequently hunted with rifles while in pursuit of other large land mammals (ADF&G 1992; ADF&G 2008; Brown 2012).

The occurrence of bear baiting as a component of traditional harvest methods is limited within published literature; it is unknown if the practice occurred rarely or if it was merely seldom documented. Among the Upper Kuskokwim (Kolchan) Athabascans, some hunters were known to use ground squirrel nests to attract bears that had recently emerged from their dens in the spring (Brown 2012). A squirrel would be released near the bear and the bear would follow the tracks back to the nest where it would be harvested with lances (Brown 2012).

In Southeast Alaska, Tlingit hunters sometimes used dead falls to harvest bears and these were either set across bear trails or baited to attract bears (ADF&G 1992). The bait ingredients are unknown. Among several Athabascan groups in Alaska's interior, documented methods of harvesting black bears included hunting with bow and arrow or lacing bait with coiled baleen that would expand and rupture the bear's digestive tract (ADF&G 2008). Use of bear baiting stations to attract and harvest black bears has also been documented specifically for hunters from the community of Tok (ADF&G 2008). In a 2001-2002 study of 18 southwest Alaska communities there was no documentation of the use of baiting stations for harvesting bears (Holen et al. 2005).

Contemporary use of bait stations for bear hunting in Alaska has been contentious (Harns 2004). While some people believe that baiting black bears is acceptable, others have suggested that the method violates fair chase ethics (Harns 2004). The method allows hunters to be selective and humane, it helps hunters with limited mobility to participate by reducing trekking distance, and it facilitates clean kills by bow hunters that harvest animals at a closer range (Harns 2004). Additionally, it allows hunters to be more selective, to more easily identify sex, and to verify the presence or absence of cubs with sows (Harns 2004).

Opponents of bear baiting often reference safety concerns and food conditioning (Cunningham 2017, Hilderbrand et al. 2013). The National Park Service has also cited concerns regarding preventing the

defense of life and property killing of bears and maintaining natural processes and behaviors (Hilderbrand et al. 2013). To alleviate some of these concerns, BOG and the Board have implemented several restrictions that stipulate where bear baiting stations are allowed, that require bear baiting stations to be registered with ADF&G, and that require the completion of an ADF&G bear baiting clinic for all hunters age 16 and older.

Other Alternatives Considered

Adoption of this proposal would permit the use of scent lures at bear baiting stations under Federal regulations. According to 50 CFR *§__.25(a) Definitions* and 5 AAC *92.990 Definitions*, bait is defined as "any material excluding scent lures, that is placed to attract an animal by its sense of smell or taste; however, those parts of legally taken animals that are not required to be salvaged and which are left at the kill site are not considered bait." While scent lures are excluded from the bait definition, they are not explicitly defined under Federal or State regulations. If scent lures are not defined, any material and chemical could be used at registered bait stations on Federal public lands, including toxic and non-biodegradable ones.

Effects of the Proposal

If this proposal is adopted, Federally qualified subsistence users would be able to use any biodegradable material as well as scent lures at registered bear baiting stations on lands administered by the USFWS, BLM, and USFS. As bear bait is limited to native fish and wildlife remains on NPS administered lands, this proposal would not affect NPS lands (with some exceptions in WRST). This will provide Federally qualified subsistence users with greater opportunity on most Federal public lands and will align State and Federal baiting restrictions, reducing regulatory complexity and user confusion. Currently, Federal regulations are more restrictive than State regulations. As the requested changes are already permitted under State regulations, no appreciable differences in bear harvests, populations, subsistence uses, or habituation of bears to human foods are expected from this proposal.

OSM CONCLUSION

Support Proposal WP18-51 **with modification** to establish a definition for scent lure and clarify the regulatory language.

The modified regulation should read:

§__.25(a) Definitions. The following definitions apply to all regulations contained in this part: ***scent lure means any biodegradable material to which biodegradable scent is applied or infused.***

§__.26(b)(14)(iii) You may use only biodegradable materials for bait; ***if fish or wildlife is used as bait,*** ~~*you may use*~~ *only the head, bones, viscera, or skin of legally harvested fish and wildlife* ~~*for bait*~~***, the skinned carcasses of furbearers, and unclassified wildlife may be used, except that in Units 7 and 15, fish or fish parts may not be used as bait. Scent lures may be used at registered bait stations****;*

Justification

Adoption of this proposal will reduce regulatory complexity and provide greater opportunity for Federally qualified subsistence users by expanding and clarifying the use of biodegradable materials and scent lures as bear bait. There are no conservation concerns as these proposed clarifications are already permitted under State regulations.

Defining scent lures in regulation is necessary to ensure that only appropriate and non-harmful materials and scents are used on Federal public lands. The terms "game", "fur animals", and "small game" are not defined under Federal regulations, but are included in the Federal definition of "wildlife." While the term "big game" is defined under Federal regulations, it is also included within the Federal definition of "wildlife."

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Southeast Alaska Subsistence Regional Advisory Council

Support WP18-51 **as modified by OSM.** The Council decided that this was an opportunity to align Federal regulations with State regulations. The Council determined there was no conservation concern and that this is a reasonable way to proceed if one is bear baiting. The Council also noted that five other Regional Advisory Councils have supported this proposal. Adoption of this proposal would remove unnecessary confusion in the minds of those who wish to bait bear. There may be a slight benefit to subsistence users and no users would be restricted by this proposal.

Southcentral Alaska Subsistence Regional Advisory Council

Support WP18-51 **as modified by OSM.** Local residents using bear baiting stations are not aware of any conflicts with bears resulting from the stations and the method is controlled well by local land managing agencies.

Kodiak/Aleutians Subsistence Regional Advisory Council

Take No Action on WP18-51. Bear baiting is currently not permitted on any Federal lands in Region 3. The Council rarely comments on proposals that do not impact their region.

Bristol Bay Subsistence Regional Advisory Council

Support WP18-51 **as modified by OSM.** The Council supports consistency between Federal and State hunting regulations. The Council discussed hunters using household trash in past practice for bait, which is an issue due to the bears becoming used human household trash.

Yukon-Kuskokwim Delta Subsistence Regional Advisory Council

Support WP18-51**.** The Council discussed its support for the use of biodegradable material as bait for harvesting bear and aligning Federal subsistence regulations with the State regulations on this issue.

Western Interior Alaska Subsistence Regional Advisory Council

Support WP18-51 **as modified by OSM.** The Council noted that throughout the Western Interior Region, black and brown bear populations are healthy and harvested below sustained yield levels. The Council noted some interest around Galena has been expressed to use bear bait. The Council recommended providing more clarity as to what is allowed in bear baiting and in the use of scent lures. The Council noted the proposal would not adversely affect subsistence resources and would provide for more subsistence opportunity. The Council also noted support for aligning State and Federal regulations to reduce complexity. The Council reiterated the issue is not whether to allow bear baiting, but to define what sort of bait is allowed.

Seward Peninsula Subsistence Regional Advisory Council

Support WP18-51 **as modified by OSM.** The Council agreed to support this proposal, recognizing, however, that bear baiting is not currently permitted on Federal lands in Unit 22.

Northwest Arctic Subsistence Regional Advisory Council

Support WP18-51 **as modified by OSM.** The Council felt the proposal would align Federal and State regulations and alleviate user confusion.

Eastern Interior Alaska Subsistence Regional Advisory Council

Support WP18-51 **as modified by OSM.** The Council stated that baiting is a traditional subsistence practice that benefits the users in the rural areas. Bear baiting is a part of traditional ecological knowledge and one of the key components of living in the bush, especially in the spring season when bears become a very important food source. The passing of this proposal would greatly benefit people that live in the really remote rural areas. The Council noted that since baiting happens away from any community and is done responsibly with great care, it will not habituate bears to human food in this sparsely populated region. In many areas of the state, bear baiting is the only way of being successful in harvesting a bear because of thick vegetation. Taking bears during and right after the moose calving season will take pressure off the newborn moose calves. The Council felt that aligning Federal and State bear baiting restrictions is very important since it simplifies already complicated regulations.

North Slope Subsistence Regional Advisory Council

Support WP18-51**.** The Council supports the increased opportunity this will provide for subsistence and spoke favorably of aligning State and Federal regulations in this case. This proposal is less restrictive than existing regulations, and the Council stressed that is a move in the right direction. While the proposal as modified by OSM is less restrictive than current regulations, the proposal as written is even less restrictive than that, so that is preferred.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient bases for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-51: This proposal, submitted by the Eastern Interior Alaska Federal Subsistence Regional Advisory Council, would expand the definition of what may be used as bait for bears, so as to align state and federal regulations.

Introduction: Federal regulations currently allow the use of the head, bones, viscera, or skin of legally harvested fish and wildlife for bait. This proposal would mirror state regulations, which include other biodegradable material such as dog food, anise, popcorn, baked goods, grease, syrup, etc. It would also allow for the use of skinned carcasses of furbearers and fur animals, small game (including the meat, except the breast meat of birds), and unclassified game, except that in Units 7 and 15, fish or fish parts could not be used as bait.

Impact on Subsistence Uses: This would provide federally qualified subsistence users with greater opportunity and will align state and federal bear baiting restrictions, reducing regulatory complexity and user confusion.

Impact on Other Uses: If adopted, there would be no significant impact on non-federally qualified users.

Opportunity Provided by State:

State customary and traditional use findings, and Amounts Reasonably Necessary for Subsistence: The Alaska Board of Game has various customary and traditional use findings and findings of amounts reasonably necessary for both black and brown bears.

State Regulations:

5 AAC 92.044. Permit for hunting bear with the use of bait or scent lures.

> (a) A person may not establish a bear bait station to hunt bear with the use of bait or scent lures without first obtaining a permit from the department under this section.
>
> (b) In addition to any condition that the department may require under 5 AAC 92.052, a permit issued under this section is subject to the following provisions:
>
> …
>
> > (8) only biodegradable materials may be used as bait; if fish or big game is used as bait, only the head, bones, viscera, or skin of legally harvested fish and game may be used, except that in Units 7 and 15, fish or fish parts may not be used as bait;

5 AAC 92.085. Unlawful methods of taking big game; exceptions: The following methods and means of taking big game are prohibited in addition to the prohibitions in 5 AAC 92.080:

…

(4) with the use of bait for ungulates and with the use of bait or scent lures for any bear, except that bears may be taken with the use of bait or scent lures as authorized by a permit issued under 5 AAC 92.044;

5 AAC 92.210. Game as animal food or bait. A person may not use game as food for a dog or furbearer, or as bait, except for the following:

(1) the hide, skin, viscera, head, or bones of game legally taken or killed by a motorized vehicle, after salvage as required under 5 AAC 92.220;

(2) parts of legally taken animals that are not required to be salvaged as edible meat, if the parts are moved from the kill site; (3) the skinned carcass of a bear, furbearer, or fur animal, after salvage as required under 5 AAC 92.220;

(4) small game; however, the breast meat of small game birds may not be used as animal food or bait;

(5) unclassified game;

(6) deleterious exotic wildlife;

(7) game that died of natural causes, if the game is not moved from the location where it was found; for purposes of this paragraph, "natural causes" does not include death caused by a human;

(8) game furnished by the state, as authorized by a permit under 5 AAC 92.040.

Special instructions for bear baiting:

- Bait cannot be placed in the field until the first day of the season. Baiting seasons are found in the current Alaska Hunting Regulations available at all ADF&G offices and online at www.hunt.alaska.gov.
- Only biodegradable materials may be used for bait. Scent lures may be used. If fish or big game is used as bait, only the head, bones, guts, and skin may be used as bait. In Units 7 and 15, fish or fish parts are not allowed to be used as bait
- The person registering the bait station shall remove all bait, scent lures, litter and equipment from the bait station site no later than the last day of the hunting season. This includes any attractants left at the site.
- No person may have more than 2 bait stations established at any one time, unless under the conditions of a predator control permit. Registered Guide-Outfitters may have up to 10 bait stations established per guide use area that they are registered to operate in.

- The meat of the front quarters and hindquarters, and meat along the backbone (back strap) of black bears harvested prior to June 1 must be salvaged.
- No person who knows, or should know, that a bait station has been established in an area may take a brown bear if that person knows, or should know, that the movements or behavior of the brown bear have been affected by the bait. However, in Units 7, 11, 12, 13 (excluding Denali State Park), 14B, 15, 16 (excluding Denali State Park), 20A, 20B, 20C, 20E, 21D, 24C, 24D, and 25D brown bears may be taken at black bear bait stations.
- The person registering the bait station shall clearly mark the bait station with a sign reading "Bear Bait Station", the hunter's hunting license number, and the registration permit number assigned by ADF&G.
- Hunters using a bait station must obtain written permission from the person that registered the station or may be in violation of interfering with use by the registrant, and must add their hunting license number to the posted sign before hunting. Others may use, bait and maintain another's bait station with the registrants written permission.
- No person may use bait or scent lures within one-quarter mile of a publicly maintained road or trail, the Alaska Railroad, or the following river shorelines: in Units 7 and 15 the Kenai (including Kenai Lake), Kasilof and Swanson rivers; in Unit 14 the Susitna River and Little Susitna River south of the Parks Hwy bridge. All roads of Prince of Wales Island are considered publicly maintained.
- No person may use bait or scent lures within one mile of a house, school, business or other permanent dwelling, or within one mile of a developed campground or developed recreational facility. This includes your own home and seasonally occupied cabins. Bait may be used within one mile of a cabin if the cabin is on the opposite side of the river from the bait site in the following areas: Units 11 and 13, the Copper River north of Miles Lake and Unit 16, the Beluga, Susitna and McArthur rivers, the Deshka River (Kroto Creek) below its confluence with Trapper Creek, the Yentna River below its confluence with the Skwentna River, and Alexander Creek.
- In Units 7, 9, 11-13, 14A, 14B, 15-17, 19-21, 24, 25, and in all predator control areas, black bears (and brown bears in Units 7, 11, 12, 13, 14B, 15, 16, 20A, 20B, 20C, 20E, 21D, 24C, 24D, and 25D) may be taken at permitted bait sites the same day you have flown, provided you are at least 300 feet from the airplane.
- No person may give or receive remuneration for use of a bait station, including barter or exchange of goods; however, this does not apply to remuneration from a client to a registered guide-outfitter, master guide-outfitter or employee of the contracting guide for providing big game hunting services.
- All bait station permits issued for Units 1, 2, 3, or 5 must be returned to ADF&G by the close of business July 15. If this permit is not returned, you will not be eligible for a bait permit next year!
- Bait stations in Units 1A or 2 must be registered in Ketchikan, Craig, Petersburg, or Wrangell only. If your bait site is registered in Units 1A or 2 and you wish to change the location of your site, you must notify the Fish and Game office in Ketchikan. You will be allowed one station move per permit year in these areas.
- A person may not use bait in that portion of Unit 1D on the Chilkat Peninsula south of the Haines Highway, within one mile of the Haines Highway, Lutak road, the Porcupine Mine road to the

Confluence of the Porcupine and Klehini Rivers, and the Chilkat Lake road from the Porcupine Bridge to the Chilkat Landing on the Tsirku River

Conservation Issues: This proposal would align state and federal regulations; little additional take of bears is expected. There would be no expected conservation issues.

Enforcement Issues: Aligning state and federal regulations would simplify enforcement.

Recommendation: ADF&G **SUPPORTS** this proposal because it reduces regulatory complexity and user confusion by allowing federally qualified users to bait bears with additional attractants (dog food, baked goods) that are currently allowed under state regulations.

WRITTEN PUBLIC COMMENTS

Ahtna Intertribal Resource Commission
dba/Copper River-Ahtna Inter-Tribal
Resource Conservation District
PO Box 613
Glennallen, Alaska 99588
907-822-8154
contact@ahtnatribal.org

July 26, 2017

Chairperson of Federal Subsistence
Board or his Designated Field Officer
Office of Subsistence Management
1011 E. Tudor Road, MS-121
Anchorage, Alaska 99503-6199

Dear Mr. Christensen or Designated Field Officer:

Enclosed are Ahtna Inter-Tribal Resource Commission's (AITRC) comments on 2018-2020 Federal Wildlife proposals. Please consider our viewpoint on wildlife proposals, when decsions are made on federal wildlife regulations.

Sincerely,

Shirley Smelcer, Chairperson of CRITR

Eastern Interor Subsistence Regional Advisory Council

WP18-50 Extend season [Unit 11 moose]

We do not support WP18-50, we support WP18-17. See comments under WP18-17.

WP18-51 Statewide – Modify baiting restrictions to align State regulations

We support WP18-51 to modify bait regulations to align with State regulations. Federal regulations are more restrictive than State regulations. Adding skinned carcasses of furbearers and fur animals, small game, with the exception of the meat of birds, to bait bear regulations will align State and Federal regulations, provide more opportunities for federal subsistence hunters who use bait stations to harvest bears.

Traditional use of grease, parts of wild game, and other methods of harvesting bears at bait stations would occur, hunters who use bait stations would have an imporoved chance of harvesting a bear with more options to choose from to use as bait.

WP18-54 – Increase harvest limit and Delegate Authority to set harvest limit for [Unit 12 caribou] to be announced winter season

We do not support WP18-54 to change Unit 12 Caribou regulations to "up to 3 caribou" may be taken with a federal registration permit. This will increase the take of caribou beyond sustainable limits and will stress the herd in its winter range. We have seen overharvest of caribou in the past with liberal bag limit that has taken decades to recover. This is not a wise proposal and we oppose it..

WP18-55 Extend Winter and fall season [Unit 12 moose]

Unit 12 Moose

That portion within Tetlin National Wildlife Refuge and those lands within the Wrangell-St. Elias National Preserve north and east of a line formed by the Pickeral Lake Winter Trail from the Canadian border to Pickerel Lake – 1 antlered bull by Federal registration permit (FM1203) Aug. ~~24~~ **20** - Sept. ~~20~~ **30**

Nov. 1 - ~~Feb. 28~~ **Apr. 30**

We are neutral on WP18-55 to extend Unit 12 Moose season to allow longer hunting opportunity.

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: comments on proposal WP 18-51, 18-03,18-04, 18-05, 18-24

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 1:55 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Sharon Alden** <fwxsca@yahoo.com>
Date: Fri, Aug 4, 2017 at 1:52 PM
Subject: comments on proposal WP 18-51, 18-03,18-04, 18-05, 18-24
To: "subsistence@fws.gov" <subsistence@fws.gov>

To: Office of Subsistence Management
Attention: Theo Matuskowitz
From: Sean McGuire
Re: comments on proposal WP 18-51, 18-03, 18-4, 18-5, 18-24

I am opposing proposal WP 18-51 There should be no human food or any human substance to bait any animals. This is so basic. The last thing we want is to habituate bears or any wild animal to human food. This is an ethical as well as a safety issue. The last thing we want to see is the federal baiting regulations aligned with the state of Alaska's. The State baiting regulations are painfully out dated and present a glaring safety issue.

I am opposing proposal WP 18-03 the extended hunting and trapping season in game unit one. Over kill.

I am really opposed to proposal WP 18-04. Why in the world would you want to put more pressure on a wolf population that's already in trouble this appears to be contrary to the basic concept of wildlife management?

I am also opposing proposal WP 18-05 relates to my opposition to WP18-04.

I am also opposing in the strongest possible terms proposal WP 18-24
To heard wildlife with snow machines is one of the most unethical things I can imagine and the backlash would be harsh.

Thank you for your attention
Sean McGuire
159 Kniffen Rd

Fairbanks, Ak.
ph 907-888-0124
email fwxsca@yahoo.com

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Comment on Proposed WP 18-51

AK Subsistence, FW7 <subsistence@fws.gov> Thu, Aug 3, 2017 at 7:48 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Jim & Suzanne Kowalsky** <jimkowalsky@yahoo.com>
Date: Wed, Aug 2, 2017 at 5:07 PM
Subject: Fwd: Comment on Proposed WP 18-51
To: subsistence@fws.gov

Attention as noted below.

Begin forwarded message:

From: Jim & Suzanne Kowalsky <jimkowalsky@yahoo.com>
Subject: Comment on Proposed WP 18-51
Date: August 1, 2017 at 12:17:30 PM AKDT

August 1, 2017

To: Office of Subsistence Management
p: Theo Matuskowitz
FR: Alaskans FOR Wildlife, Jim Kowalsky, Chair
Re: Comments on Proposal WP 18-51

Alaskans FOR Wildlife is a statewide member organization that advocates for naturally occurring Alaskan wildlife through education and advocacy headquartered in Fairbanks, Alaska PO Box 81957 99708 phone 907-488-2434

We wish to most strongly oppose proposal WP 18-51 which proposes to allow federally qualified subsistence hunters to add the use of human-produced foods and scent to the presently permitted use of biodegradable materials used to bait bears on all public federal lands, e.g.: federal wildlife refuges, national forests, BLM and National Park Service lands now open to rural subsistence.

We understand this proposal emerges from a request from the Eastern Alaska Regional Subsistence Advisory Council, purportedly to align federal with state bear baiting regulations which allow use of such as dog food, popcorn, grease, syrup, etc., to be used by federally qualified subsistence users currently, but only on state lands.

Our objection to WP 15-18 arises from the reality that such liberalization increases the already adverse effect of human food used to attract bears especially as a matter of public safety. Use of human foods will continue to alter bear behavior, increasing the numbers of human food-conditioned bears, attracting them to specific locations where conflicts with humans is certain to occur with increasing frequency. Such encounters would likely increase over time, resulting in serious human injuries and wrenching tragic deaths of the sort that Alaska currently experiences, and also more

killing offending bears.

Further negative impacts already occurring with frequency are bears attracted to humans and their food wastes in specific locations being killed in defense of life and property. Recent examples of bears that likely have become habituated to human foods being killed in defense of life and property have occurred at Prudhoe Bay and in Southeast Alaska with many other examples over time.

We view enactment of WP 15-18 would be highly irresponsible by perpetuating and increasing the already unfortunate practice of use of human produced foods at bait sites on state lands. This proposal amounts to making a serious increased threat to public safety on federal lands and to that already perpetuated on state lands.

Important also, WP15-18 proposes to gradually alter what should also be a natural growth and behavior of wild bears which should be allowed to exist and flourish in its natural wildlands habitat.

The proposal should not be enacted in the best interests of human and bear populations.
Thank you for consideration of our comment.

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Comments on Proposals to the Federal Subsistence Board Attn. Theo Matuskowitz

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:51 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Francis Mauer** <fmauer@mosquitonet.com>
Date: Thu, Aug 3, 2017 at 9:02 PM
Subject: Comments on Proposals to the Federal Subsistence Board Attn. Theo Matuskowitz
To: subsistence@fws.gov

Comments Regarding Federal Subsistence Proposals: WP 18-03, 18-04, 1805, 18-24, and 18-51

Submitted to the Federal Subsistence Board by Fran Mauer, P.O. Box 80464, Fairbanks, AK 99708. August 3, 2017.

WP 18-03 I am opposed to extending the wolf hunting and trapping seasons in Unit 1. Wolves are highly vulnerable to harvest as it is, further extending of seasons is not justified, and would likely lead to excessive harvest of wolves as occurred on Prince of Wales Island last year which was supposed to be regulated by a quota, but even with quota rules in place the actual harvest exceeded the quota by 2.6 times. This proposal should be denied.

WP 18-04 This proposal would allow 30% of the wolf population on Prince of Wales Island to be harvested when existing harvest is 20%. As noted above, wolves are highly vulnerable to harvest, and last year's harvest exceeded the quota by 2.6 times! The extensive network of roads and trails on Prince of Wales render wolves exceptionally vulnerable. Expanding the harvest to 30% of the population following excessive harvest last year can not be justified given the failed management of this quota system last year. This proposal would lead to excessive harvest of an already depleted population and should be denied to conserve wolves on the Island.

WP 18-24 This proposal will open the door to harassment of wildlife by snow machines and violate a basic premise of hunting: respect for animals and fair chase principles. It would also result in excessive impacts to other animals that are not harvested due to disturbance associated with this "practice." Furthermore, it will exacerbate difficulty in enforcement of harassment rules. Approval of this proposal would give a black eye to subsistence in general, and certainly the Federal Subsistence Board, specifically for condoning such an inappropriate practice on the Federal public lands of

Alaska. Deny this proposal.

WP 18-51 This proposal would lower Federal standards for baiting to the lowest common denominator: State requirements. By allowing the use of human food items such as syrup, old dough nuts and other human refuse will habituate bears to humans and contribute to human – bear conflicts, and expose innocent people to risks from bears that no longer fear humans. Every spring the Alaska Dept of Fish and Game sponsors public service announcements advising folks to keep their garbage and bird feeder refuse secure from bears, clearly stating the danger to humans from habituated bears. There is absolutely no justification to also allow the use of human foods and scent to bait bears. I urge the Board to reject this proposal (18-51).

Thank you for the opportunity to comment.

Fran Mauer

WP18–53b Executive Summary	
General Description	Proposal WP18-53b requests that the moose season closing date in Unit 25B be extended to Oct. 7. *Submitted by: Eastern Interior Alaska Subsistence Regional Advisory Council.*
Proposed Regulation	**Unit 25B—Moose** *Unit 25B – that portion within Yukon-Charley National Preserve – 1 bull* — *Aug. 20 – ~~Sep 30~~ **Oct. 7.*** *Unit 25B – that portion within the Porcupine River drainage upstream from, but excluding the Coleen River drainage – 1 antlered bull* — *Aug. 25 – ~~Sep 30~~ **Oct. 7.** Dec. 1 – 10.* *Unit 25B – that portion, other than Yukon-Charley Rivers National Preserve, draining into the north bank of the Yukon River upstream from and including the Kandik River drainage, including the islands in the Yukon River – 1 antlered bull* — *Sep. 5 – ~~30~~ **Oct. 7.** Dec. 1 – 15.* *Unit 25B, remainder – 1 antlered bull* — *Aug. 25 – ~~Sep 25~~ **Oct. 7.** Dec. 1 – 15.*
OSM Conclusion	**Support**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	

WP18–53b Executive Summary	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	**Support**
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient bases for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Oppose**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-53b

ISSUES

Proposal WP18-53b, submitted by the Eastern Interior Alaska Subsistence Regional Advisory Council, requests that the moose season closing date in Unit 25B be extended to Oct. 7.

DISCUSSION

The proponent states that climate change and warmer falls are causing meat spoilage concerns, which affects the ability of Federally qualified subsistence users to meet their subsistence needs. A longer season is warranted in order to ease meat care and to provide additional opportunity for Federally qualified subsistence users. The proponent states that there is no conservation concern given the recent increase in moose density within Yukon-Charley Rivers National Preserve according to National Park Service surveys. The proponent also states that moose harvest in Unit 25B during early October is low, occurring mostly near Eagle, Circle, and Central.

Note: Proposal WP18-53a requests that a customary and traditional use determination be established for moose in Units 25B and 25C and is a separate analysis.

Existing Federal Regulation

Unit 25B—Moose

Unit 25B – that portion within Yukon-Charley National Preserve – 1 bull	*Aug. 20 – Sep. 30.*
Unit 25B – that portion within the Porcupine River drainage upstream from, but excluding the Coleen River drainage – 1 antlered bull	*Aug. 25 – Sep. 30.* *Dec. 1 – 10.*
Unit 25B – that portion, other than Yukon-Charley Rivers National Preserve, draining into the north bank of the Yukon River upstream from and including the Kandik River drainage, including the islands in the Yukon River – 1 antlered bull	*Sep. 5 – 30.* *Dec. 1 – 15.*
Unit 25B, remainder – 1 antlered bull	*Aug. 25 – Sep. 25.* *Dec. 1 – 15.*

Proposed Federal Regulation

Unit 25B—Moose

Unit 25B – that portion within Yukon-Charley National Preserve – 1 bull	*Aug. 20 – ~~Sep 30~~ **Oct. 7.***
Unit 25B – that portion within the Porcupine River drainage upstream from, but excluding the Coleen River drainage – 1 antlered bull	*Aug. 25 – ~~Sep 30~~ **Oct. 7.*** *Dec. 1 – 10.*
Unit 25B – that portion, other than Yukon-Charley Rivers National Preserve, draining into the north bank of the Yukon River upstream from and including the Kandik River drainage, including the islands in the Yukon River – 1 antlered bull	*Sep. 5 – ~~30~~ **Oct. 7.*** *Dec. 1 – 15.*
Unit 25B, remainder – 1 antlered bull	*Aug. 25 – ~~Sep 25~~ **Oct. 7.*** *Dec. 1 – 15.*

Existing State Regulation

Unit 25B—Moose

Unit 25B, within the Porcupine River drainage upstream from, but excluding the Coleen River drainage	*Residents: One bull*	*HT*	*Sept. 10 – Sept. 25*
	Nonresidents: One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side	*HT*	*Sept. 10 – Sept. 25*
Unit 25B, remainder	*Residents: One bull* *OR*	*HT*	*Sept. 5 – Sept. 25* *Dec. 1 – Dec. 15*
	Residents: One bull by permit	*CM001*	*Sept. 5 – Sept. 25* *Dec. 1 – Dec. 15*
	Nonresidents: One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side	*HT*	*Sept. 5 – Sept. 25*

Extent of Federal Public Lands

Federal public lands comprise approximately 82% of Unit 25B and consist of 38% Bureau of Land Management (BLM) managed lands, 36% U.S. Fish and Wildlife Service (USFWS) managed lands, and 8% National Park Service (NPS) managed lands.

Customary and Traditional Use Determinations

The Federal Subsistence Board (Board) has not made a customary and traditional use (C&T) determination for moose in Unit 25B. Therefore, all Federally qualified subsistence users may harvest this species in this unit. (Note: This will change if the Board adopts WP18-53a).

Regulatory History

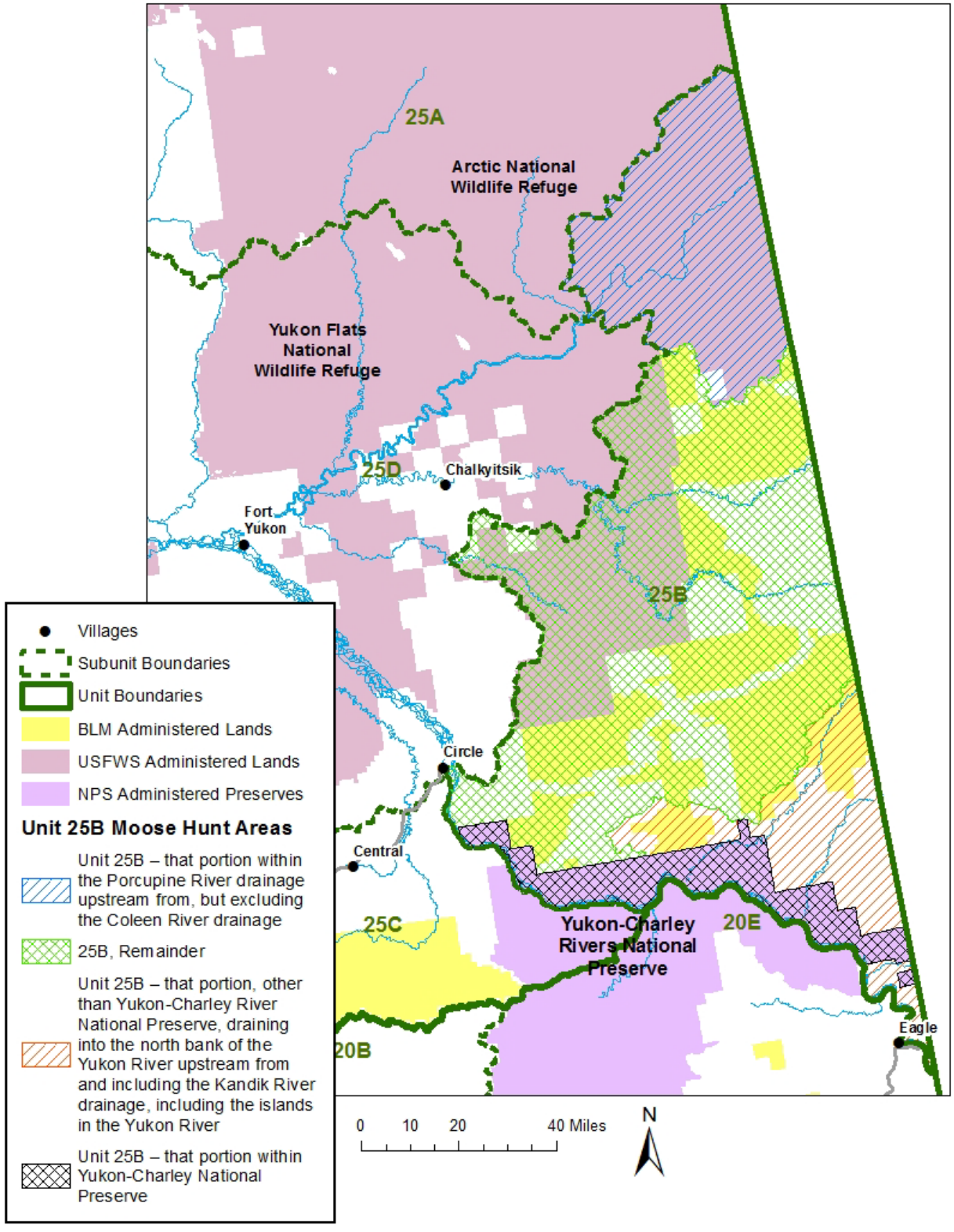
Federal moose hunting regulations for Unit 25B were adopted from State hunting regulations in 1990. There were three hunt areas: Unit 25B, that portion within the Porcupine River drainage upstream from but excluding the Coleen River drainage (Porcupine River hunt area); Unit 25B, that portion within the Yukon River drainage upstream from and including the Kandik River drainage (Yukon River hunt area); and Unit 25B remainder. The harvest limit for all hunt areas was one bull. The seasons for the Porcupine River and Unit 25B remainder hunt areas were Aug. 25 – Sept. 25 and Dec. 1 – 10. The season for the Yukon River hunt area was Sept. 5 – 25 and Dec. 1 – 10.

In 1992, the Yukon River drainage hunt area was not listed under Federal regulations; the fall season closing date for the Porcupine River hunt area was extended 5 days to Sept. 30; and the winter season closing date for Unit 25B remainder was extended 5 days to Dec. 15. In 1994, the harvest limit for moose in Unit 25B was changed to one antlered bull.

In 1996, the Board adopted Proposal P95-58, which established a hunt area along the Yukon River in Unit 25B with a season of Sept. 5 – 30 and Dec. 1 – 15. Specifically, the hunt area was: Unit 25B, those portions draining into the north bank of the Yukon River upstream from and including the Kandik River drainage, including the islands in the Yukon River. This proposal was adopted to provide additional hunting opportunity to local hunters at the end of September when the weather was cooler and competition from State hunters was reduced.

In 1997, Proposal P97-72 was submitted by the Eagle Fish and Game Advisory Committee (Eagle AC) and requested changes to moose hunting seasons in Unit 20E and in the Yukon River hunt area of Unit 25B in order to provide local hunters more opportunity and relief from competition with nonlocal hunters. The Board adopted P97-72 with modification to only modify Unit 20E moose seasons with no regulatory changes for Unit 25B. The justification for maintaining the existing season in Unit 25B was to reduce regulatory complexity via continuing alignment of Federal and State seasons and because the proposal would not have had the desired effect of reducing competition from nonlocal hunters due to the lack of a C&T determination for moose in Unit 25B. Therefore, all rural residents would be able to hunt in Unit 25B under an extended Federal moose season.

In 1998, the Board adopted Proposal P98-105 with modification to create a new hunt area in Unit 25B within Yukon-Charley Rivers National Preserve with a season of Aug. 20-Sept. 30. The proposal, as submitted by the Eagle AC, also requested a March moose season to provide winter harvest opportunities during safer river trail conditions. However, due to conservation concerns about additional bull harvest, the proponent deferred the proposed March season until a C&T determination was made for moose in Unit 25B (and Unit 20E). For a map of the current hunt areas see **Map 1**.



Map 1. Federal moose hunt areas in Unit 25B.

Biological Background

Moose densities in Unit 25B have historically been low and recent population trends are not well understood due to limited data (Caikoski 2014). No population or composition surveys have been conducted for moose in Unit 25B since the late 1980s. However, reports from experienced guides and pilots suggest moose numbers in Unit 25B have declined since the late 20th century. While uncertain, moose are currently believed to be widespread at low density throughout the unit (Caikoski 2014).

State management goals and objectives for moose in Unit 25B include (Caikoski 2014):

- Protect, maintain, and enhance the moose population and its habitat in concert with other components of the ecosystem while providing for maximum sustained harvest.
- Provide for subsistence use and for the greatest opportunity to harvest moose.
- Protect, maintain, and enhance the Yukon Flats moose population and habitat, maintain traditional lifestyles, and provide opportunities for use of the moose resource.
- Increase the harvestable surplus of bull moose in key hunting areas near local communities by reducing mortality from bear and wolf predation.
- Improve moose harvest reporting.
- Minimize cow moose harvest, recognizing that some cows will probably be taken for ceremonial purposes when bull moose are seasonally in poor condition.
- Work with local communities to implement harvest strategies to increase bear and wolf harvest.
- Reduce illegal and potlatch harvest of cow moose to less than 5% of total annual harvest.
- Maintain a minimum of 40 bulls per 100 cows as observed in fall surveys.

Moose surveys have been conducted in Yukon-Charley Rivers National Preserve (YUCH) for nearly 30 years. The past seven surveys have occurred within a 30-40 mile wide corridor along the Yukon River between Eagle and Circle, and included portions of Units 20E, 25B, and 25C. Between 1997 and 2015, moose densities ranged from 0.20-0.37 moose/mi^2 (**Table 1**, Sorum and Joly 2016). Over the same time period, bull:cow ratios have remained consistently high, averaging 62 bulls:100 cows (Sorum and Joly 2016), which greatly exceeds the State management objective of 40 bulls:100 cows (**Table 1**).

November calf:cow ratios of < 20 calves:100 cows, 20-40 calves:100 cows, and > 40 calves:100 cows may indicate declining, stable, and growing moose populations, respectively (Stout 2010). Calf:cow ratios observed in YUCH surveys averaged 28 calves:100 cows between 1997 and 2015 (Sorum and Joly 2016), indicating a stable moose population in this area (**Table 1**).

Moose population data from adjacent subunits is the best available information for northern Unit 25B. Between 1999 and 2015 in Unit 25D East, moose densities averaged 0.27 moose/mi^2 (range: 0.18-0.34 moose/mi^2); bull:cow ratios averaged 64 bulls:100 cows (range: 35-95 bulls:100 cows); and calf:cow ratios averaged 52 calves:100 cows (range:37-80 calves:100 cows) (Caikoski 2013, Bertram 2017, pers. comm.). The lowest bull:cow ratio occurred in 2015. Between 1991 and 2012 in Unit 25A, the bull:cow ratio averaged 100 bulls:100 cows (range 88-122 bulls:100 cows) and the calf:cow ratio averaged 39 calves:100 cows (range: 34-48 calves:100 cows) (Caikoski 2013). These data suggest that moose density in northern

Unit 25B is low and calf production is adequate to high. While bull:cow ratios have been historically high in adjacent subunits, it is unknown whether the low 2015 ratio is applicable to northern Unit 25B or just a reflection of the higher harvest pressure experienced in Unit 25D East.

Habitat is not considered a limiting factor. Unit 25B contains excellent moose habitat that is maintained by wildfires (Caikoski 2014). Within YUCH, improved forage quality from flooding (2009) and wildfires (1999 and 2004) may have contributed to increases in moose abundance (Sorum and Joly 2016). Predation by wolves and bears, however, may be limiting the moose population (Caikoski 2014). Lake et al. (2013) investigated wolf kill rates of moose in Unit 25D, which is comparable to Unit 25B in habitat and moose density. They found that wolf kill rates approximated those in areas with higher moose densities, suggesting that wolf predation is contributing to persistent low moose densities (Lake et al. 2013).

Table 1. Bull:cow, calf:cow, and moose densities for Yukon-Charley Rivers National Preserve (Sorum and Joly 2016).

Survey Year	Bulls:100 Cows	Calves:100 Cows	Density (moose/mi^2)
1997	60	28	0.22
1999	51	36	0.30
2003	61	25	0.22
2006	73	33	0.20
2009	59	26	0.36
2012	68	24	0.25
2015	64	27	0.37

Harvest History

For this analysis, local hunters are defined as residents of Units 25A, 25B, and 25D as well as residents of Eagle. Few household surveys have been conducted for these local communities (ADF&G 2017b). Additionally, much of the harvest data collected from these surveys is not spatially explicit resulting in the proportion of the moose harvest occurring in Unit 25B to be uncertain. In household surveys of Unit 25D communities in regulatory years 2008/09, 2009/10, and 2010/11 (which extrapolate harvests from sampled households to the entire community, resulting in fractions of animals), 5.1 moose, 5.1 moose, and 12.4 moose were estimated as harvested in Unit 25B, respectively (Van Lanen et al. 2012, CATG 2011). Chalkyitsik and Fort Yukon accounted for most of the moose harvested from Unit 25B (Van Lanen et al. 2012, CATG 2011). As there are no communities in Unit 25B, the communities in Unit 25A are far from the Unit 25B boundary, and Eagle residents primarily hunt moose in southern Unit 25B along the Yukon River, these household survey data indicate moose harvest by local residents in northern Unit 25B is very low.

From 2002-2015, the total reported moose harvest in Unit 25B has ranged from 23-38 moose, averaging 31 moose/year (**Figure 1**). Over the same time period, the number of moose hunters in Unit 25B has ranged from 74-100 hunters, averaging 90 hunters/year (**Figure 1**, Caikoski 2014, ADF&G 2017a).

According to harvest reports, Circle, Eagle, and Fort Yukon are the primary local communities harvesting moose in Unit 25B (ADF&G 2017c). Local hunters account for the minority of the Unit 25B reported moose harvest while nonlocal residents account for the majority. Between 2005 and 2015, the reported moose harvest by local, nonlocal, and nonresidents averaged 28%, 62%, and 10% of the total Unit 25B reported harvest, respectively (**Figure 2**). Over the same time period, local, nonlocal, and nonresident moose hunters averaged 20%, 66%, and 13% of the total hunters reported in Unit 25B, respectively. Over the same time period, harvest success rates for local, nonlocal and nonresidents averaged 47%, 33%, and 26%, respectively (ADF&G 2017c).

Between 2002 and 2015, most of the reported moose harvest in Unit 25B has occurred during the second and third weeks of September (average: 30% and 39%, respectively). Comparatively, only 17% of the reported moose harvest has occurred during the fourth week of September on average (Caikoski 2014, ADF&G 2017c). Boats are the most common transport method used by moose hunters in Unit 25B (Caikoski 2014).

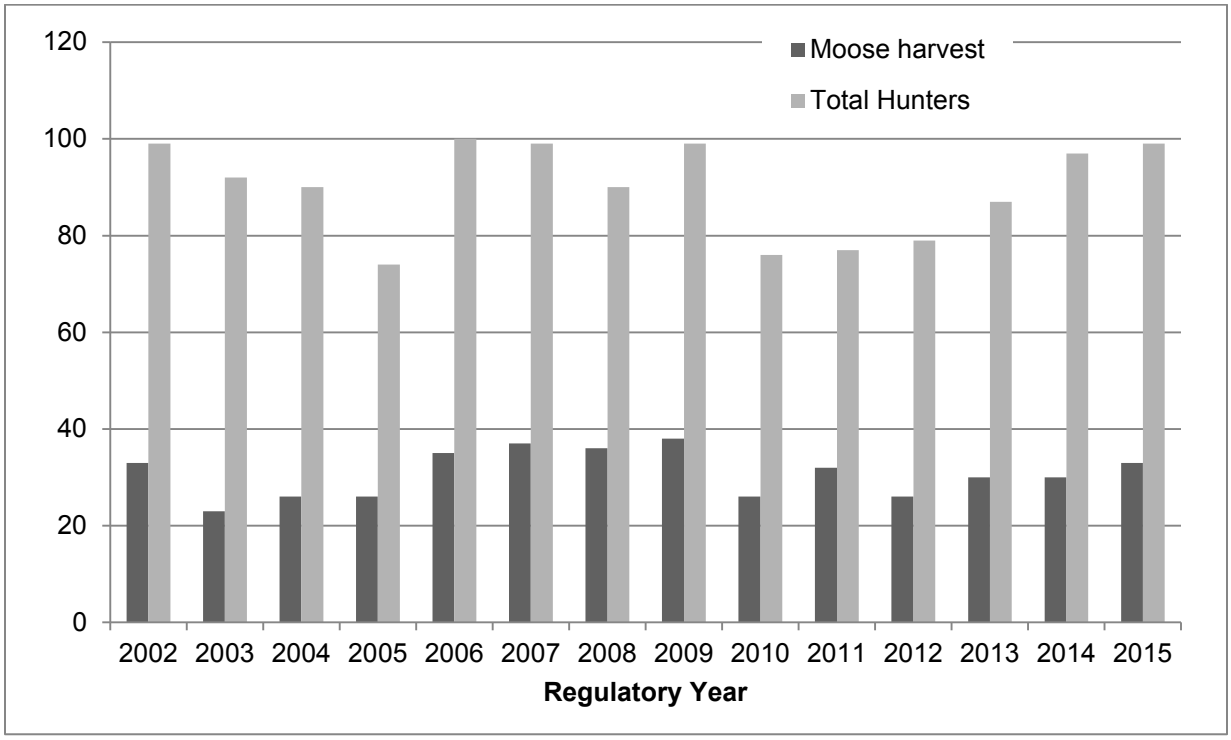


Figure 1. Reported moose harvest and number of hunters in Unit 25B (Caikoski 2014, ADF&G 2017a).

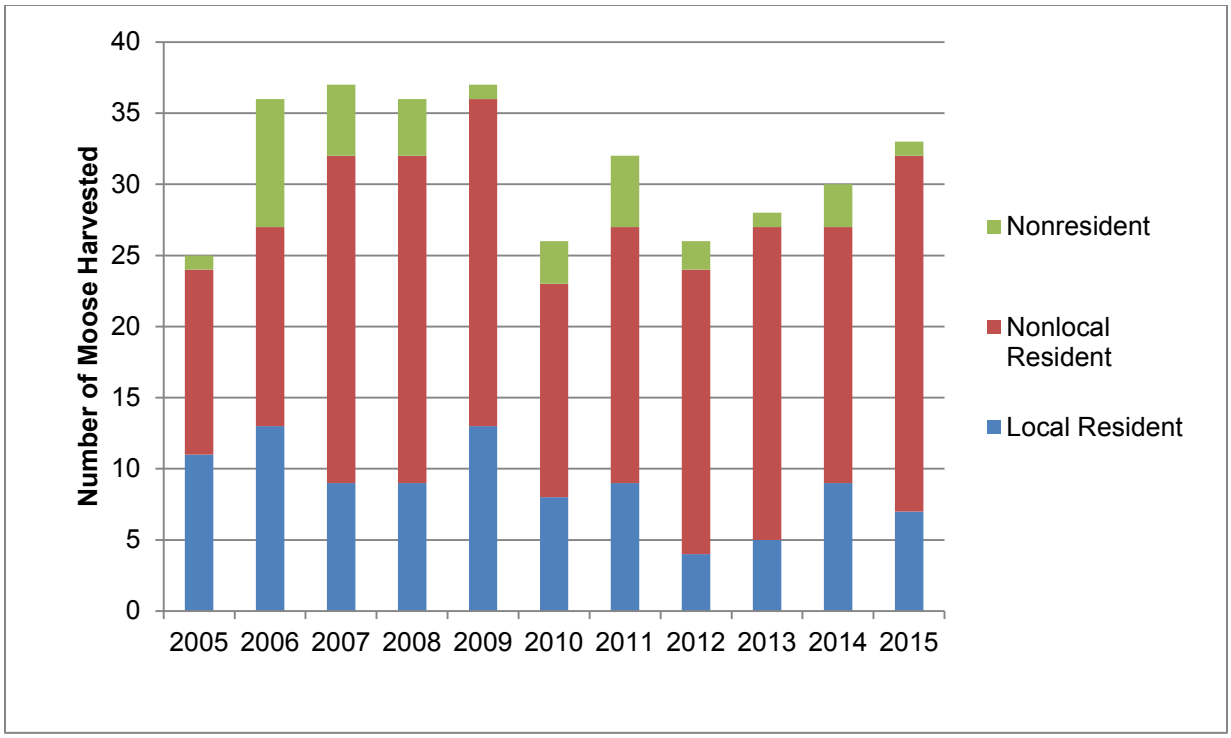


Figure 2. Number of moose harvested by residency in Unit 25B (ADF&G 2017c).

Effects of the Proposal

If this proposal is adopted, Federally qualified subsistence users would be able to harvest moose in Unit 25B until October 7, providing an additional 7-12 days of harvest opportunity depending on hunt area. As there is no C&T determination for moose in Unit 25B, all rural Alaskan residents would be able to hunt under the extended Federal season. Given current trends of warmer falls due to climate change, extending the season could reduce meat spoilage and ease meat care as hunters could wait for cooler temperatures.

While this proposal is for all of Unit 25B, a principal intent of this proposal was to provide more opportunity to residents of Eagle, primarily in YUCH (EI RAC 2017). At the winter 2017 meeting of the Eastern Interior Council, a Council member from Eagle voiced concern over competition from nonlocal hunters who account for most of the Unit 25B moose harvest. He expressed that a longer moose season in Unit 25B may attract more nonlocal hunters to the unit who would directly compete with local hunters. Indeed, competition from nonlocal residents has been a concern since the 1990s (i.e. WP97-72). This concern prompted the Council to submit WP18-53a to establish a C&T determination for moose in Unit 25B (EI RAC 2017). If WP18-53a is adopted, the number of subsistence users qualified to hunt moose in Unit 25B under Federal regulations may decrease substantially as could competition from nonlocal hunters and harvest pressure on the moose population.

If a C&T determination is established, this proposal would benefit Federal qualified subsistence users by providing more harvest opportunity with less competition from other hunters, and there would be minimal conservation concerns given the bulls-only harvest restriction and low harvest pressure from local hunters

(i.e. residents of Units 25A, 25B, 25D, and Eagle). The high bull:cow ratios in the YUCH suggest there is a harvestable surplus of bulls in southern Unit 25B where most of the harvest by Eagle residents occurs. The harvestable surplus of bulls in northern Unit 25B is uncertain, although harvest pressure in this area by local residents (as indicated by household surveys) is very low. Additionally, as a minority of the harvest typically occurs during the fourth week of September, extending the season to October 7 is not expected to result in an appreciable increase in harvest. However, due to climate change or other subsistence priorities such as harvest fall chum salmon, harvest may start to shift later into the season.

Adoption of this proposal could also affect moose breeding and the age structure of harvest. Over a 12 year period, Ballenberghe and Miquelle (1993) found moose in Interior Alaska copulate between September 24 and October 7. Older mature bulls come into rut earlier than young bulls and are more susceptible to harvest when seasons extend into the peak of rut (Timmerman and Gollat 1982). If this proposal is adopted, Federally qualified subsistence users would have additional opportunity to hunt later into the breeding season, which could disrupt mating moose, impede or delay impregnation, and cause mature bulls to be more susceptible to harvest.

However, while hunting pressure during the extended season may increase, it is not expected to substantially affect moose reproduction due to high bull:cow ratios in southern Unit 25B and very low harvest pressure in northern Unit 25B. Similarly, moose abundance is not expected to be substantially affected by adopting this proposal due to the bulls only harvest limit, high bull:cow ratios in southern Unit 25B, past patterns in harvest chronology, low reported harvest (~31 moose per year), and low estimated harvest from household surveys.

OSM CONCLUSION

Support Proposal WP18-53b.

Justification

This proposal will provide increased opportunity for Federally qualified subsistence users and may ease meat care and reduce spoilage issues. There are minimal conservation concerns for this proposal due to the high bull:cow ratio in southern Unit 25B, bulls only harvest limit, and relatively low reported harvest and harvest pressure.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Eastern Interior Alaska Subsistence Regional Advisory Council

Support WP18-53b. Although the Council considered that having different moose seasons in the different parts of the same unit would add regulatory complexity and that there is perceived potential of a future conservation concern if C&T is not passed, it felt that the advantages of extending the season later in the year will allow the local users to harvest moose when the weather is more favorable for meat preservation, care, and transportation. The Council stressed that if the C&T proposal WP18-53a passes, it will reduce potential waste and overharvesting.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient bases for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-53b: Proposal WP18-53b, submitted by the Eastern Interior Alaska Subsistence Regional Advisory Council, requests that the moose season closing date in Unit 25B be extended to Oct. 7.

Introduction: The proponent states that the proposed changes will better align with recent weather changes in the area and prevent meat spoilage by harvesting moose during cooler conditions.

Impact on Subsistence Uses: Extending this season into October would result in some additional opportunity for subsistence uses. Harvesting bull moose could result in wasted meat due to the approaching rut affecting palatability of the meat. It could also negatively affect moose breeding, if numerous hunters disrupt breeding while hunting bulls in rut.

Impact on Other Uses: Due to low anticipated participation and harvest, this proposal would likely have no effect on nonfederally-qualified users.

Opportunity Provided by State:
State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for moose in Unit 25B.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for cus-

tomary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for moose in Unit 25B is 15-37 animals.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
25B within Porcupine River drainage upstream from, but excluding the Coleen River drainage.	One Bull	September 10 – September 25 (Harvest ticket)	
25B within Porcupine River drainage upstream from, but excluding the Coleen River drainage.	One bull with 50 inch or 4 brow tines		September 10 – September 25 (Harvest ticket)
25B Remainder	One bull	September 5 – September 25	
25B Remainder	One bull	December 1- Dec. 15 (Harvest ticket)	
25B Remainder	One bull	September 5 – September 25 (Community subsistence hunt permit CM001)	
25B Remainder	One bull	December 1- December 15 (Community subsistence hunt permit CM001)	
25B Remainder	One bull	September 10 – September 20 (Harvest ticket)	
25B Remainder	One bull with 50 inch Or 4 brow tines		September 10–September 20 (Harvest ticket)

Special instructions: State community subsistence hunt permit CM001 has not been issued in recent years because no requests have been made for these permits.

Conservation Issues: Hunting during the rut could disrupt breeding, but this effect would likely be low due to low hunter participation. Although there may be some room for additional harvest, the estimated bull:cow ratio dropped from ratios of 43-80 bulls:100 cows in 2004-2007 surveys to 35 bulls:100 cows in the 2015 survey

Enforcement Issues: No issues with enforcement would be expected.

Recommendation: ADF&G is **OPPOSED** to this proposal because it unnecessarily complicates management for the subsistence user to have different state and federal seasons.

WP18–54 Executive Summary	
General Description	Proposal WP18-54 requests that the harvest limit be increased from 1 caribou to "up to 3 caribou" and that the Tetlin National Wildlife Refuge Manager, in consultation with the Wrangell-St. Elias National Park and Preserve (WRST) Superintendent, Alaska Department of Fish and Game (ADF&G) area biologists, and Chairs of the Eastern Interior Alaska Subsistence Regional Advisory Council (Eastern Interior Council) and Upper Tanana/Fortymile Fish and Game Advisory Committee (AC), be delegated authority to set the harvest limit for the to-be-announced winter caribou season in Unit 12 remainder. *Submitted by: Upper Tanana/Fortymile Fish and Game Advisory Committee.*
Proposed Regulation	**Unit 12 – Caribou** *Unit 12, remainder—1 bull* — *Sep. 1-20.* *Unit 12, remainder—* ***Up to 3*** ~~*1*~~*caribou may be taken by a Federal registration permit (FC1202) during a winter season to be announced. Dates for a winter season to occur between Oct. 1 and Apr. 30****, harvest limit*** *and sex of animal to be taken will be announced by Tetlin National Wildlife Refuge Manager in consultation with Wrangell-St. Elias National Park and Preserve Superintendent, Alaska Department of Fish and Game area biologists, and Chairs of the Eastern Interior Regional Advisory Council and Upper Tanana/Fortymile Fish and Game Advisory Committee* — *Winter season to be announced.*
OSM Preliminary Conclusion	**Support** Proposal WP18-54 **with modification** to remove the regulatory language referring to dates and sex of animal to be taken for the winter season, delegate authority to announce season dates, harvest limit, and sex of the animals to be taken via a delegation of authority letter only, and clarify that season dates and harvest limits will be announced prior to any season opening (**Appendix A**). The modified regulation should read: **Unit 12 – Caribou**

WP18–54 Executive Summary		
	Unit 12, remainder—1 bull	*Sep. 1-20.*
	Unit 12, remainder— ***Up to 3*** ~~*1*~~*caribou may be taken by a Federal registration permit (FC1202) during a winter season to be announced.* ***Season dates and harvest limits to be announced prior to any season opening.*** ~~*Dates for a winter season to occur between Oct. 1 and Apr. 30 and sex of animal to be taken will be announced by Tetlin National Wildlife Refuge Manager in consultation with Wrangell-St. Elias National Park and Preserve Superintendent, Alaska Department of Fish and Game area biologists, and Chairs of the Eastern Interior Regional Advisory Council and Upper Tanana/Fortymile Fish and Game Advisory Committee*~~	*Winter season to be announced.*
OSM Conclusion	**Support** OSM's preliminary conclusion for Proposal WP18-54 **with modification** to require the Tetlin NWR manger to also consult with Dot Lake, Healy Lake, Northway, Tanacross, and Tetlin; AITRC; and the Chairs of the Paxson, Copper River, and Cantwell Advisory Committees (**Appendix A**). **Unit 12 – Caribou** *Unit 12, remainder—1 bull* — *Sep. 1-20.* *Unit 12, remainder—* ***Up to 3*** ~~*1*~~*caribou may be taken by a Federal registration permit (FC1202) during a winter season to be announced.* ***Season dates and harvest limits to be announced prior to any season opening.*** ~~*Dates for a winter season to occur between Oct. 1 and Apr. 30 and sex of animal to be taken will be announced by Tetlin National Wildlife Refuge Manager in consultation with Wrangell-St. Elias National Park and Preserve Superintendent, Alaska Department of Fish and Game area biologists, and Chairs of the Eastern Interior Regional Advisory Council and Upper Tanana/Fortymile Fish and Game Advisory Committee*~~ — *Winter season to be announced.*	

WP18–54 Executive Summary	
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	**Oppose**
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	

WP18–54 Executive Summary	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	**Support as modified by OSM with additional modification** to include affected tribes, Ahtna Intertribal Resource Commission, and the communities of Dot Lake, Healy Lake, Northway, Tanacross, and Tetlin as consultation partners (**Appendix A**). The modified regulation should read: **Unit 12 – Caribou** *Unit 12, remainder—1 bull* — *Sep. 1-20.* *Unit 12, remainder—* ***Up to 3*** ~~*1*~~ *caribou may be taken by a Federal registration permit (FC1202) during a winter season to be announced.* ***Season dates and harvest limits to be announced prior to any season opening.*** ~~*Dates for a winter season to occur between Oct. 1 and Apr. 30 and sex of animal to be taken will be announced by Tetlin National Wildlife Refuge Manager in consultation with Wrangell-St. Elias National Park and Preserve Superintendent, Alaska Department of Fish and Game area biologists, and Chairs of the Eastern Interior Regional Advisory Council and Upper Tanana/Fortymile Fish and Game Advisory Committee*~~ — *Winter season to be announced.*
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	The Interagency Staff Committee (ISC) found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal. The ISC shares concerns expressed by the Southcentral RAC and ADF&G that this proposal poses potential conservation concerns for the smaller Mentasta caribou herd, which cannot be adequately tracked during times of the year when it mixes with the Nelchina caribou herd. While the Nelchina herd may be above population objectives, the Mentasta herd is currently estimated at 429 caribou, and no targeted harvest of the herd has been

WP18–54 Executive Summary	
	allowed since the mid-1990s due to conservation concerns. In addition, calf recruitment has not been adequate to allow for a targeted harvest. Since 2000, managers at the Tetlin National Wildlife Refuge have used a 20:1 mixing ratio of Nelchina caribou to Mentasta caribou as the basis for determining winter season openings. According to the analysis, mixing ratios are determined by aerial surveys of radio-collared caribou. Unfortunately, there are currently no more than 10 collared Mentasta caribou, which is not enough to adequately monitor the location and movements of Mentasta caribou or determine mixing ratios with the Nelchina herd. This poses a clear conservation concern for the Mentasta herd and is a solid basis for rejecting this proposal.
ADF&G Comments	**Oppose**
Written Public Comments	**1 Oppose**

STAFF ANALYSIS
WP18–54

ISSUES

Proposal WP18-54, submitted by the Upper Tanana/Fortymile Fish and Game Advisory Committee, requests that the harvest limit be increased from 1 caribou to "up to 3 caribou" and that the Tetlin National Wildlife Refuge Manager, in consultation with the Wrangell-St. Elias National Park and Preserve (WRST) Superintendent, Alaska Department of Fish and Game (ADF&G) area biologists, and Chairs of the Eastern Interior Alaska Subsistence Regional Advisory Council (Eastern Interior Council) and Upper Tanana/Fortymile Fish and Game Advisory Committee (AC), be delegated authority to set the harvest limit for the to-be-announced winter caribou season in Unit 12 remainder (**Map 1**).

DISCUSSION

The proponent states that the proposed regulation change will promote adaptive and collaborative management of the FC1202 caribou hunt, reduce administrative workloads by eliminating the need for special action requests to increase harvest limits when the Nelchina Caribou Herd (NCH) is overabundant, and provide for additional subsistence hunting opportunities. The proponent notes that overharvest of the NCH is unlikely due to historically low harvest rates in Unit 12 remainder and because annual harvest limits will be established collaboratively by area land managers. The Mentasta Caribou Herd (MCH) is a small herd that sometimes intermingles with the NCH in Unit 12 remainder during the winter. The proponent states that the ratio of NCH:MCH caribou will be monitored by Tetlin National Wildlife Refuge (Tetlin NWR) and that the winter season will be closed or suspended if the ratio falls below 20 NCH:1 MCH caribou or if large segments of the MCH are in easily accessible areas (i.e. near roads). The proponent also notes that incidental harvest from the Chisana Caribou Herd (CCH) is extremely unlikely as few Chisana caribou are found in the hunt area, particularly during the winter. The CCH hunt has been undersubscribed since its inception in 2012.

Existing Federal Regulation

Unit 12 – Caribou

Unit 12, remainder—1 bull	*Sep. 1-20.*
Unit 12, remainder—1 caribou may be taken by a Federal registration permit during a winter season to be announced. Dates for a winter season to occur between Oct. 1 and Apr. 30 and sex of animal to be taken will be announced by Tetlin National Wildlife Refuge Manager in consultation with Wrangell-St. Elias National Park and Preserve Superintendent, Alaska Department of Fish and Game area biologists, and Chairs of the Eastern Interior	*Winter season to be announced.*

Regional Advisory Council and Upper Tanana/Fortymile Fish and Game Advisory Committee

Proposed Federal Regulation

Unit 12 – Caribou

Unit 12, remainder—1 bull	*Sep. 1-20.*
Unit 12, remainder— ***Up to 3*** ~~*1*~~ *caribou may be taken by a Federal registration permit during a winter season to be announced. Dates for a winter season to occur between Oct. 1 and Apr. 30****, harvest limit*** *and sex of animal to be taken will be announced by Tetlin National Wildlife Refuge Manager in consultation with Wrangell-St. Elias National Park and Preserve Superintendent, Alaska Department of Fish and Game area biologists, and Chairs of the Eastern Interior Regional Advisory Council and Upper Tanana/Fortymile Fish and Game Advisory Committee*	*Winter season to be announced.*

Existing State Regulation

Unit 12 – Caribou

Unit 12, remainder—Both residents and nonresidents	*No open season*

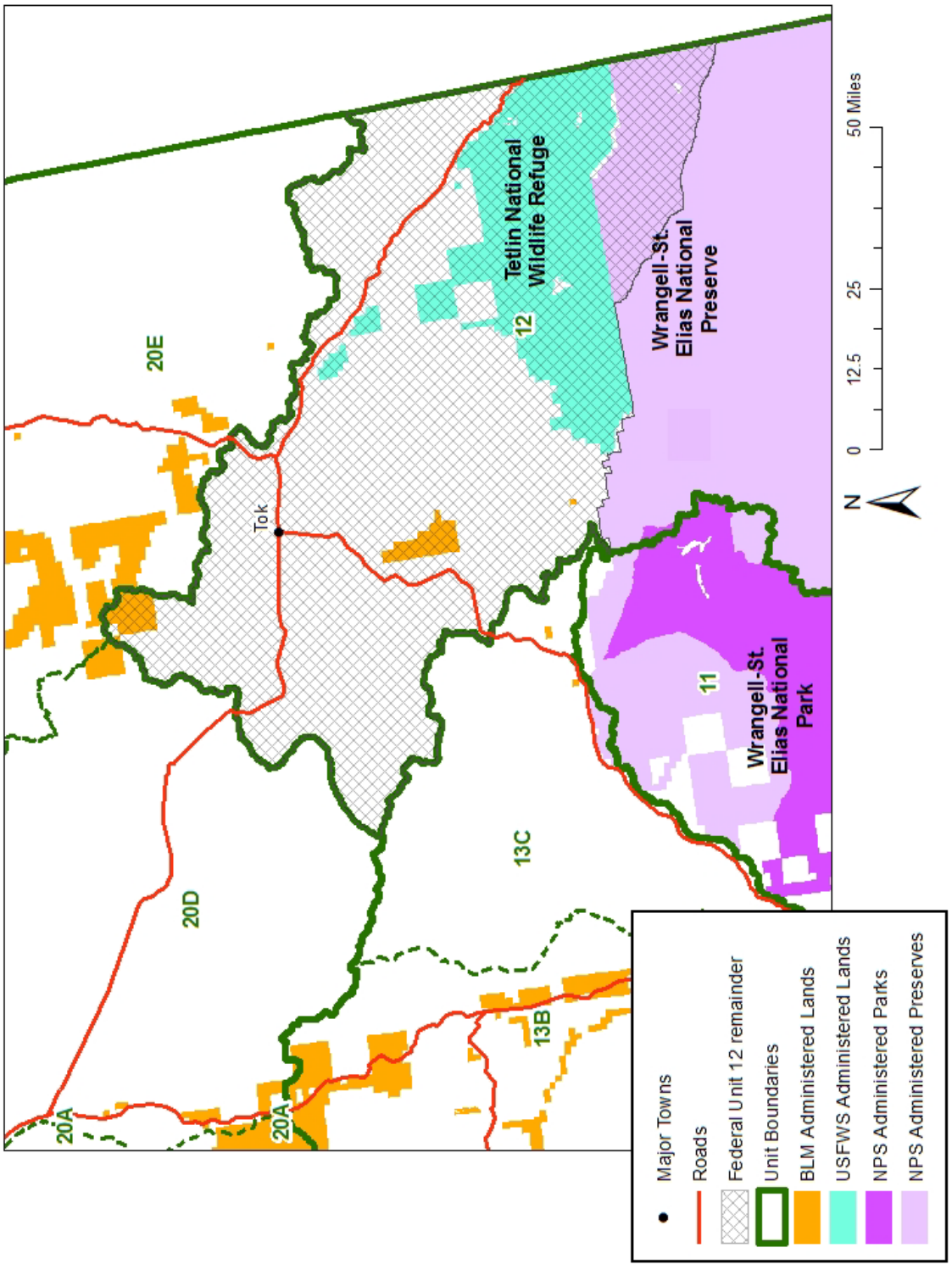
Extent of Federal Public Lands

Federal public lands comprise approximately 60% of Unit 12 and consist of 48% National Park Service (NPS) managed lands, 11% U.S. Fish and Wildlife Service (USFWS) managed lands, and 1% Bureau of Land Management (BLM) managed lands.

Unit 12 remainder is comprised of approximately 29% Federal public lands, which consist of 19% USFWS managed lands (Tetlin NWR), 8% NPS managed lands (WRST), and 2% BLM managed lands (**Map 1**).

Customary and Traditional Use Determinations

Residents of Unit 12, Chistochina, Dot Lake, Healy Lake, and Mentasta Lake have a customary and traditional use (C&T) determination for caribou in Unit 12.



Map 1. Federal Unit 12 remainder hunt area for caribou. Note: BLM lands in Unit 12 are not depicted in the Federal regulations booklet map. These lands have become unencumbered since creation of the maps in the Federal regulations booklet.

Regulatory History

In 1991, Federal subsistence hunting regulations for caribou in Unit 12 remainder were one bull from Sept. 1-20 and one caribou during a to-be-announced winter season for residents of Tetlin and Northway only as they had a C&T determination for the NCH in Unit 12. Regulations for the September season have remained unchanged since then.

Also in 1991, the Federal Subsistence Board (Board) approved Special Actions S91-05 and S91-08. Special Action S91-05 opened the winter caribou hunt in Unit 12 remainder on Oct. 28 and S91-08 closed it on Dec. 9 after subsistence needs had been met.

In 1992, the Board rejected Proposals P92-105 and P92-106 due to biological concerns. Proposal P92-105 requested abolishing the to-be-announced winter caribou season in Unit 12 remainder and Proposal P92-106 requested lengthening the September caribou season in Unit 12 remainder from Sept. 1-20 to Aug. 20-Sept. 20. The Board determined that there was no biological reason to eliminate the winter hunt and that extending the September hunt could impact the declining MCH and jeopardize the more popular winter hunt.

Also in 1992, the Board adopted Proposal P92-107, which changed the harvest limit for the winter caribou season in Unit 12 remainder from one caribou to one bull in order to protect the declining MCH, which mixes with the NCH in Unit 12 during the winter.

In 1993, the Board rejected Proposal P93-53, which requested that the Unit 12 remainder caribou season be closed when a quota of 125 bulls was reached. The Board rejected the proposal because there was no biological basis to restrict harvest. The Board also approved Special Action S93-06, opening a bulls-only caribou season in Unit 12 remainder from Dec. 6-Jan. 4.

In 1994, the Board approved Special Action S94-15, opening a caribou season in Unit 12 remainder from Nov. 16-Dec. 16 for the residents of Tetlin and Northway only, who had a C&T determination for the NCH in Unit 12. (Note: C&T determinations for caribou used to be by herd.)

In 1996, the Board deferred action on Proposals P96-56 and P96-57, which requested that the eligibility for caribou hunts in Unit 12 be expanded. Identifying customary and traditional use by area instead of by herd and submitting a similar proposal for the 1997 regulatory year were recommended.

In 1997, the Board adopted P97-24 with modification, which requested a complex suite of changes to eligibility for caribou hunts in Units 11, 12, and 13. As a result of P97-24, a customary and traditional use determination was made for caribou in Unit 12. Hence, only residents with a customary and traditional use determination could harvest caribou in Unit 12 remainder during the winter season.

In 1998, the customary and traditional use determination for caribou in Unit 12 was revised to include Healy Lake via adoption of Proposal P98-99 by the Board. Proposal P98-98 requested that the C&T

determination for caribou in Unit 12 remainder be expanded. The Board did not take action on Proposal P98-98 due to its action on Proposal P97-24 and an administrative oversight (misprinting of the regulation booklet), which rendered P98-98 moot. The Board also approved Special Action S98-19, opening a caribou season in Unit 12 remainder from Mar. 29 - Apr. 11. The Board also adopted Proposal P98-23, which closed the MCH hunt in Unit 11 due to conservation concerns, including low calf recruitment. This hunt has remained closed.

In 1999, the Board approved Special Actions S99-06 and S99-12, which enabled the Tetlin NWR manager to open/close winter caribou seasons in Unit 12 remainder.

In 2000, the Board adopted Proposal P00-058, which delegated authority to set the opening and closing dates as well as the sex of caribou to be taken for the winter season in Unit 12 remainder to the Tetlin NWR manager in order to increase management flexibility and subsistence opportunities. The Board also adopted Proposal P00-59, which redefined a caribou hunt area in Unit 12, effectively closing the portion of Unit 12 remainder within WRST and west of the Nabesna River in order to protect the declining MCH.

In 2001, the State stopped issuing permits for the winter caribou season in Unit 12 remainder, effectively closing the hunt. This was done because the NCH population was at the lower end of its management objective. The hunt has remained closed due to concerns of overcrowding and safety as well as consideration for the MCH (Butler 2016, pers. comm.).

In 2010, the Board rejected Proposal WP10-102, which requested that the harvest limit for the winter season in Unit 12 remainder be increased from 1 to 2 caribou. The proposal was rejected due to concern for the MCH and uncertainty about the mixing ratio of the Mentasta and Nelchina caribou herds during the winter hunt. The Board also rejected Proposal WP10-103, which requested that the winter season in Unit 12 remainder be opened by regulation on Oct. 21 and remain open until closed by the Tetlin NWR manager, which would have decreased management flexibility and raised conservation concerns for the MCH.

In 2012, the customary and traditional use determination for caribou in Unit 12 was modified to include Chistochina via adoption of Proposal WP12-68 by the Board.

In 2016, the Board approved Emergency Wildlife Special Action WSA16-05 to create a may be announced ten-day caribou season between Oct. 1 and Oct. 20 in Unit 13. WSA16-05 targeted the NCH, the same herd affected by this request. WSA16-05 was approved in order to increase harvest of the NCH, which was above State management objectives, and to provide additional hunting opportunity for Federally qualified subsistence users as fall harvest was low. The Board also approved Temporary Wildlife Special Action WSA16-06 to increase the harvest limit for the winter season in Unit 12 remainder from one to two caribou for the 2016/17 regulatory year in order to reduce the NCH population and to increase harvest opportunities for Federally qualified subsistence users.

In September 2017, Tetlin NWR submitted Temporary Wildlife Special Action WSA17-05, requesting that the harvest limit be increased from 1 caribou to “up to 2 caribou” and that the Tetlin National Wildlife

Refuge Manager be delegated authority to set the harvest limit for the to-be-announced winter caribou season in Unit 12 remainder for the 2017/18 regulatory year. During the public meeting and Tribal/ANCSA corporation consultations, the Native Village of Northway (Northway) and the Ahtna Intertribal Resource Commission (AITRC) requested to be formally consulted through the delegation of authority process. The State also requested that Paxson, Cantwell, and Copper River Advisory Committees be formally consulted through the delegation of authority process during the public meeting. In November 2017, Tetlin NWR withdrew WSA17-05 after reviewing Regional Advisory Council, State, and OSM comments on the request.

Biological Background

The ranges of the Nelchina, Mentasta, and Chisana caribou herds overlap in Unit 12 remainder (**Map 2,** CCHWG 2012). Overlap with the CCH range is minimal and occurs in a relatively inaccessible and unfrequented area of Unit 12 remainder. Therefore, the CCH is not considered further in this analysis. While the NCH and MCH are considered distinct herds because females calve in separate areas, the herds mix during some breeding seasons, resulting in male-mediated gene flow (Roffler et al. 2012). Therefore, the Nelchina and Mentasta herds function as a genetic metapopulation, although Nelchina and Mentasta cows have discrete mitochondrial DNA (Roffler et al. 2012).

Nelchina Caribou Herd

The NCH calving grounds and summer range lie within Unit 13. The rut also generally occurs within Unit 13. About 60-95% of the NCH overwinters in Unit 20E, although Nelchina caribou also overwinter in Unit 12 and across northern portions of Units 13 and 11 (Schwanke and Robbins 2013). Nelchina caribou are usually found in Unit 12 remainder over the winter and en route to wintering grounds in Unit 20E. Winter competition with the Fortymile caribou herd in Unit 20E may be impacting the NCH and range conditions. While use (location and timing) of the NCH calving grounds remains static, use of other seasonal ranges varies with resource availability and snow cover (Schwanke and Robbins 2013).

State management goals and objectives for the NCH are based on the principle of sustained yield and are as follows (Schwanke and Robbins 2013):

- Maintain a fall population of 35,000–40,000 caribou, with a minimum of 40 bulls:100 cows and 40 calves:100 cows.
- Provide for the annual harvest of 3,000–6,000 caribou.

The State manages the NCH for maximum sustained yield, principally by annual adjustments in harvest quotas. The population of the NCH has fluctuated over time, influenced primarily by harvest (Schwanke and Robbins 2013). Between 2001/02 and 2015/16, the NCH population ranged from 31,114 - 49,550 caribou and averaged 39,672 caribou. However, the herd has exceeded State population objectives since 2010 (**Table 1**). Reduced predation resulting from intensive wolf management programs intended to

benefit moose in Unit 13 and the Fortymile herd in Units 12 and 20 may have contributed to NCH population increases (Schwanke and Robbins 2013, ADF&G 2017).

Bull:cow and calf:cow ratios have similarly fluctuated over time. Between 2001/02 and 2016/17, the fall bull:cow ratio ranged from 24-64 bulls:100 cows and averaged 39.5 bulls:100 cows. Over the same time period, the fall calf:cow ratio ranged from 19-55 calves:100 cows and averaged 40 calves:100 cows (**Table 1**). In summer 2017, composition surveys estimated 54 calves:100 cows (Robbins 2017, pers. comm.).

In recent years (2008-2012), below average fall calf weights and low parturition rates for 3-year-old cows suggest nutritional stress, raising concern for the health of NCH (Schwanke and Robbins 2013). Schwanke and Robbins (2013) caution that without a timely reduction in the NCH population, range quality and long-term herd stability may be compromised. The current State management goal is herd reduction (Schwanke and Robbins 2013).

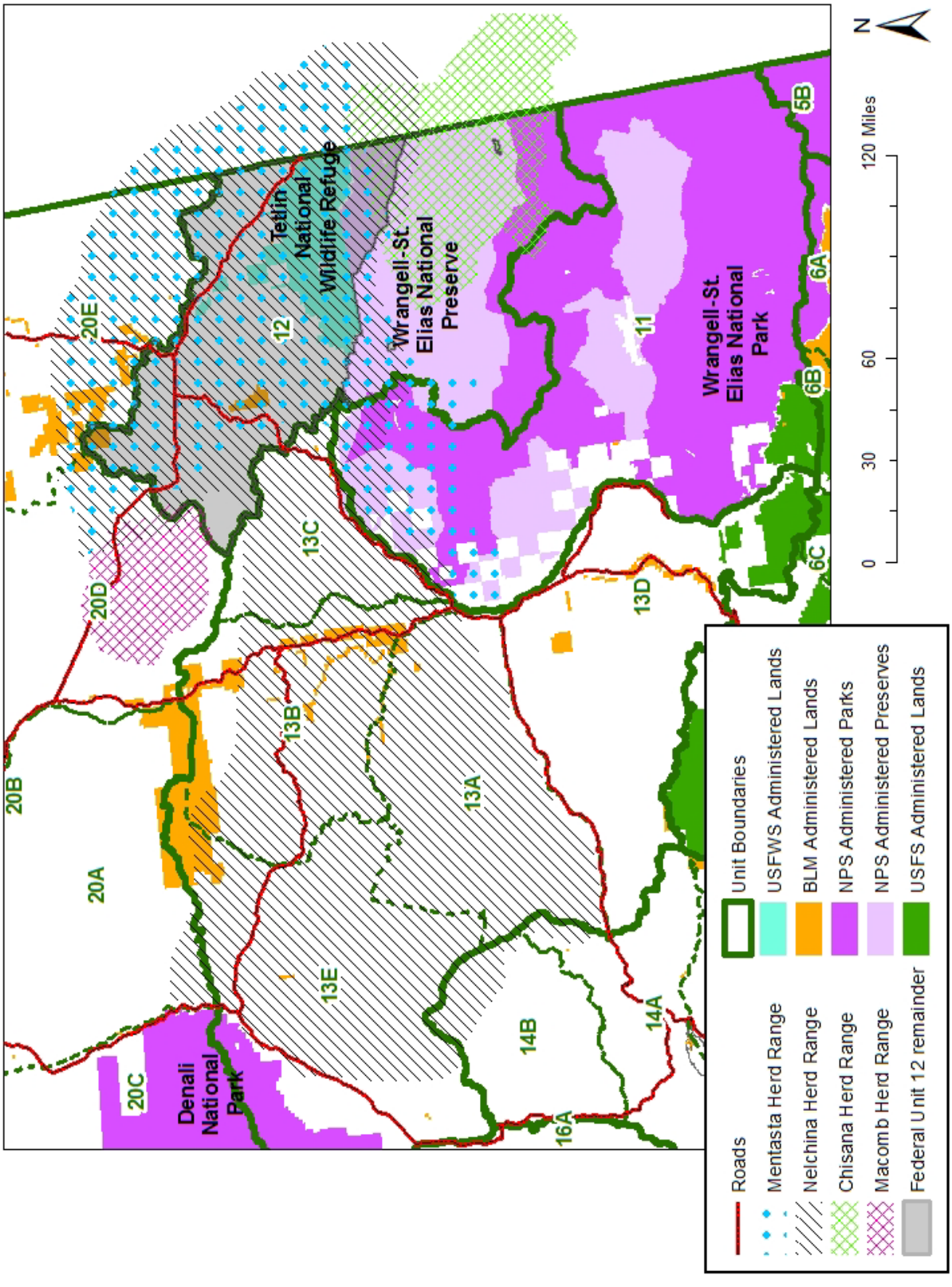
Mentasta Caribou Herd

The calving grounds for the Mentasta caribou herd (MCH) are located in northern Unit 11 within WRST (Route et al. 1995, **Map 2**). The MCH disperses across Unit 12 and southern Unit 20E in winter, often intermingling with the NCH (Route et al. 1995).

Federal and State biologists completed a cooperative management plan for the MCH in 1995 that specifies the following management objectives (Route et al. 1995):

- To the extent possible, allow for human harvest that will have minimal effects on the production, composition, and abundance of Mentasta caribou.
- To provide harvest priority to Federally-eligible subsistence users and to allow State authorized hunting to occur whenever possible.
- To monitor the herd demographics and harvest such that all pertinent data on the health of the herd are collected and disseminated to all agencies and citizens concerned with their management.

The MCH population declined from an estimated 3,160 caribou in 1987 to an estimated 429 caribou in 2017 (**Table 2**). 2017 data suggests the MCH population has remained stable at low levels since 2004 as evidenced by low calf productivity (Putera 2017, pers. comm.). Between 1987 and 2017, the bull:cow ratio has fluctuated widely, ranging from 35-120 bulls:100 cows and averaging 58 bulls:100 cows. June and fall calf:cow ratios fluctuated over the same time period, ranging from 1-38 calves:100 cows and 0-33 calves:100 cows, respectively (**Table 2**, Putera 2011, pers. comm. *in* OSM 2012). Between 1990 and 1997, Jenkins and Barten (2005) confirmed predation, particularly by wolves and bears, as the proximate cause of the MCH population decline.



Map 2. Ranges of the Nelchina, Mentasta, Macomb, and Chisana caribou herds in relation to Unit 12 remainder (ADF&G 2016).

Table 1. Population size and composition of the Nelchina caribou herd (Tobey and Kelleyhouse 2007, ADF&G 2008, 2010, Schwanke 2011, Schwanke and Robbins 2013, Robbins 2015, 2016a, 2016b pers.comm., 2017, pers. comm.).

Year	Total bulls: 100 cows[a]	Calves: 100 cows[a]	Population size[b]
2001	37	40	35,106
2002	31	48	35,939
2003	31	35	31,114
2004	31	45	38,961
2005	36	41	36,993
2006	24[c]	48[c]	
2007	34	35	33,744
2008	39	40	
2009	42	29	33,146
2010	64	55	44,954
2011	58	45	40,915
2012	57	31	46,496
2013	30	19	40,121
2014	42	45	
2015	36	45	48,700
2016	57	48	49,550
Average	39.5	40.1	39,672

[a] Fall Composition Counts

[b] Summer photocensus

[c] Modeled estimate

Table 2. Population size and composition of the Mentasta caribou herd (Putera 2011, pers. comm. *in* OSM 2012, Putera 2016 pers. comm., 2017 pers. comm.).

Year	June Calves:100 Cows[a]	Fall Calves:100 cows	Fall Bulls:100 cows	Fall Population Estimate[b]
1987	18	12	41	3,160
1988	34	18	43	2,480
1989	31	16	45	2,600
1990	-	-	-	-
1991	3	2	42	1,940
1992	16	6	41	1,430
1993	9	4	38	970
1994	19	11	38	880
1995	26	22	35	850
1996	16	11	35	780
1997	15	5	40	610
1998	13	10	42	540
1999	13	10	77	430
2000	1	0	59	470
2001	11	5	66	586
2002	21	29	45	410
2003	17	16	46	522
2004	8	5	-	293
2005	23	15	69	261
2006	-	-	-	-
2007	23	29	77	280
2008	14	20	73	319
2009	12	10	86	421
2010	25	25	120	336
2011	-	-	-	
2012	-	34	84	-
2013	38	23	77	512
2014	-	-	-	-
2015	-	-	-	-
2016	-	33	42	-
2017	11	18	86	429

[a]Includes small bulls that are indistinguishable from cows during fixed-wing flights.

[b]Population estimates between 2008 and 2017 are based on a June census of cows corrected for sightability, the fall calf:cow ratio, and a fall ratio of 30 bulls:100 cows.

Cultural Knowledge and Traditional Practices

Reference to the harvest and use of caribou by the people of the Eastern Interior and the Copper River Basin began as early as the 1800s and continues to the present day (Simeone 2006). Archeological evidence and historical accounts suggest that caribou was a primary subsistence resource for the Ahtna Athabascans of the upper Copper River watershed where a successful caribou hunt meant the difference between life and death for those living in the northern portion of the basin and beyond (Simeone 2006). The governor of Russian America, F.P. Wrangell, described witnessing numerous hunts and strategies used to harvest caribou in the 1820s and 1830s, including the use of fences and herd drives (Simeone 2006). As more explorers and early settlers moved into the region, they too depended heavily on the caribou that moved through what are now portions of Units 11, 12, and 13. The traditional practices of drying and smoking meat, as well as the proper and respectful treatment of harvested resources such as caribou and moose, are described in several ethnographic accounts of the Ahtna and people of the upper Tanana (de Laguna and McClellan 1981; Haynes and Simeone 2007; Mishler et al. 1988; Reckord 1983; Simeone 2006).

In recent comprehensive subsistence surveys conducted by the ADF&G in the upper Copper River and Tanana watersheds, it has been noted that large land mammal harvest is high (ranging between 17% and 60% of the total community harvest by weight) and in some villages and towns surpassed that of fish (Holen et al. 2012; Kukkonen and Zimpleman 2012; La Vine, et al. 2013; La Vine and Zimpleman 2014). During each study year, communities within the Copper River Basin harvested or hunted for caribou primarily in Unit 13 (Holen et al. 2012; Kukkonen and Zimpleman 2012; La Vine, et al. 2013; La Vine and Zimpleman 2014). Not all communities in the Upper Tanana watershed participated in recent surveys. Those that have (Dot Lake, Dry Creek, Mentasta Pass, Northway, and Tok) all demonstrate a high reliance on large land mammals with the percentage of the total community harvest in pounds of edible weight ranging from 28% of the harvest in Northway to 42% of the harvest in Dot Lake to 75% of the harvest in Dry Creek (Holen et al. 2012; La Vine et al. 2013; Godduhn and Kostick 2016). In 2011, the per capita caribou harvest from communities in the Upper Tanana watershed ranged from 14 lbs./person in Dry Creek to 31 lbs./person in Tok (Holen et al. 2012). In 2014, the caribou harvest by residents of Northway was 3% of edible weight and 9 lbs./person (Godduhn and Kostick 2016). Both Dot Lake and Dry Creek documented harvest and search areas for caribou close to their communities in Unit 20 during their study year (2011). Tok residents traveled farther. Harvest and search areas for caribou during 2011 extended along the Alaska Highway from Dry Creek east as far as the Canadian border, along the Taylor Highway as far as Eagle, and along the Tok Cutoff toward Mentasta Pass. Some residents reported harvest and search areas that extended into the Tetlin National Wildlife Refuge. Northway caribou harvest and search areas also extend into Tetlin National Wildlife Refuge.

Harvest History

The NCH is a popular herd to hunt and experiences heavy harvest pressure due to its road accessibility and proximity to Fairbanks and Anchorage. Population limits can be controlled solely by human harvest, and harvest quotas are adjusted annually in order to achieve State management objectives (Schwanke and Robbins 2013).

Over 95% of the NCH harvest occurs in Unit 13. The Federal harvest limit for caribou in Unit 13A and 13B is two caribou with the sex to-be-announced, and in Unit 13 remainder the harvest limit is two bulls. Between 2001 and 2016, harvest from the NCH under State regulations ranged from 404-5,764 caribou/year and averaged 2,045 caribou/year (Hatcher 2018, pers. comm.). Over the same time period, caribou harvest under Federal regulations in Unit 13 ranged from 237-610 caribou/year and averaged 417 caribou/year (OSM 2017, **Table 3**). During this time period, total NCH harvest from Unit 13 averaged 2,461 caribou/year.

While the long-term average is below State management objectives, the harvest quota and associated harvest has increased in recent years (2010-2017) in response to the increasing NCH population (**Table 3**). In 2016, the initial harvest quota of 4,000 caribou was lifted after population estimates from the summer photocensus showed that the NCH was still growing. No adjusted quota was announced in 2016 (Robbins 2017, pers. comm.). There has been no targeted harvest of the Mentasta herd since 1998 when all caribou hunting in Unit 11 was closed due to conservation concerns. Wounding loss and illegal and/or unreported harvest account for an unknown number of mortalities (Schwanke and Robbins 2013).

The only caribou season open in Unit 12 under State regulation is in the northwest portion of the unit. The State hunt targets the Macomb caribou herd and, while technically within the Federal Unit 12 remainder hunt area, contains no Federal public lands (**Map 2**). Therefore, all caribou harvested from Federal public lands within Unit 12 remainder occurs under Federal regulations. No caribou are taken during the September season as caribou are not present on Federal public lands during this time (Berg 2016, pers. comm.). Between 1998 and 2016, caribou harvest during the winter season ranged from 0-71 caribou/year and averaged 27 caribou/year (**Table 4**).

Winter hunts targeted for the NCH may result in incidental harvest of Mentasta caribou as the herds mix during the winter in Unit 12 remainder, and Nelchina and Mentasta caribou cannot be differentiated (Route et al. 1995, Berg 2016, pers. comm.). The MCH management plan notes, "It is unrealistic to close seasons directed at other larger caribou herds as long as incidental harvest of Mentasta caribou is biologically insignificant." The plan continues, "Movement patterns and aggregation behavior of collared caribou suggest that incidental harvest of Mentasta caribou is usually insignificant" (Route et al. 1995:6).

Table 3. Nelchina caribou herd State harvest quota, State harvest, and Federal harvest (FC1302) in Unit 13 (Robbins 2015, pers. comm., 2017, pers. comm., Schwanke and Robbins 2013, Tobey and Schwanke 2009, Tobey and Kelleyhouse 2007, OSM 2017, Hatcher 2018, pers. comm.).

Regulatory Year	Harvest Quota	State Harvest	Federal Harvest (FC1302)	Total Unit 13 Harvest
2001		982	498	1,480
2002		966	337	1,303
2003		752	322	1,074
2004		894	335	1,229
2005		2,177	610	2,787
2006		2,503	570	3,073
2007		966	385	1,351
2008		1,053	273	1,326
2009		404	349	753
2010	2,300	1,905	451	2,356
2011	2,400	2,032	395	2,427
2012	5,500	3,788	537	4,325
2013	2,500	2,296	279	2,575
2014	3,000	2,709	237	2,946
2015	5,000	3,523	595	4,118
2016	N/A[a]	5,764	491	6,255
2017	6,000[b]			

[a] Initial harvest quota of 4,000 was lifted and no adjusted quota was announced
[b] 3,000 bulls and 3,000 cows

Table 4. Federal (FC1202) caribou harvest and permits issued in Unit 12 remainder (OSM 2016).

Regulatory Year	Permits Issued	Bulls Harvested	Cows Harvested	Unknown Sex Harvested	Total Harvest
1998	46	9	0	2	11
1999	206	32	0	0	32
2000	183	38	0	2	40
2001	40	0	0	0	0
2002	2	0	0	0	0
2003	102	13	0	0	13
2004	114	18	1	0	19
2005	78	6	10	0	16
2006	53	0	3	0	3
2007	88	11	5	2	18
2008	147	15	13	0	28
2009	110	17	0	2	19
2010	120	31	23	0	54
2011	103	37	9	0	49
2012	152	35	35	1	71
2013	113	15	21	0	40
2014	116	15	22	0	37
2015	126	14	35	0	49
2016	114	3	3	0	6
Average	106	16.26	9.47	0.47	26.58

Other Alternatives Considered

WRST staff recommended deferring action on this proposal pending review of the 1995 Mentasta Caribou Herd Cooperative Management Plan and the collaring of additional MCH caribou to ensure that an adequate number of collared animals are available for monitoring. The plan is more than 20 years old and overdue for review.

WRST staff also recommended considering only authorizing a harvest limit of up to 2 caribou and limiting the designated hunter possession limit to no more than 4 caribou. A 2 caribou harvest limit would be consistent with the harvest limit in Unit 13 and double the harvest limit in Unit 20E. Hunts in these adjacent units also target the NCH. Limiting the possession limit could help preclude wanton waste, avoiding the potential of overtaxing a single hunter to properly care for the meat.

Effects of the Proposal

If this proposal is adopted, the harvest limit for the winter caribou season in Unit 12 remainder would be increased to "up to 3 caribou" and the authority to set the harvest limit for this season would be delegated to the Tetlin NWR Manager in consultation with WRST Superintendent, ADF&G area biologists, and Chairs of the Eastern Interior Council and Upper Tanana/Fortymile Fish and Game AC. For brevity, only the Tetlin NWR manager will be mentioned regarding delegated authority for the remainder of this section.

Harvest during this hunt is primarily from the NCH, which has exceeded State population objectives since 2010 and continues to increase. Concerns have been raised about population crashes and degradation of habitat resulting from overpopulation. Adoption of this proposal would aid in NCH management by allowing annual adjustments in the harvest limit in response to current NCH population levels. As mentioned by the proponent, overharvest of the NCH would not be a concern due to historically low harvest pressure in the area and because area land managers would discuss and agree upon the most appropriate harvest limit for a given year.

The Tetlin NWR manager already has delegated authority to announce the sex of the animals to be taken as well as the dates for the winter season, allowing for management flexibility and quick response to changing conditions. Adding harvest limit to their delegated authority would further increase management flexibility and response as well as decrease the administrative burden of completing special action requests (**Appendix A**). In 2016, the Board approved Temporary Special Action WSA16-06 to increase the harvest limit to two caribou in Unit 12 remainder for the winter season. This request required a public hearing, Tribal and ANCSA corporation consultations, a full analysis and several rounds of review. A decision by the Board was not made until after the FC1202 hunt opened. Delegating authority to the Tetlin NWR manager to set the harvest limit would alleviate the need for future special action requests and also result in more timely management actions regarding harvest limits.

Adoption of this proposal would provide additional harvest opportunity for Federally qualified subsistence users by increasing the harvest limit when the NCH population exceeds State management objectives, which could result in more efficient hunts by allowing more meat to be harvested in one trip. An increased harvest limit could prove particularly useful during years when other subsistence resources such as the Fortymile caribou herd are relatively unavailable due to shifts in migration and wintering areas. Weather and snow conditions could hamper or enhance access and harvest for the Unit 12 remainder winter caribou hunt.

It is not possible to distinguish between Nelchina and Mentasta herd caribou. While the NCH is the herd targeted by this request, an unknown number of Mentasta herd caribou may be harvested. This concern has been addressed in the past by monitoring herd locations and waiting to open the season until a sufficient number of Nelchina caribou are in the area. As the Tetlin NWR manager already has delegated authority to open/close the season, it is expected that a season would not be opened unless the ratio of Nelchina:Mentasta caribou is high. Mixing ratios are determined by aerial surveys of radio-collared caribou. Tetlin NWR has committed to monitoring this ratio and to closing or suspending the hunt if the

ratio falls below 20 Nelchina:1 Mentasta caribou. While the MCH management plan does not specify an appropriate mixing ratio, the 20:1 ratio has been used to determine winter season openings by the Board since at least 2000 (OSM 2000). The MCH management plan suggests that incidental harvest of Mentasta caribou is usually minimal (Route et al. 1995).

However, given the small number of Mentasta caribou that are currently collared, monitoring could be difficult. Monitoring flights to determine mixing ratios and the location and movements of Mentasta caribou are contingent upon having adequate numbers of radio-collared caribou. Currently, there are at most 10 collared Mentasta caribou (Putera 2017, pers. comm). Lack of availability of the drugs used in the captures prevented WRST staff from collaring additional animals in 2016, and it is unclear whether the capture drugs needed for the collaring will be available in 2017 (Putera 2017, pers. comm.).

OSM PRELIMNARY CONCLUSION

Support Proposal WP18-54 with **modification** to remove the regulatory language referring to dates and sex of animal to be taken for the winter season, delegate authority to announce season dates, harvest limit, and sex of the animals to be taken via a delegation of authority letter only, and clarify that season dates and harvest limits will be announced prior to any season opening (**Appendix A**).

The modified regulation should read:

Unit 12 – Caribou

Unit 12, remainder—1 bull	*Sep. 1-20.*
*Unit 12, remainder— **Up to 3** ~~1~~ caribou may be taken by a Federal registration permit (FC1202) during a winter season to be announced. **Season dates and harvest limits to be announced prior to any season opening.** ~~Dates for a winter season to occur between Oct. 1 and Apr. 30 and sex of animal to be taken will be announced by Tetlin National Wildlife Refuge Manager in consultation with Wrangell-St. Elias National Park and Preserve Superintendent, Alaska Department of Fish and Game area biologists, and Chairs of the Eastern Interior Regional Advisory Council and Upper Tanana/Fortymile Fish and Game Advisory Committee~~*	*Winter season to be announced.*

Justification

Delegating authority to the Tetlin NWR manager in consultation with the WRST superintendent, ADF&G area biologist, and Chairs of the Eastern Interior and Southcentral Councils and Upper Tanana/Fortymile Advisory Committee to set the harvest limit for the FC1202 hunt increases management flexibility and

response. There are no conservation concerns as harvest limits will be established by local land managers in response to current conditions, namely NCH population levels.

Additionally, approval of this proposal will increase harvest opportunities for Federally qualified subsistence users when the NCH population exceeds State management objectives through increases in the caribou harvest limit.

Removal of regulatory language and creation of a delegation of authority letter for the Federal in-season manager will simplify regulations and allow for management flexibility through adjustment of in-season hunt parameters.

ANALYSIS ADDENDUM

OSM CONCLUSION

Support OSM's preliminary conclusion for Proposal WP18-54 **with modification** to require the Tetlin NWR manger to also consult with Dot Lake, Healy Lake, Northway, Tanacross, and Tetlin; AITRC; and the Chairs of the Paxson, Copper River, and Cantwell Advisory Committees (**Appendix A**).

The modified regulation should read:

Unit 12 – Caribou

Unit 12, remainder—1 bull	*Sep. 1-20.*
Unit 12, remainder— ***Up to 3*** ~~*1*~~*caribou may be taken by a Federal registration permit (FC1202) during a winter season to be announced.* ***Season dates and harvest limits to be announced prior to any season opening.*** ~~*Dates for a winter season to occur between Oct. 1 and Apr. 30 and sex of animal to be taken will be announced by Tetlin National Wildlife Refuge Manager in consultation with Wrangell-St. Elias National Park and Preserve Superintendent, Alaska Department of Fish and Game area biologists, and Chairs of the Eastern Interior Regional Advisory Council and Upper Tanana/Fortymile Fish and Game Advisory Committee*~~	*Winter season to be announced.*

Justification

The Eastern Interior Council recommended consulting with affected Tribes and AITRC. Furthermore, desire for additional consultation with Unit 13 Advisory Committees, AITRC, and affected tribes was

expressed during the public meeting and the Tribal/ANSCA corporation consultations for WSA17-05. Consulting with additional stakeholders allows for more holistic and cooperative adaptive management.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Southcentral Alaska Subsistence Regional Advisory Council

Oppose WP18-54. Conservation concerns exist to protect the Mentasta Caribou herd from harvest while that portion of Unit 12 is open for Nelchina Caribou harvest.

Eastern Interior Alaska Subsistence Regional Advisory Council

Support WP18-54 **as modified by OSM** with **additional modification** to include affected Tribes, the Ahtna Intertribal Resource Commission (AITRC), and the communities of Dot Lake, Healy Lake, Northway, Tanacross, and Tetlin as consultation partners.

The Council stated that passing this proposal will benefit people in the rural areas and will help curtail growth of the Nelchina Caribou Herd, which is above management objectives. The Council would like to add Tetlin, Dot Lake, Healy Lake, Tanacross, Northway, and the Ahtna Intertribal Resource Commission as consultation partners to set harvest limits and season dates for the to be announced winter caribou season. In the Councils opinion, the proposed caribou limit of 3 is too high and the limit of 2 should satisfy subsistence needs. The Council also acknowledged the need for more caribou collars to monitor the herds. The Council noted that if the Mentasta Caribou Herd is present when the winter season is announced, the potential harvest of animals from this herd should be inconsequential and biologically insignificant, and would not present a potential conservation issue. The Council felt that overall this proposal presents a good long range management strategy.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee (ISC) found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

The ISC shares concerns expressed by the Southcentral RAC and ADF&G that this proposal poses potential conservation concerns for the smaller Mentasta caribou herd, which cannot be adequately tracked during times of the year when it mixes with the Nelchina caribou herd. While the Nelchina herd may be above population objectives, the Mentasta herd is currently estimated at 429 caribou, and no targeted harvest of the herd has been allowed since the mid-1990s due to conservation concerns. In addition, calf recruitment has not been adequate to allow for a targeted harvest.

Since 2000, managers at the Tetlin National Wildlife Refuge have used a 20:1 mixing ratio of Nelchina caribou to Mentasta caribou as the basis for determining winter season openings. According to the analysis, mixing ratios are determined by aerial surveys of radio-collared caribou. Unfortunately, there are currently no more than 10 collared Mentasta caribou, which is not enough to adequately monitor the location and

movements of Mentasta caribou or determine mixing ratios with the Nelchina herd. This poses a clear conservation concern for the Mentasta herd and is a solid basis for rejecting this proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-54: Proposal WP18-54, submitted by the Upper Tanana-Fortymile Fish and Game Advisory Committee, requests that the Tetlin National Wildlife refuge manager in consultation with Wrangell-St. Elias National Park and Preserve superintendent, Alaska Department of Fish and Game area biologists, and chairs of the Eastern Interior Regional Alaska Advisory Council and Upper Tana-na-Fortymile Fish and Game Advisory Committee be delegated authority to increase the harvest limit to "Up to 3 caribou" for this to-be-announced winter caribou season on Tetlin Refuge lands in Unit 12 Remainder.

Introduction: Current federal regulation allows the Tetlin Refuge manager, in consultation with the entities listed above, to open this hunt with a harvest limit of 1 caribou; the sex of the animal may be announced.

Proposal WP18-54 would provide additional flexibility to allow for harvest of up to 3 caribou in years when Nelchina caribou herd managers need to increase harvest. This would provide additional opportunity to harvest Nelchina animals, in years when surplus Nelchina animals are available, in Unit 12 remainder as they migrate through the area.

The Nelchina caribou herd currently exceeds established population objectives of 35,000–40,000 caribou. The Mentasta caribou herd is small and sometimes intermingles with the Nelchina herd during the hunt period. Currently, Tetlin Refuge staff monitor locations of a small number of collared Mentasta animals and work with ADF&G staff to determine the proportions of Nelchina and Mentasta caribou in the hunt area during this season. Tetlin staff have indicated that they would not open this season if unacceptable mixing ratios of the two herds occur. The Chisana herd also occurs in Unit 12, but is not expected to be affected, since it does not range onto federal lands in Unit 12 remainder during hunting seasons.

Impact on Subsistence Uses: Federally qualified subsistence users may have some additional opportunity to harvest caribou if this proposal passes.

Impact on Other Uses: Non-federally qualified subsistence users may be affected by this proposal when the Nelchina caribou herd is at or below the lower end of the population and harvest objectives.

Opportunity Provided by State:
State customary and traditional use finding: The Alaska Board of Game made a positive customary and traditional use finding for the Nelchina caribou herd in Units 12 and 13 and a positive finding for the Mentasta caribou herd in Unit 11. The Alaska Board of Game also made a negative customary and traditional use finding for the Chisana herd.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The Board of Game has made a finding of 600–1,000 for the Nelchina herd in Units 12 and 13. No other amounts necessary for subsistence have been established in Unit 12. No ANS was set for the Mentasta herd.

		Open Season (Permit/Hunt #)	
Unit/Area	Bag Limit	Resident	Nonresident
Unit 12 Remainder		1 caribou may be taken by registration permit only during a winter season to be announced by emergency order	No open season

Special instructions: None.

Conservation Issues: Even though there currently is an opportunity for additional harvest of Nelchina caribou, the timing of migration and distribution of the herd will be difficult to predict. Additionally, the Mentasta caribou herd is small compared to the Nelchina herd and more susceptible to unsustainable harvest if not properly monitored. The Tetlin Refuge has been radiotracking to determine if an unacceptable number of Mentasta caribou are mixed with the Nelchina herd on the refuge to allow for the hunt to occur. However, there are very few radio collars that are active, which decreases the effectiveness of these monitoring flights. If this hunt is to be implemented, additional radio collars should be deployed by Tetlin Refuge on Mentasta caribou to allow for adequate herd distribution monitoring by the Tetlin Refuge during the hunting season.

Enforcement Issues: None.

Recommendation: ADF&G is **OPPOSED** to this proposal. The Mentasta herd would be susceptible to overharvest under this regulation, and this regulation could adversely affect the Nelchina herd at a lower population size as herd size changes. If this proposal is passed, ADF&G recommends additional collars be

deployed on Mentasta herd animals prior to allowing a bag limit of more than 1 caribou during this hunt to minimize the likelihood of unsustainable harvest of the Mentasta herd.

WRITTEN PUBLIC COMMENTS

Ahtna Intertribal Resource Commission
dba/Copper River-Ahtna Inter-Tribal
Resource Conservation District
PO Box 613
Glennallen, Alaska 99588
907-822-8154
contact@ahtnatribal.org

July 26, 2017

Chairperson of Federal Subsistence
Board or his Designated Field Officer
Office of Subsistence Management
1011 E. Tudor Road, MS-121
Anchorage, Alaska 99503-6199

Dear Mr. Christensen or Designated Field Officer:

Enclosed are Ahtna Inter-Tribal Resource Commission's (AITRC) comments on 2018-2020 Federal Wildlife proposals. Please consider our viewpoint on wildlife proposals, when decsions are made on federal wildlife regulations.

Sincerely,

Shirley Smelcer, Chairperson of CRITR

Eastern Interor Subsistence Regional Advisory Council

WP18-50 Extend season [Unit 11 moose]

We do not support WP18-50, we support WP18-17. See comments under WP18-17.

WP18-51 Statewide – Modify baiting restrictions to align State regulations

We support WP18-51 to modify bait regulations to align with State regulations. Federal regulations are more restrictive than State regulations. Adding skinned carcasses of furbearers and fur animals, small game, with the exception of the meat of birds, to bait bear regulations will align State and Federal regulations, provide more opportunities for federal subsistence hunters who use bait stations to harvest bears.

Traditional use of grease, parts of wild game, and other methods of harvesting bears at bait stations would occur, hunters who use bait stations would have an imporoved chance of harvesting a bear with more options to choose from to use as bait.

WP18-54 – Increase harvest limit and Delegate Authority to set harvest limit for [Unit 12 caribou] to be announced winter season

We do not support WP18-54 to change Unit 12 Caribou regulations to "up to 3 caribou" may be taken with a federal registration permit. This will increase the take of caribou beyond sustainable limits and will stress the herd in its winter range. We have seen overharvest of caribou in the past with liberal bag limit that has taken decades to recover. This is not a wise proposal and we oppose it..

WP18-55 Extend Winter and fall season [Unit 12 moose]

Unit 12 Moose

That portion within Tetlin National Wildlife Refuge and those lands within the Wrangell-St. Elias National Preserve north and east of a line formed by the Pickeral Lake Winter Trail from the Canadian border to Pickerel Lake – 1 antlered bull by Federal registration permit (FM1203) Aug. ~~24~~ **20** - Sept. ~~20~~ **30**

Nov. 1 - ~~Feb. 28~~ **Apr. 30**

We are neutral on WP18-55 to extend Unit 12 Moose season to allow longer hunting opportunity.

Appendix A

Refuge Manager
Tetlin National Wildlife Refuge
P.O. Box 779 MS 529
Tok, Alaska 99780

Dear Refuge Manager:

This letter delegates specific regulatory authority from the Federal Subsistence Board (Board) to the manager of the Tetlin National Wildlife Refuge to issue emergency or temporary special actions if necessary to ensure the conservation of a healthy wildlife population, to continue subsistence uses of wildlife, for reasons of public safety, or to assure the continued viability of the population. This delegation only applies to the Federal public lands subject to Alaska National Interest Lands Conservation Act (ANILCA) Title VIII jurisdiction within Unit 12 remainder for the management of caribou on these lands.

It is the intent of the Board that actions related to management of caribou by Federal officials be coordinated, prior to implementation, with the Alaska Department of Fish and Game (ADF&G); Wrangell-St. Elias National Park and Preserve (WRST); the Chairs of the Eastern Interior Alaska and Southcentral Alaska Subsistence Regional Advisory Councils (Councils); **the Ahtna Intertribal Resource Commission (AITRC); the Native Villages of Dot Lake, Healy Lake, Northway, Tanacross, and Tetlin;** and the **Chairs of the** Upper Tanana/Fortymile**, Cantwell, Copper River, and Paxson** Fish and Game Advisory Committees, to the extent possible. Federal managers are expected to work with managers from the State and other Federal agencies, the Council Chairs, and applicable Council members to minimize disruption to subsistence resource users and existing agency programs, consistent with the need for special action.

DELEGATION OF AUTHORITY

1. Delegation: The Tetlin National Wildlife Refuge Manager is hereby delegated authority to issue emergency or temporary special actions affecting caribou on Federal public lands as outlined under the **Scope of Delegation** below. Any action greater than 60 days in length (temporary special action) requires a public hearing before implementation. Special actions are governed by Federal regulation at 36 CFR 242.19 and 50 CFR 100.19.

2. Authority: This delegation of authority is established pursuant to 36 CFR 242.10(d)(6) and 50 CFR 100.10(d)(6), which state: "The Board may delegate to agency field officials the authority to set harvest and possession limits, define harvest areas, specify methods or means of

harvest, specify permit requirements, and open or close specific fish or wildlife harvest seasons within frameworks established by the Board."

3. Scope of Delegation: The regulatory authority hereby delegated is limited to the following authorities within the limits set by regulation at 36 CFR 242.26 and 50 CFR 100.26:

> To set dates for a winter season to occur between Oct. 1 and Apr. 30 as well as the harvest limit and sex of animals to be taken during the winter season for caribou in Unit 12 remainder.

This delegation may be exercised only when it is necessary to conserve caribou populations, to continue subsistence uses, for reasons of public safety, or to assure the continued viability of the population.

All other proposed changes to codified regulations, such as customary and traditional use determinations, adjustments to methods and means of take, customary trade, or closures and restrictions for take for only non-Federally qualified users shall be directed to the Federal Subsistence Board.

The Federal public lands subject to this delegated authority are those within Unit 12 remainder.

4. Effective Period: This delegation of authority is effective from the date of this letter and continues until superseded or rescinded.

5. Guidelines for Delegation: You will become familiar with the management history of the wildlife species relevant to this delegation in the region, with current State and Federal regulations and management plans, and be up-to-date on population and harvest status information. You will review special action requests or situations that may require a special action and all supporting information to determine: (1) consistency with 36 CFR 242.19, (2) if the request/situation falls within the scope of authority, (3) if significant conservation problems or subsistence harvest concerns are indicated, and (4) what the consequences of taking an action or no action may be on potentially affected subsistence users and non-Federally qualified users. Requests not within your delegated authority will be forwarded to the Board for consideration. You will maintain a record of all special action requests and rationale for your decision. A copy of this record will be provided to the Administrative Records Specialist in the Office of Subsistence Management (OSM) no later than sixty days after development of the document.

You will notify OSM and coordinate with local ADF&G biologists, WRST superintendent, and the Chairs of the Eastern Interior and Southcentral Councils and the Upper Tanana/Fortymile AC

regarding special actions under consideration. You will issue decisions in a timely manner. Before the effective date of any decision, reasonable efforts will be made to notify the public, OSM, affected State and Federal managers, law enforcement personnel, and Council representatives. If an action is to supersede a State action not yet in effect, the decision will be communicated to the public, OSM, affected State and Federal Managers, and the local Council representatives at least 24 hours before the State action would be effective. If a decision to take no action is made, you will notify the proponent of the request immediately. A summary of special action requests and your resultant actions must be provided to the coordinator of the appropriate Subsistence Regional Advisory Council(s) at the end of each calendar year for presentation to the Council(s).

You may defer a special action request, otherwise covered by this delegation of authority, to the Board in instances when the proposed management action will have a significant impact on a large number of Federal subsistence users or is particularly controversial. This option should be exercised judiciously and may be initiated only when sufficient time allows for it. Such deferrals should not be considered when immediate management actions are necessary for conservation purposes. The Board may determine that a special action request may best be handled by the Board, subsequently rescinding the delegated regulatory authority for the specific action only.

6. Support Services: Administrative support for regulatory actions will be provided by the Office of Subsistence Management, U.S. Fish & Wildlife Service, and the Department of the Interior.

Sincerely,

Anthony Christianson
Chair, Federal Subsistence Board

cc: Commissioner, Alaska Department of Fish and Game
Assistant Regional Director, Office of Subsistence Management
Deputy Assistant Regional Director, Office of Subsistence Management
Chair, Eastern Interior Alaska Subsistence Regional Advisory Council
Chair, Southcentral Alaska Subsistence Regional Advisory Council
Council Coordinator, Eastern Interior Alaska Subsistence Regional Advisory Council, Office of Subsistence Management

Council Coordinator, Southcentral Alaska Subsistence Regional Advisory Council, Office of Subsistence Management
Superintendent, Wrangell-St. Elias National Park and Preserve
Federal Subsistence Liaison Team Leader, Alaska Department of Fish and Game
Federal Subsistence Board
Interagency Staff Committee
Administrative Record

WP18–56 Executive Summary	
General Description	Proposal WP18-56 requests that the Arctic Village Sheep Management Area in Unit 25A be open to the harvest of sheep by non-Federally qualified users. *Submitted by: Richard Bishop of Fairbanks, Alaska*.
Proposed Regulation	**Unit 25A—Arctic Village Sheep Management Area** *2 rams by Federal registration permit only.* *Aug. 10–Apr. 30* ~~*Federal public lands are closed to the taking of sheep except by rural Alaska residents of Arctic Village, Venetie, Fort Yukon, Kaktovik, and Chalkyitsik hunting under these regulations.*~~
OSM Conclusion	**Oppose**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council	

WP18–56 Executive Summary	
Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	**Support with modification** to open only that portion of the Arctic Village Sheep Management Area that is north of Cane Creek to the harvest of sheep. The modification should read: **Unit 25A—Arctic Village Sheep Management Area** *2 rams by Federal registration permit only. Aug. 10–Apr. 30* *Federal public lands **south of Cane Creek** are closed to the taking of sheep except by rural Alaska residents of Arctic Village, Venetie, Fort Yukon, Kaktovik, and Chalkyitsik hunting under these regulations.*
North Slope Alaska Subsistence Regional Advisory Council Recommendation	**Oppose**
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Support**
Written Public Comments	**51 Support**

STAFF ANALYSIS
WP18-56

ISSUES

Proposal WP18-56, submitted by Richard Bishop of Fairbanks, Alaska, requests to open the Arctic Village Sheep Management Area (AVSMA) in Unit 25A to the harvest of sheep by non-Federally qualified users.

DISCUSSION

The proponent states that the restriction of sheep hunting to only residents of a few communities (Arctic Village, Chalkyitsik, Fort Yukon, Kaktovik, and Venetie) is not necessary to accommodate local subsistence uses, and that residents of these communities do not hunt sheep in the AVSMA. The proponent also states that sheep hunting opportunity on Federal public lands in the AVSMA should be open to the public under State hunting regulations because there is no biological or subsistence related reasons to preclude sheep hunting opportunities by the public in the AVSMA.

Federal closures to the harvest of sheep in the AVSMA by non-Federally qualified users have been in effect since 1991. The closure was expanded in 1995 to include Cane Creek and Red Sheep Creek drainages but was rescinded in these drainages for the 2006 to 2011 regulatory years between Aug. 10 and Sept. 30. The last time the Federal Subsistence Board (Board) received a proposal to rescind the closure in the entire AVSMA was 2006 (WP06-57).

Existing Federal Regulation

Unit 25A — Sheep

Unit 25A —Arctic Village Sheep Management Area	
2 rams by Federal registration permit only.	*Aug. 10–Apr. 30*

Federal public lands are closed to the taking of sheep except by rural Alaska residents of Arctic Village, Venetie, Fort Yukon, Kaktovik, and Chalkyitsik hunting under these regulations.

Proposed Federal Regulation

Unit 25A — Sheep

Unit 25A—Arctic Village Sheep Management Area	
2 rams by Federal registration permit only.	*Aug. 10–Apr. 30*

~~*Federal public lands are closed to the taking of sheep except by rural Alaska residents of Arctic Village, Venetie, Fort Yukon, Kaktovik, and Chalkyitsik hunting under these regulations.*~~

Existing State Regulations

Unit 25 Sheep

Unit 25A, east of the Middle Fork Chandalar River	*Residents, One ram with full-curl horn or larger*	*HT*	*Aug. 10–Sept. 20*
	Or		
	Three sheep by permit available online at http://hunt.alaska.gov or in person in Fairbanks and Kaktovik beginning Sept. 14. The use of aircraft for access to hunt sheep and to transport harvested sheep is prohibited in this hunt except into and out of the Arctic Village and Kaktovik airports. No motorized access from the Dalton Highway.	*RS595*	*Oct. 1–Apr. 30*
	Nonresidents, One ram with full-curl horn or larger every four regulatory years.	*HT*	*Aug. 10–Sept. 20*

5 AAC 92.003 Hunter education and orientation requirements.

(i) Before a person hunts within the Red Sheep Creek/Cane Creek portion of the Arctic Village Sheep Management Area of Unit 25A, that person must possess proof of completion of a department-approved hunter ethics and orientation course, including land status and trespass information.

Extent of Federal Public Lands

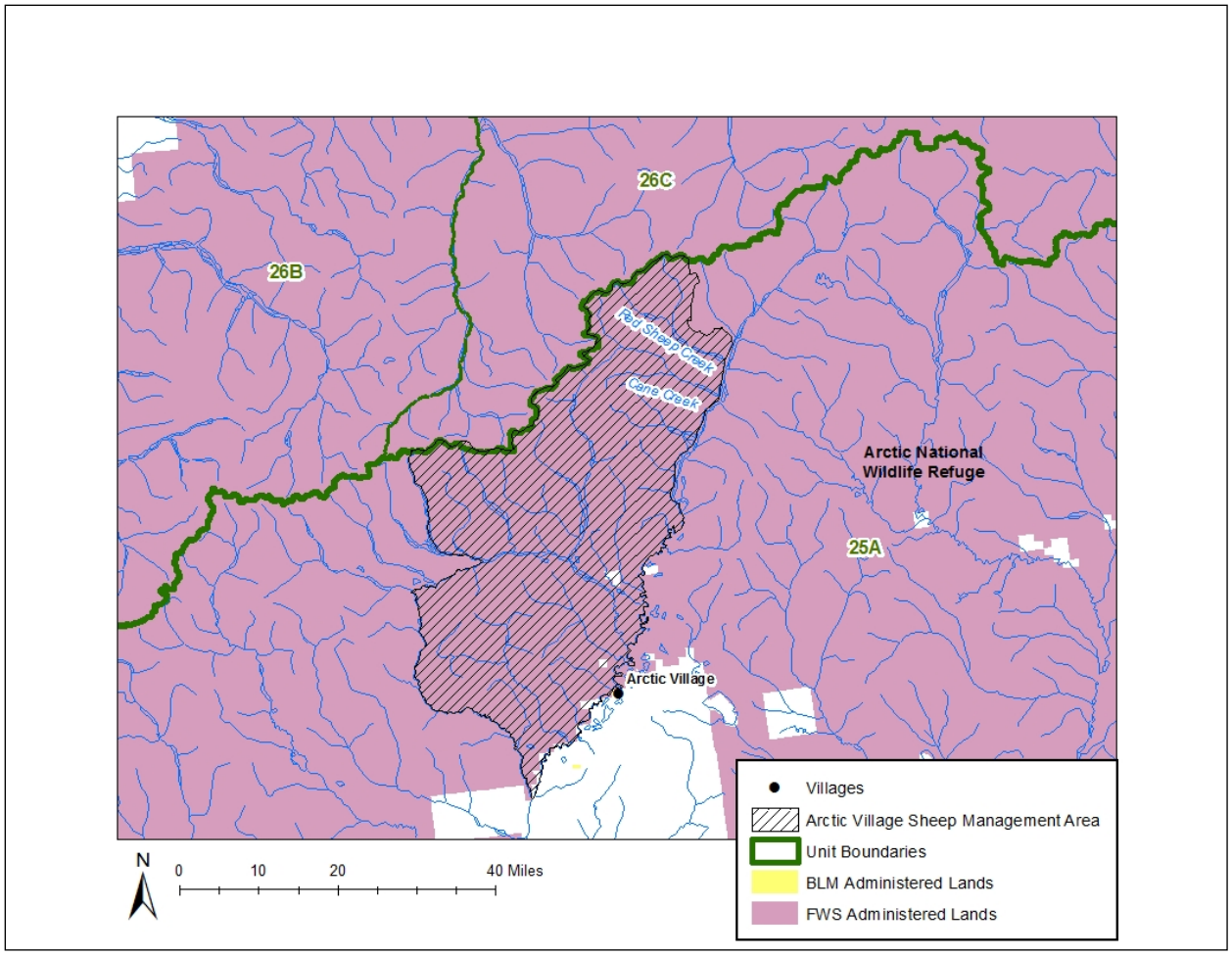
Federal public lands comprise approximately 99% of the Arctic Village Sheep Management Area in Unit 25A and consist of U.S. Fish and Wildlife Service managed lands that are within the Arctic National Wildlife Refuge (**Map 1**).

Customary and Traditional Use Determination

Rural residents of Arctic Village, Chalkyitsik, Fort Yukon, Kaktovik, and Venetie have a customary and traditional use determination for sheep in Unit 25A.

Regulatory History

Knowledge of regulatory history necessary to analyze Proposal WP18-56 is extensive. It is described in **Appendix A**.



Map 1. The Arctic Village Sheep Management Area in Unit 25A.

Biological Background

Sheep populations across the eastern Brooks Range of Alaska have appeared relatively stable at low densities since the late 1990s (Caikoski 2014). However, geographic barriers such as large valleys and rivers naturally limit sheep movements and distribution, resulting in discrete subpopulations (Arthur 2013, Caikoski 2014). Therefore, repeated, fine-scale surveys are necessary to understand sheep population status and trends in a specific area such as the AVSMA.

State management goals and objectives for sheep in Unit 25A (Caikoski 2014) include:

- Protect, maintain, and enhance the sheep population and its habitat in concert with other components of the ecosystem.
- Provide for continued general sheep harvest and subsistence use of sheep.
- Provide an opportunity to hunt sheep under aesthetically pleasing conditions.
- Maximize hunter opportunity using a full-curl harvest strategy.
- Maintain an average harvest of rams ≥ 8 years old.

The State manages sheep using a full-curl harvest strategy, a conservative approach (ADF&G 2017a). Once sheep are eight years old, their chances of surviving each additional year is much lower. Harvesting older, full-curl rams (8+ years old) allows younger rams in their prime to continue breeding (ADF&G 2017a).

Arctic National Wildlife Refuge conducts periodic aerial sheep surveys of the AVSMA and surrounding areas. Due to differences in survey areas, comparisons across years are difficult. Sheep densities within the AVSMA have generally been low compared to other areas in the Brooks Range, which is likely due to poor habitat quality (Payer 2006 in OSM 2014a). Within the AVSMA, sheep densities north of Cane Creek have been much higher than sheep densities south of Cane Creek (Mauer 1990 in OSM 2014a, Wald 2012). This is probably related to shale formations that are more common north (versus south) of Cane Creek, which support more vegetation and therefore more sheep (Smith 1979 in OSM 2014a). The presence of mineral licks south of Cane Creek also influences sheep densities as most sheep observed by Mauer (1996) and Payer (2006) were clustered around such licks (OSM 2014a).

In 1991, AVSMA sheep densities north and south of Cane Creek averaged 2.25 sheep/mi^2 and 0.2 sheep/mi^2, respectively (Mauer 1996 in OSM 2014a). In 2006, AVSMA sheep density north of Cane Creek averaged 1.7 sheep/mi^2 (Wald 2012). The observed decline in density is thought to be weather related (OSM 2014).

The AVSMA sheep population likely declined between 2012 and 2015 due to several years of poor lamb production and severe winters (particularly the winters of 2012-13 and 2013-14). In 2012, surveys within and near the AVSMA indicated an average sheep density of 0.79 sheep/mi^2 and 27 lambs:100 ewes (Arthur 2017, pers. comm.). Density north and south of Cane Creek ranged from 1.5–1.8 sheep/mi^2 and 0.25–0.7 sheep/mi^2, respectively (Wald 2012). In 2015, estimated sheep density for the same areas averaged 0.67 sheep/mi^2 and the lamb:ewe ratio was 34 lambs:100 ewes. The 2015 survey also indicated a decline in rams of all age classes (Arthur 2017, pers. comm.).

In 2016, a larger area was surveyed, including the Hulahula River drainage in Unit 26C, which contains higher sheep densities than the AVSMA. While the 2016 overall sheep density averaged 0.86 sheep/mi^2, density within the AVSMA was likely 0.70-0.75 sheep/mi^2 (Arthur 2017, pers. comm.). The ram:ewe ratio for the entire survey area averaged 28 rams:100 ewes. Due to improved lamb production in 2015 and 2016 (>30 lambs:100 ewes), the AVSMA sheep population has likely not declined below 2015 levels and may be increasing. However, it will be at least 3–5 years before an increase in mature (8+ year old) rams are observed in the AVSMA sheep population (Arthur 2017, pers. comm.).

Cultural Knowledge and Traditional Practices

The AVSMA was traditionally occupied by *Netsi Gwich'in* who occupied the northern reaches of the East Fork Chandalar, Koness, and Sheenjek Rivers. By the 1930s most Netsi Gwich'in were living in three semi-permanent settlements of Arctic Village, Christian Village, and Venetie, and traditional land use remained largely intact (McKennan 1965). In the past, Netsi Gwich'in relied upon sheep as a food source primarily in late summer or whenever caribou were scarce (Hadleigh-West 1963). Hadleigh-West (1963) identified four very specific sheep hunting areas used by Arctic Village residents along the Junjik River, East Fork Chandalar River, Cane Creek, and Red Sheep Creek.

The customary and traditional use determination for sheep in Unit 25A, including the AVSMA, consists of five communities with a total population of roughly 1,200 people according to the 2010 U.S. Census (**Table 1**).

Table 1. The population of communities in the customary and traditional use determination for sheep in Unit 25A, 1960-2010.

Community	U.S. Census					
	1960	1970	1980	1990	2000	2010
Arctic Village	110	85	111	96	152	152
Chalkyitsik	57	130	100	90	83	69
Fort Yukon	701	448	619	580	595	583
Kaktovik		123	165	224	293	239
Venetie	107	112	132	182	202	166
Total	975	898	1,127	1,172	1,325	1,209

Source: ADCCED 2017.

Of the five communities with recognized customary and traditional uses of sheep in Unit 25A, the residents of Arctic Village have the strongest ties to and are the primary users of the Red Sheep and Cane Creek drainages (OSM 1993; see also Dinero 2003, Gustafson 2004, and Reed et al. 2008). Sheep hunting is a "longstanding" tradition for Arctic Village residents, most of whom are Gwich'in Athabascan (Caulfield 1983:68; Dinero 2003; EISRAC 2006:110–137, 2007, 2011; Gustafson 2004), and the Red Sheep and Cane Creek areas have been a longstanding focus of this activity. Sheep are a prestigious subsistence resource and providing sheep meat to the community is highly respected (cf. Caulfield 1983 and Dinero 2003 for discussion). Sheep are also known as an important "hunger food," that is, a food source that is critical when caribou are unavailable (Caulfield 1983, Dinero 2011, pers. comm.; Gilbert 2011, pers. comm.). Local people report increasing uncertainty of caribou migrations in recent years, declining quality of caribou meat, and increasing difficulty and travel distance to obtain moose in recent years: in light of this, local residents claim that sheep are an increasingly important resource (Gilbert 2011, pers. comm.; Swaney 2011, pers. comm.). As noted by one prominent elder, "When we have no caribou, that's the time we have to go up [to get sheep]" (Gilbert 2011, pers. comm.).

The public record supports the fact that Arctic Village residents have a long history of using the Cane Creek and Red Sheep Creek drainages, which continues be a culturally significant area. Extensive discussion included in previous proposal analyses (OSM 1993, 1995a, and 2014a) pointed to regular use of these drainages by residents of Arctic Village. Gustafson (2004), in a study of traditional ecological knowledge, discusses the importance and continued use of the Red Sheep Creek area for sheep hunting. Testimony by Arctic Village residents in 2006, 2007, and 2011 at the Eastern Interior Alaska Regional Advisory Council (Eastern Interior Council) meeting about hunting in the Red Sheep and Cane Creek drainages demonstrates continued hunting in these areas. Discussions with Refuge Information Technicians from Arctic Village, other Arctic National Wildlife Refuge staff, researchers working in the area, and subsistence hunters from Arctic Village also confirm continued sheep hunting in the Red Sheep and Cane Creek drainages (Bryant 2011, pers. comm.; Dinero 2011 pers. comm.; Mathews 2011, pers. comm.; John 2011, pers. comm.).

The trip from Arctic Village to Red Sheep Creek is over 100 miles and residents use great effort both physically and economically to hunt sheep in these drainages (Bryant 2011, pers. comm.; John 2011, pers. comm.; Gilbert 2011, pers. comm.; Swaney 2011, pers. comm.). The residents of Arctic Village have repeatedly expressed concerns about non-Federally qualified users hunting sheep in Red Sheep Creek and Cane Creek drainages and have provided testimony and public comment at numerous Council and Board meetings to attest to the importance of Red Sheep Creek, to describe their use of the area, and to explain that the presence of non-Federally qualified users has affected their access and reduced their harvest opportunities (EIRAC 2006, 2007, 2011; FSB 1991d:291-311, 1995, 2006a, 2007:292–306, and 2012; (OSM 1993, 1995a, 1996, 2006b, 2007a, and 2014a; Swaney 2011, pers. comm.; Gilbert 2011, pers. comm.; John 2011, pers. comm.).

Among the Gwich'in, there is a story about how Red Sheep Creek was named which illustrates the link between subsistence and religious practices and beliefs. It also underscores the importance of this area to the residents of Arctic Village. The story relates Red Sheep Creek to the Episcopalian Church, an influential factor in establishing Arctic Village, and sheds some light on why Arctic Village residents consider Red Sheep Creek a revered place (Dinero 2007; Dinero 2011, pers. comm.). The story begins with people who were hungry. One day at the church someone spotted caribou moving in the brush. Upon closer inspection people realized they were looking at unusual sheep with red markings, or what many say were crosses on their coats. The next day, the people followed the red sheep far into the mountains where they were finally able to harvest them. The hides of the sheep were kept and passed down because of their distinctive markings (Dinero 2011, pers. comm.). The story of the red sheep links a prestigious subsistence resource (sheep) to traditional and modern beliefs and practices, and demonstrates the complementary nature of subsistence to place, tradition, culture, and modern beliefs.

Traditionally Arctic Village residents have harvested sheep in early fall (late August or early September) or in early winter (November) (Caulfield 1983, FSB 2007:292–306). "Sheep taste best in the fall," as documented in earlier research (OSM 1995a:353, Proposal 54). Residents generally travel to hunt sheep by boat, then by foot from hunting camps in the fall or by snowmachine in late fall, but not in winter given the dangerous terrain and winter weather (OSM 1993, Proposal 58).

Arctic Village residents have commented that allowing non-Federally qualified users to harvest sheep in Red Sheep Creek and Cane Creek during the time when Arctic Village residents customarily and traditionally harvested sheep (with the exception of November) affects Arctic Village residents' ability to access an important sheep hunting area. Since 1993, Arctic Village residents have noted to the Board that plane traffic and use by non-Federally qualified users have interfered with their ability to successfully hunt sheep in the Red Sheep and Cane Creek drainages. Residents reported that plane fly-overs "spooked" sheep and that, "older rams can climb to higher elevations, making them more difficult to hunt" (OSM 1993:4, Proposal 58; see also OSM 1995a, Proposal 54 for additional discussion). Gideon James from Arctic Village explained that Red Sheep and Cane Creek are both very narrow valleys, and consequently flights through the area disturb the sheep (FSB 2012:201). These disturbances have continued to be described by Arctic Refuge staff (Matthews 2011, pers. comm.), and local residents (Swaney 2011, pers. comm., John 2011 pers. comm., Gilbert 2011, pers. comm.). Frid (2003) found that fixed-wing aircraft disrupted resting or caused fleeing behavior in Dall sheep in the Yukon Territory during overflights. This disruption was of a longer duration during direct flight approaches. Results of this study could help provide

managers with guidelines for determining spatial and temporal restrictions to aircraft in areas frequented by this species.

Harvest History

Federal closures to the take of sheep in the AVSMA by non-Federally qualified users have been in effect since 1991. In 1995, the AVSMA was expanded to include the area north of Cane Creek and the Red Sheep Creek drainage. The closure to the take of sheep in the area north of Cane Creek and the Red Sheep Creek drainage, Aug. 10–Sept. 30, by non-Federally qualified users was rescinded for the 2006 through 2011 regulatory years

Data on the reported use of the AVSMA by Federally qualified subsistence users is sparse, and just how many sheep are harvested by Federally qualified subsistence users in the AVSMA is unknown. It is likely that many Gwitch'in hunters have not reported their harvest efforts (see Van Lanen et al. 2012 and Anderson and Alexander 1992 for a discussion).

Since 1995, Federally qualified subsistence users have been required to get a Federal registration permit to hunt for sheep in the AVSMA. Permit reports kept by the U.S. Fish and Wildlife Service show that residents of Arctic Village have requested 25 Federal permits to hunt sheep in the AVSMA, 7 hunters reported attempting to harvest sheep, and a total of 5 sheep harvests were reported (**Table 2**). Residents of Fort Yukon have requested 5 permits to hunt sheep in the AVSMA, 4 hunters reported attempting to harvest sheep, and a total of 2 sheep harvests were reported. The majority of permits were issued after 2005. The location of the harvest for the majority of sheep taken was not reported. One hunter reported taking a sheep in the area north of Cane Creek and the Red Sheep Creek drainage.

The Alaska Department of Fish and Game maintains a harvest reporting database where hunters using State harvest tickets or State permits report their hunting efforts (ADF&G 2017b). Complete records were not kept until the mid-1980s, and it is likely that many Gwitch'in hunters have not reported their harvest efforts or have reported their harvest efforts on Federal permits (see above).

From 1983 to 2015 regulatory years, hunters with State harvest tickets or State permits reported harvesting 1,690 sheep (about 50 sheep annually) from within the entire Unit 25A area (see **Table 2**, ADF&G 2017b and OSM 2017a). The harvest of 7 sheep by Federally qualified subsistence users were all reported before 1995, which is when Federal permits became available. Using the State's harvest reporting database, after 1995 all sheep harvests were reported by non-Federally qualified users using State harvest tickers or State permits.

From 1983 to 1990 regulatory years, approximately 61 sheep harvests (about 8 sheep annually) were reported in an area approximating the AVSMA using uniform coding units, including the area north of Cane Creek and the Red Sheep Creek drainage, before most of the area was closed to the harvest of sheep by non-Federally qualified users in 1991 (OSM 2017a, 4 of the 61 sheep harvests were reported by Federally qualified subsistence users).

From 1983 to 1994 regulatory years, approximately 27 sheep harvests (about 2 sheep annually) were reported in the area north of Cane Creek and in the Red Sheep Creek drainage, before it closed to the harvest of sheep by non-Federally qualified users in 1995 (OSM 2017a, no sheep harvests was reported by Federally qualified subsistence users).

Table 2. The harvest of sheep in Unit 25A reported on Federal permits by communities in the customary and traditional use determination, 1995-2015 cumulative.

FEDERAL PERMITS ONLY - Unit 25A Sheep Harvest						
Community	Arctic Village Sheep Management Area Permit FS2502			Unit 25A remainder Permit FS2503		
	Issued	Hunted	Taken	Issued	Hunted	Taken
Arctic Village	25	7	5	16	3	3
Fort Yukon	5	4	2	2	0	0
Kaktovik	0	0	0	6	4	4
Total	30	11	7	24	7	7

Source: OSM 2017a.

From 2006 to 2010 regulatory years, approximately 22 sheep harvests (about 4 sheep annually) were reported in the area north of Cane Creek and in the Red Sheep Creek drainage while it was open to the harvest of sheep from Aug. 10 through Sept. 30 by non-Federally qualified users (OSM 2017a, harvest site information is not readily available after the 2011 regulatory year). One sheep harvest was reported in 2005 by a non-Federally qualified user when the area was closed.

Effects of Proposal

If adopted, Proposal WP18-56 would open the AVSMA: (1) to the harvest one ram with full-curl horn or larger Aug. 10–Sept. 20 by a non-Federally qualified user who is a resident of Alaska, or (2) to the harvest of up to 3 sheep annually Oct. 1–Apr. 30 without the use of an aircraft by a non-Federally qualified user who is a resident of Alaska, and (3) to the harvest of 1 ram every four years by a nonresident of Alaska.

Adopting this proposal and opening the AVSMA to non-Federally qualified users may adversely affect subsistence users' access and ability to harvest sheep in the AVSMA and thereby fail to provide a meaningful preference for Federally qualified subsistence users.

If adopted, this proposal could negatively impact the sheep population in the AVSMA, especially south of Cane Creek where sheep density estimates are low.

OSM CONCLUSION

Oppose Proposal WP18-56.

Justification

Federal public lands in the Arctic Village Sheep Management Area should remain closed to the harvest of sheep except by Federally qualified subsistence users. Sheep densities within the AVSMA have generally been low compared to other areas in the Brooks Range, which is likely due to poor habitat quality (Payer 2006 in OSM 2014). In 1991, when the closure was adopted by the Board, portions of the area did not appear to be able to support more sheep than were present, and the Board said that the remainder of Unit 25A supported a substantial opportunity for all hunters (FSB 1991b:150–164). Sheep populations in the

Table 2. Number of sheep harvested in Unit 25A, 1983-2016, by user group, based on ADF&G harvest reporting system.

STATE PERMITS ONLY - Unit 25A Sheep Harvest								
Year	Federally qualified subsistence users		Non-Federally qualified uses				Total	
			Residents of Alaska		Nonresidents of Alaska			
	Issued	Harvested	Issued	Harvested	Issued	Harvested	Issued	Harvested
2016			61	20	36	24	97	44
2015			62	16	41	24	103	40
2014			77	24	40	20	117	44
2013			91	36	48	31	139	67
2012			90	36	41	26	131	62
2011			93	42	61	44	154	86
2010			158	47	51	30	212	77
2009			145	45	59	39	204	84
2008			149	38	56	36	205	74
2007			126	36	53	40	179	76
2006			110	36	46	33	156	69
2005			108	28	52	38	160	66
2004			84	9	47	37	131	46
2003			101	20	51	33	153	53
2002			89	14	45	25	134	39
2001			95	15	50	36	145	51
2000			72	12	35	19	107	31
1999			70	16	33	25	103	41
1998			51	12	21	15	72	27
1997			57	15	20	15	77	30
1996			57	13	19	13	76	26
1995			62	14	20	9	82	23
1994			31	2	15	8	46	10
1993			70	17	18	10	88	27
1992			96	15	33	24	130	40
1991			92	19	46	36	140	56
1990			125	28	44	40	172	71
1989			117	23	52	39	169	62
1988			88	23	46	38	135	62
1987			82	22	34	29	116	51
1986			90	22	31	27	122	49
1985			77	22	29	23	106	45
1984			56	14	19	16	75	30
1983			65	13	25	17	90	30
Total	13[a]	7[a]	2,997	764	1,317	919	4,327	1,690

[a] Four or fewer reports were received in any given year. Only the total is provided to protect confidentiality of Federally qualified subsistence users reporting their effort and harvest.

Source: ADF&G 2017b and OSM 2017a.

AVSMA situated south of Cane Creek continue to exist at low densities (Arthur 2017, pers. comm.) and should remain closed to nonsubsistence uses in order to protect healthy populations of sheep, as mandated in ANILCA Section 815(3).

Since 1995 the Board has continued to hear substantial testimony and ethnographic evidence demonstrating the importance of Cane Creek and Red Sheep Creek drainages to Federally qualified subsistence users, especially Netsi Gwich'in who occupied the area historically and continue to occupy the area today. In 2012, the Board reiterated that the closure was needed to ensure the continuation of traditional subsistence uses of sheep by Arctic Village hunters (OSM 2012b:7), and again in 2014 (OSM 2014a:350). There have been no indications that the phenomenon has changed. This area should remain closed to nonsubsistence uses in order to protect subsistence uses, as mandated in ANILCA Section 815(3).

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Eastern Interior Subsistence Regional Advisory Council

Support WP18-56 **with modification** to open only that portion of the Arctic Village Sheep Management Area that is north of Cane Creek to the harvest of sheep. The Council opined that the only legitimate reasons under Title VIII of ANILCA to restrict or eliminate the use of a resource on Federal public lands by nonsubsistence users are conservation concerns and/or detrimental effects on satisfaction of subsistence needs. The Council recognized that the issue at stake here is the cultural concern and felt that the "cultural or social issues" are not a legitimate reason to close the area under provisions of ANILCA (however, a few Council members differed from this opinion). The closing of the Arctic Village Sheep Management Area to the harvest of sheep by nonsubsistence users only affects sheep hunters. All other types of visitors to the area, including hikers, wildlife photographers, and flight site-seers, have been allowed to use the area. The Council stated that they consider this issue to be a "political football" and are very disappointed to find out that it is not resolved and on the table again. The Council felt that sheep conservation is very important and encouraged the Federal and State Governments to work together on this regulatory issue. The Council also suggested implementation a specially designed, required respectful hunter education course for users who would hunt in this area. The Council felt that learning respect for other people uses and for the resource is very important, as well as learning and understanding other cultures. The Red Sheep Creek area is a very important cultural place, and Native cultures value the world and wildlife very differently than White cultures. The importance of a certain area in the Native culture does not have to manifest itself in a substantial harvest. To alleviate some potential conservation concerns the Council modified the proposal to only open the area north of Cane Creek, including the Red Sheep Creek drainage.
The modification should read:

Unit 25A—Arctic Village Sheep Management Area

2 rams by Federal registration permit only.	*Aug. 10–Apr. 30*
*Federal public lands **south of Cane Creek** are closed to the taking of sheep except by rural Alaska residents of Arctic Village, Venetie, Fort Yukon, Kaktovik, and Chalkyitsik hunting under these regulations.*	

North Slope Subsistence Regional Advisory Council

Oppose WP18-56. The Council found this proposal alarming in that it could potentially take away a very important subsistence priority on Federal lands that encompass an area, while fairly small in size, that has been vital to the community of Arctic Village for generations and is very important to the other rural communities in the region with cultural and traditional use of sheep in this area. The Council stressed that it would be detrimental to subsistence users to open up the area to non-Federally qualified user hunting, and it is necessary to restrict these other uses in order to provide for subsistence needs. The Council

highlighted that there is a considerable amount of historical discussion, and the importance of this area to the local communities is well-supported. There is need for stability and for food security in these communities. The importance of protecting the subsistence opportunity in this area is well documented and recognized even through repeated proposal reviews. The historic and contemporary hunting patterns exist to provide food security to the community, and the closure has allowed for the continued traditional harvest of sheep. The Council also stressed that the concern is not only the harvest of sheep by non-Federally qualified subsistence users, but also the deflection of the sheep with the nonresident hunting activity and plane access pushing sheep further and higher up into the mountains, displacing them away from the local community. The Council has heard testimony from Arctic Village as well as Kaktovik in the past. It was noted that hunters from Kaktovik do go and hunt in this area when other animals are not available, and it is an important area because sheep can be reliably found around the natural mineral formations in that small area.

Council members spoke to the cultural importance of this area and that the sheep not only provide important subsistence food but is also considered medicinal, providing minerals and special nourishment for elders and helpful for recovery from illness. It was noted that sheep become much more important for survival food when the caribou do not come around the community, and even if harvest is low in some years it is critical to maintain the population for food security when they need to shift harvest to more sheep in low caribou years.

The Council stressed that the population needs to be a higher level in order to provide for opening up the hunt and currently the census data is incomplete and unreliable. It was noted that even though non-Federally qualified subsistence users would be required to take a full-curl ram, the pressure of numerous hunters traveling into the area to harvest those rams would displace animals that locals would otherwise be able to hunt. Additionally, the breeding impact of that lone, full-curl ram is important in a sheep population that is struggling, and when there are concerns about recruitment and stabilizing the population.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-56: This proposal, submitted by Richard Bishop, would open the Arctic Village Sheep Management Area (AVSMA) to the harvest of sheep by non-federally qualified users.

Introduction: The Arctic Village Sheep Management Area (AVSMA) of Unit 25A is closed to non-federally qualified subsistence users. WP12-76 was submitted from the Eastern Interior RAC and supported by the North Slope RAC in 2012. The Federal Subsistence Board (FSB) closed sheep hunting in the Red Sheep Creek and Cane Creek drainages in the AVSMA. ADF&G submitted WP14-51 to lift that

closure and require hunters to complete a state-developed hunter ethics and orientation course. The FSB rejected the state's proposal at its 2014 meeting. There were no specific details about the ethics and orientation course provided to the FSB. Board members considered an alternative to open the federal season 10 days prior to the state season to allow federally qualified users to hunt without competition from hunters who do not qualify under federal regulations, but the board did not support this. The state submitted a timely request for reconsideration (RFR). The Office of Subsistence Management did not find merit to any of the state's claims in the RFR and recommended opposition to reconsideration of the WP14-51.

When the federal closure to non-federally qualified subsistence users was lifted in 2006 in Cane and Red Sheep creeks, hunting pressure and harvest was low under state regulations. In ADF&G's 2011 sheep management report, we reported that during 2006–2010, an average of 6 hunters harvested 3.7 full curl rams per year using a state harvest ticket. No harvest was reported from state subsistence hunt RS595 in Red Sheep or Cane Creek. It is possible that state subsistence use was underrepresented due to low harvest reporting. Cane and Red Sheep creek drainages remained open until July 1, 2012, when the Federal Subsistence Board closed those drainages also.

Impact on Subsistence Uses: It is unknown if federally-qualified subsistence users will be impacted from adoption of this proposal. Based on biological data, federally qualified users will retain opportunity to meet their subsistence needs.

Impact on Other Users: Other nonfederally qualified users will regain an opportunity to harvest sheep in the Arctic Village Sheep Management Area (AVSMA) of Unit 25A.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for sheep in Units 23, 24, 25A, and 26 (combined).

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for sheep in Units 23, 24, 25A, and 26 (combined) is 75-125 animals.

		Open Season (Permit/Hunt #)	
Unit and Bag Limits	Bag limits	Resident	Nonresident
Unit 25A East of the Middle Fork of the Chandalar River	One ram with full-curl horn or larger	August 10-September 20 (Harvest ticket)	
	Three sheep	October 1-April. 30 (Registration permit RS595 available online at http://hunt.alaska.gov or in person in Fairbanks and Kaktovik beginning September 14.	
	One ram with full-curl horn or larger every four regulatory years		August 10-September 20 (Harvest ticket)

Special instructions:

- The use of aircraft for access to hunt sheep and to transport harvested sheep is prohibited in the RS595 hunt except into and out of Arctic Village and Kaktovik airports.
- No motorized access from the Dalton Highway.
- Nonresident hunters must be accompanied by a guide or resident relative, see page 10 of the *2017-2018 Alaska Hunting Regulations*.
- See definition of full-curl horn and drawings on page 33 of the *2017-2018 Alaska Hunting Regulations*.
- Horns must accompany meat from the field.
- Ram horns must be sealed within 30 days of kill, except in the RS595 hunt.

Conservation Issues: There is no conservation concern associated with hunting opportunity in this area. Sheep populations across the eastern Brooks Range appear to be stable (Caikoski, 2014).

Enforcement Issues: No wildlife enforcement issues have been identified.

Recommendation: ADF&G **SUPPORTS** this proposal to restore sustainable hunting opportunity to both local and non-local residents. ADF&G understands the importance of customary and traditional uses of sheep to community members of Arctic Village and Venetie. ADF&G intends to balance this with the intent of ANILCA to provide for other uses when there is no conservation concern or risk to the continuation of traditional subsistence uses.

Literature Cited:

Caikoski, J. R. 2014. Eastern Unit 24A and Units 25A, 26B, and 26C Dall sheep. Chapter 15, pages 16-1 through 16-18 in P. Harper and L. A. McCarthy, editors. Dall sheep management report of survey and inventory activities 1 July 2010–30 June 2013. Alaska Department of Fish and Game, Species Management Report ADF&G/DWC/SMR-2014-4, Juneau, Alaska.

WRITTEN PUBLIC COMMENTS

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: WP-18-56

AK Subsistence, FW7 <subsistence@fws.gov> Tue, Aug 1, 2017 at 3:46 PM
To: Gene Peltola <gene_peltola@fws.gov>, Thomas Doolittle <thomas_doolittle@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Theo Matuskowitz <theo_matuskowitz@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Jeff Alling** <jeffa@alcanbuilders.com>
Date: Tue, Aug 1, 2017 at 3:29 PM
Subject: WP-18-56
To: "Subsistence@fws.gov" <Subsistence@fws.gov>

My name is Jeff Alling and I am a founding member of RHAK (Resident Hunters of Alaska) and I oppose the continued closure of Dall Sheep hunting in the AVDSMA area on the grounds that it is apparent that the local hunters do not use or do not report the use of this resource. Also I oppose the closure because there is no biological concern about hunting of Full Curl Rams.

This area has been closed to the taking of Dall Sheep by non-local hunters since 1991 for supposed "Social" concerns. This reason is nonsense as any contact I have had with locals from that area has been very positive.

Please reopen this area in an effort to revive this cherished freedom that has been taken from us by our Federal Government since 91.

Thank you.

Jeff Alling

Alcan Builders Inc.

3009 International Rd. Fairbanks, AK 99701

PH: 907-456-1383

FX: 907-452-4378

mailto:jeffa@alcanbuilders.com

Check us out at www.Alcanbuilders.com

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: AOC comments on proposal WP18-56

2 messages

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 3:44 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Alaska Outdoor Council** <alaskaoutdoorcouncil@gmail.com>
Date: Fri, Aug 4, 2017 at 1:49 PM
Subject: Re: AOC comments on proposal WP18-56
To: subsistence@fws.gov
Cc: AOC Board <aocboard@alaskaoutdoorcouncil.com>, Richard Bishop <dmbishop@ptialaska.net>

August 4, 2017

Federal Subsistence Board
Office of Subsistence Management
Attn: Theo Matuskowitz
1011 E. Tudor Road, MS-121
Anchorage, Alaska 99503-6199
Sent electronically to subsistence@fws.gov

RE: Proposal WP18-56

Chairman Christianson and Members of the Board:

The continued closure of hunting by non-qualified subsistence users in the Arctic Village Sheep Management Area (AVSMA) is a clear violation of ANILCA, therefore, the Alaska Outdoor Council (AOC) asks the Board to approve Proposal WP18-56 to discontinue the closure, providing hunting opportunities per the Refuge purpose, being once more in harmony with the Refuge's Comprehensive Conservation Plan (CCP)

Most egregious is continued disregard for and violation of ANILCA, to which the previous Administration clearly allowed the Federal Subsistence Board (FSB) to willfully violate federal law. Secretary of the Interior, Ryan Zinke is likely to take a different view of the matter and personal representing the DOI on the FSB will be more inclined to vote consistent with federal law and intent of ANILCA Section 816. "Unless necessary for the conservation of healthy populations of fish and wildlife and to continue subsistence uses", hunting on the Refuge by non-federally-qualified subsistence users is supposed to be the rule and not the exception per ANILCA Title 815(3).

Conservation concern, meeting subsistence uses, administration, and public safety are the only criteria for closing hunting to non-federally-qualified subsistence users per ANILCA Sec. 816(b). And indeed, because there is a healthy population in the area in question, and there is no substantial evidence showing need to keep the area closed to provide a meaningful preference for actual and bona fide subsistence uses, the FSB should, our members believe, be making a diligent effort to abide by ANILCA rather than continue its flagrant violation of it, and in so doing pass this proposal.

In addition, worse than just ignoring ANILCA, the FSB, by keeping this area closed for the reasons it has given, has also brought the FSB even more out of compliance with Congressional intent because it has ignored and trumped ANILCA's legitimate reasons for closure, and having done so has instead implemented the current closure for reasons absolutely disallowed in ANILCA, which gives no other reason for closure aside from those stated at the top of the

previous paragraph. Certainly social or cultural or emotional reasons for closure of hunting in the face of no conservation concern or absence of subsistence uses are clearly illegal, yet the FSB has continued to unlawfully create and implement its own rules, depending instead on contrived excuses as to close what is otherwise a legitimate and heralded activity according to ANILCA and the Refuge's CCP.

Reported harvests of Dall sheep over the last 25 years suggest inconsequential use of Dall sheep and inconsequential subsistence harvests. And by all accounts, a healthy population of Dall sheep is resident in the area. If there is no actual demand for full curl rams to meet legitimate subsistence use, then non-federally qualified hunters, by all the federal laws and management plans, can participate in the hunt. Exclusion of these hunters continues to have no biological benefit to either sheep or humans.

Conflicts in the field between residents of Arctic Village, Chalkitsik, Fort Yukon, Kaktovik, Venetie and any non-federally qualified subsistence users in the AVSMA has never been likely do to the extremely low number of sheep hunters, nor is it a factor for the FSB to take into consideration when deliberating on proposals to ban non-local resident regulated hunting opportunities. Nothing in Section 816 of ANILCA comes close to even alluding to that being a criteria for closure to non-federally qualified subsistence users.

According to ANWR's official website, the Refuge is characterized as "amazing public land owned by all US citizens," and that people commonly come to the Refuge to "camp, hike, float rivers, hunt, or fish," all officially allowable uses on federal public land. Hunting on Refuges is a customary and traditional activity for Americans, and therefore should be reopened in the area proposed. It is the right of all Americans to recreate on federal public land.

Closures due to perceived cultural or social reasons are not supported by either ANILCA as already noted, but the continued closure also comes into violation of the Refuge's Comprehensive Conservation Plan(CCP). In fact, paraphrased below, the latter document says:

- The Refuge has local, state, and national constituent users who must be considered in developing and implementing visitor use programs and policies. These visitor constituencies' use is best addressed through a fair and open public planning process. (Objective 5.4)

(AOC: Rights of use of the resource by non-federally-qualified subsistence users given the current conditions as stated above are EQUAL to that of federally-qualified subsistence users. There is no current legitimate reason to preclude use of any resource by anyone per this CCP.)

- Uses will not be prohibited unless a public process determines the use is detrimental to the area's resource values. (Objective 5.1)

(AOC: Note that "cultural" or "social" uses are not legitimate criteria on which to order any closure to hunting. The current closure is NOT based on resource values in violation of this CCP.)

• Public access to Refuge lands for recreation is allowed to "provide the public with opportunities for wildlife-dependent recreation." (Objective 5.4)

Because hunting is an allowed and publicized use on the Refuge, it appears Refuge intent is that hunting is clearly considered "wildlife-dependent recreation," and thus should not be precluded in the face of no conservation concern or jeopardy to the area's resource values or abrogation of any subsistence use. ANILCA Article 815 supports this very clearly as well.

In conclusion, the Alaska Outdoor Council believes there is no legal reason, and there are no supporting data, to keep the Arctic Village Sheep Management Area closed to open hunting any longer. In truth, ANILCA and the Refuge guiding documents both EXPECT uses to not be limited EXCEPT when a documented conservation concern to meet subsistence use clearly requires it. These conditions have not been shown to exist, and to be in harmony with the Refuge's purposes, the Refuge Comprehensive Conservation Plan, and ANILCA, Proposal WP18-56 to open hunting should be passed. There never has been a legitimate reason for closure and there remains NO legitimate reason to continue the closure.

Appended to this letter is the State of Alaska's Federal Subsistence Liaison Team's talking points to this issue when the Federal Subsistence Board last considered opening the AVSMA to open hunting in 2014. These points are apropos and still relevant.

Sincerely,

Rod Arno
Executive Director
Alaska Outdoor Council

On Fri, Aug 4, 2017 at 2:43 PM, Alaska Outdoor Council <alaskaoutdoorcouncil@gmail.com> wrote:

Alaska Outdoor Council comments in support of proposal WP18-56.
Please also include the 2014 comments from the State of Alaska liaison to the FSB from 2014 on proposal WP14-51 with AOC's comments.

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Alaska Outdoor Council
310 K Street, Suite 200
Anchorage, Alaska 99501
Phone: 907-841-6849

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Alaska Outdoor Council
310 K Street, Suite 200
Anchorage, Alaska 99501
Phone: 907-841-6849

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 3:44 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Alaska Outdoor Council** <alaskaoutdoorcouncil@gmail.com>
Date: Fri, Aug 4, 2017 at 1:43 PM
Subject: AOC comments on proposal WP18-56
To: subsistence@fws.gov
Cc: AOC Board <aocboard@alaskaoutdoorcouncil.com>, Richard Bishop <dmbishop@ptialaska.net>

Alaska Outdoor Council comments in support of proposal WP18-56.
Please also include the 2014 comments from the State of Alaska liaison to the FSB from 2014 on proposal WP14-51 with AOC's comments.

--
Alaska Outdoor Council
310 K Street, Suite 200

Anchorage, Alaska 99501
Phone: 907-841-6849

2 attachments

AOC comments on WP-18-56.pages.zip
269K

Liaison Team talking points RFR Red Sheep Creek WP14 51 FSB Jan 2014.doc
78K

ADF&G FEDERAL SUBSISTENCE LIAISON TEAM

TALKING POINTS:
REQUEST FOR RECONSIDERATION: RED SHEEP CREEK / WP14-51
JAN 2014 - J.YUHAS

THE STATE URGED THE REOPENING OF RED SHEEP / CANE CREEK DRAINAGES WITHIN AVSMA TO SHEEP HUNTING FOR OTHER USERS:

- **Two years ago this area was closed to non-federally qualified users unnecessarily.**
- **It was closed aside from any conservation concerns, noting an abundance of sheep in this area and an extremely low use of this resource by local people.**
- **Federal Public Land is held in trust for all people.**
- **The Board must act within the authority provided it under ANILCA.**
- **Any new precedent must be defensible. The precedent set by the FSB in April by maintaining this closure is not.**

CLOSED UNNECESSARILY

- **The Board is aware there is no justification under either the Boards Closure Policy or ANILCA 8.15 to close this area for conservation.**
- **The issues brought forth in requesting a closure for this area are rightfully addressed in other venues.**
- **The State of Alaska took swift action two years ago to assist federal land managers in addressing the complaints heard at the time of closure.**

CLOSURE IS OUTSIDE THE BOARDS AUTHORITY UNDER ANILCA AND THEREFORE INDEFENSIBLE

- **Federal Public Land, is just that – Public Land.**
- **ANILCA 8.15 speaks to closures to hunting for the conservation of the resource of continuance of subsistence uses only.**
- **NO REFERENCE to trespass or littering – an issue federal land managers and enforcement rightfully govern, which the State has taken measures to assist them with these efforts – providing tools through our actions two years ago.**
- **NO REFERNCE to the new idea of "cultural preservation" being circulated by federal staff based on testimony at this board meeting two years ago that one local resident did not see it as his culture to hunt when an outsider was present in the valley.**
    - **"Cultural preservation" itself is a debatable concept within the scientific community.**
    - **Closing an area on this basis would set a new precedent for utilization all around the state.**

- This concept is clearly outside the intent of ANILCA 8.15s authority for closure

- Nearly every parcel of Federal Public Land Park, Preserve, Refuge, and Forest with any indigenous population adjacent to that land will have areas which are reported to be "special to those people."
  - Measures exist to truly address the specialness of lands to a people – just not in the Federal Subsistence Program arena.
- These arguments cannot defensibly be used as a new precedent to close lands to hunting to one group of people by this Board – most notably because the Board does not have the authority to do so for these reasons.
- While the Board does not have the legal means to close this area to hunting by one group of people, the federal system does possess other means to address these issues.
  - Federal land managers can enforce already illegal behavior with the new tools the State has provided it.
  - Federal land managers can pursue a land swap to provide Venetie the purportedly most special lands thereby excluding others.
- THIS PARTICULAR CLOSURE SIMPLY DOES NOT FIT IN THIS ARENA.
- The Board fully recognized the lack of any conservation concern during its deliberations both to close and to deny the reopening of this area citing instead: identification with the wishes of the local people, a deference to the spirituality of those who wish the closure to remain, and simply that "it would keep some people out."

<u>CLOSURE DOES NOT ACHIEVE DESIRED EFFECT</u>

- The only people this action closes this area to are non-federally qualified sheep hunters for the purposes of hunting.
  - That's a Maximum of 7 people per year – which has already been recognized as a di minimis impact to the sheep population.
  - Not closed to their landing near or walking through the area or any other uses by those people.
  - Not closed to *anyone* else.
- As the Fairbanks AC pointed out: Federal staff has testified at public meetings that many other parties use this area.
  - Those users included hikers, rafters, sheep hunters traveling through the area to other open areas.
  - Those users could trespass, vandalize, or scare sheep in that area – likely more so than an individual attempting to minimize their presence in order to successfully hunt sheep.
  - This does not preserve the area for the local users who simply want to keep others out.
- Two years ago this board and the RACs heard testimony referring to egregious trespass, vandalism, and general disrespect for the lands near this area.

- Those reports were never successfully attributed to one group of people, and conflicting opinions persist at to who may have committed these acts.
- We've established that closure for these reasons already lies outside the framework of this program, but even so – if anybody intends to dole out a punishment they must first successfully determine the offender.
- The changes made by the State since your last meeting give federal managers and enforcement the tools to begin to do that.

ONLY WAY TO REMAIN WITHIN THE BOUNDS OF ANILCA FOR THE BOARDS AUTHORITY IS TO REOPEN THE AREA

- These Federal Public Lands are held in Trust for the people.
- Any reasons for the Board acting to keep this area closed to one group of users must be legally defensible / it is each Board Members responsibility to know their vote, especially to set a new precedent, is defensible.
- Established no conservation concern – therefore no justification under ANILCA 8.15 – even to preserve "subsistence uses."
  - While "culture as a use" may be an interesting intellectual argument for some federal staff, it is the individual Board Members who must understand the legal parameters of attempting to embark on any new interpretations of the law that governs their actions.
- Attempting to point out that the State does not have a class already developed is a contrived argument / a stalling tactic.
  - The State responded expediently to local concerns two years ago – and took special actions to address these concerns.
  - The Department created a mechanism to address issues the federal land managers and enforcement had not & the Board of Game approved an Agenda Change Request for and approved this plan in very short order to respond to these concerns.
  - The State has been clear that any class will be developed with the local people rather than forced upon them.
  - There is currently no incentive for local cooperation to develop this class if the area remains closed.
  - No agency would expend staff resources or funding under these conditions /when no outcome or cooperation is expected.
- Some federal staff advocated rejecting this proposal denouncing any "new information" related to the discussion.
  - In reinstating this closure two years ago the Board noted that while it was encouraged by recent State response to the issue, that the Board of Game had not yet met at the time of this Boards meeting, and that action was not guaranteed.
  - That action did take place – two weeks after the FSB met to close the area.
  - While the information is two years old, and the State has waited two years for corrective action, that information is precisely what was

stated on the record as being necessary to keep this area open by this Board at the time of the closure.

- The entertainment of interesting intellectual arguments by staff or others has its place. That place is best reserved to academia rather than through a direct negative impact to the users of the resource.

The State urged the Board to take action in their April meeting to lift this closure and return to process, recognizing that land managers now possess greater tools to assist them in their charge to maintain order, as well as other appropriate means to address the issues outside the jurisdiction of this body, and ensuring the use of this land to all those for whom it is held in trust.

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:50 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Pete Buist** <grizzlybear@mosquitonet.com>
Date: Fri, Aug 4, 2017 at 4:13 AM
Subject: Proposal WP18-56
To: subsistence@fws.gov

Please APPROVE proposal WP 18-56.

Obviously no sheep hunting by the listed communities actually occurs. Historically the only consistent use of the area (before the closure) was by guides and some non-local AK resident hunters. There is no cogent reason, either biological or subsistence-related, for the closure to remain in force.

Leaving this area closed continues to send a message to the rest of the world: "The federal subsistence program in Alaska is a joke and not actually intended to help local rural residents." Silly, politically correct closures make a mockery of an important system.

Thank you for the opportunity to comment.

Pete Buist
Fairbanks, AK

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: sheep hunt

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 31, 2017 at 7:58 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Kodiak Adventures Lodge** <kodiakadventureslodge@gmail.com>
Date: Sun, Jul 30, 2017 at 8:05 PM
Subject: sheep hunt
To: subsistence@fws.gov

Hello ,
I am writing in support of opening sheep hunting in federal public land within the Artic National wildlife refuge. There is a proposal # **WP-18-56**
This needs to be addressed in a biological manner not favoring one group of people over another. All would benefit from opening this up. Please consider my request.

Larry Carroll

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 10:15 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Walter Chuck** <the4chucks@aol.com>
Date: Fri, Aug 4, 2017 at 10:14 AM
Subject: Proposal WP18-56
To: subsistence@fws.gov

Federal Subsistence Board,

I am writing you to express my strong support for Proposal WP18-56 which would reopen an area in the Eastern Brooks Range within the ANWR for the take off full curl Dall Sheep Rams in accordance with all hunting regulations and fees. This area contains a healthy and the resumption of allowing the hunting of Dall Sheep will increase access and utilization for other recreation opportunities as well on our public lands.The Alaska National Interest Lands Conservation Act allows hunting for non-locals if there is no conservation concern, the Dall Sheep population is healthy and exists in numbers that would sustain the harvest of adult males. Subsistence opportunities would continue to be available and users needs would continue to be met. Once again please pass Proposal WP18-56.

Thank you for your time,

Walter Chuck
166 NE 71st St
Newport, OR 97365
541-574-9078

Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: WP-18-56 Proposal

1 message

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 31, 2017 at 8:00 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Clemens M. Clooten** <CClooten@fairbanks.us>
Date: Mon, Jul 31, 2017 at 7:28 AM
Subject: WP-18-56 Proposal
To: "subsistence@fws.gov" <subsistence@fws.gov>

Attn: Theo Matuskowitz

I request that Proposal WP-18-56 be adopted to allow Alaskans the opportunity to harvest sheep in this area because there is no harvest of sheep by the local people and it would bring money into this area.

Therefore, with essentially no harvest of sheep, there is no conservation reason to keep this area closed. Sheep hunting opportunity on these federal public lands should be available to the public under State of Alaska hunting regulations. Opening this area to hunting would not only benefit the local economies of nearby villages, but would also increase hunter opportunities in Alaska and lessen pressure on other Dall sheep hunting areas in the state.

Thank you for your time and consideration

Clem Clooten

1163 Linda Lou Lane

Fairbanks, Alaska 99712

Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd:
1 message

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 31, 2017 at 8:02 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **John Davis** <jcdavis@gci.net>
Date: Sun, Jul 30, 2017 at 9:12 PM
Subject:
To: subsistence@fws.gov

Proposal WP-18-56.

a) there is no biological concern about hunting of full curl rams in general and,

b) that the local hunters don't apparently use or report use of sheep.

Therefore, with essentially no harvest of sheep, there is no conservation reason to keep this area closed. Sheep hunting opportunity on these federal public lands should be available to the public under State of Alaska hunting regulations. Opening this area to hunting would not only benefit the local economies of nearby villages, but would also increase hunter opportunities in Alaska and lessen pressure on other Dall sheep hunting areas in the state.

I urge adoption of this proposal in the strongest terms. Very important to get this ridiculous regulation changed ASAP!

John C Davis

48590 KSRM Court

Kenai, AK 99611

Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: WP-18-56
1 message

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 31, 2017 at 7:57 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **J Doll** <akjuliedoll@gmail.com>
Date: Sun, Jul 30, 2017 at 2:56 PM
Subject: WP-18-56
To: subsistence@fws.gov

I believe the area around Arctic Village should be reopened to general sheep hunting. There appears to be no issue requiring management or necessary hunting restrictions of the sheep.
Allowing resident and non-resident hunting would provide a financial benefit to the local area with aircraft servicing and general store use.
Our public lands should be open to use by all whenever possible.

--
Julie Doll, 30-year resident hunter
5625 Old Valdez Trail
Salcha, AK 99714

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 8:57 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **David A. Doudna** <david@northernsledworks.com>
Date: Fri, Aug 4, 2017 at 8:51 AM
Subject: WP18-56
To: "subsistence@fws.gov" <subsistence@fws.gov>

Please pass Proposal WP18-56 and open the area to sheep hunting per ANILCA.

1. The area has a healthy sheep population
2. Federal law (the Alaska National Interest Lands Conservation Act (ANILCA)) mandates hunting be open to "non-locals"
3. The Refuge is federal public land where ANYONE can recreate
4. The Refuge encourages hunting as wildlife-oriented recreation
5. Hunting can only be closed if there is a conservation concern or subsistence uses are not met
6. There is no present conservation concern
7. Subsistence opportunities for sheep and other resources continue to be available

Thank you,

David Doudna
P.O. Box 61171
Fairbanks, AK 99706

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Wp-18-56

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 31, 2017 at 7:57 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Mark Freshwaters** <mfreshwaters@gmail.com>
Date: Sun, Jul 30, 2017 at 2:29 PM
Subject: Wp-18-56
To: subsistence@fws.gov

As a hunter and resident of Alaska since 1971, I support the opening of sheep hunting for non-local hunters. I see no conflict what so ever in the doing of this to make use of the states resource for all hunters and not just a select few.
When I lived in Fairbanks I would have never said to a village person looking for a town job, " now you back to your village and live a subsistence life and leave town town jobs to us city residents".
These things need to work both ways and not create a divide in people.
Please take this into consideration.
Sincerely,
Mark Freshwaters
PO box 866
Skagway, Alaska 99840

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: WP-18-56

AK Subsistence, FW7 <subsistence@fws.gov> Tue, Aug 1, 2017 at 7:52 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Jim Gallagher** <jimmy.g@acsalaska.net>
Date: Tue, Aug 1, 2017 at 4:15 AM
Subject: WP-18-56
To: subsistence@fws.gov

Please approve Proposal WP-18-56.

Sheep hunting opportunity on these federal public lands should be available to the public under State of Alaska hunting regulations.

Opening this area to hunting would not only benefit the local economies of nearby villages, but would also increase hunter opportunities in

Alaska and lessen pressure on other Dall sheep hunting areas in the state.

Thank you,

Born and raised Alaskan 1955

Jim E. Gallagher

Cell 907-242-5557

Jimmy.g@acsalaska.net

Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: Proposal (WP-18-56)

1 message

AK Subsistence, FW7 <subsistence@fws.gov> Tue, Aug 1, 2017 at 12:28 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **H. E. Budd Goodyear, MSM, MLA** <bg@mtaonline.net>
Date: Tue, Aug 1, 2017 at 12:06 PM
Subject: Proposal (WP-18-56)
To:

Attn: Theo Matuskowitz
I urge the Subsistence Board to approve Proposal WP-18-56 to open sheep hunting to public in Game Management Unit 25 for 4 reasons:

1) Approval is recommend by the US Fish and Wildlife Service,
2) there is minimal hunting pressure on that area;
3) there is a lack of statistics to support keeping the area off limits to public hunting; and
4) purely political decisions seem to often go awry and become unfair.

Thank you for the opportunity to comment.

Budd Goodyear
Mat-Su Area

Attachment: WP-18-56

2018-2020_wildlife_proposal_book_final_0629_reduced_0.pdf
154K

WP18-56

regulations.gov
Your Voice in Federal Decision-Making

Submitted Electronically via eRulemaking Portal

The is a Comment on the **Fish and Wildlife Service** (FWS) Proposed Rule: **Subsistence Management: Public Lands in Alaska; 2018-19 and 2019-20 Subsistence Taking of Wildlife**

For related information, **Open Docket Folder**

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Tracking Number: 1k1-8wyk-zrzz

Document Information

Date Posted:
Jun 14, 2017

RIN:
1018-BB38

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Submitter Information

Submitter Name:
Richard Bishop

City:
Fairbanks

Country:
United States

State or Province:
AK

ZIP/Postal Code:
99709

Comment

Game Management Unit 25, Arctic Village Sheep Management Area: Remove the restriction on public hunting of Dall sheep in this area. The retriction of sheep hunting to residents of a few communities is unnecessary to accommodate local subsistence uses, and the Area is unused for sheep hunting by residents of the communities listed. Sheep hunting opportunity on these federal public lands should be available to the public under State of Alaska hunting regulations. There is no biological or subsistence related reason to preclude sheep hunting opportunities from the public in this Area.

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Comments on Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 3:58 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **K.M. Gordon** <kgordon@mosquitonet.com>
Date: Fri, Aug 4, 2017 at 3:55 PM
Subject: Comments on Proposal WP18-56
To: subsistence@fws.gov

Chairman Christianson and Members of the Board:

The FSB is out of compliance with ANILCA (and other guiding documents) in a serious way and needs to cease ignoring them. Past actions of the FSB have put the FSB on the wrong side of Congressional intent as well as the very laws that direct its work. That was to be expected from the Obama Administration, but it is unlikely these actions will pass muster under Secretary Zinke. Therefore to right the wrongs of the past and to become "legal," the following will be fixed through support of Proposal WP18-56:

The FSB is failing to comply with Congressional intent both to federally-qualified subsistence users and those not so qualified

The FSB is failing to comply with the stipulations of ANILCA Title 815

The FSB is failing to comply the directives of the ANWR Refuge Comprehensive Conservation Plan

The FSB is failing to comply with the purposes of the Refuge per ANILCA

The FSB is failing to comply with Refuge intent

The above failures are a direct result from willfully deviating from clearly afforded

directives to the FSB which instead makes up their own rules rather than follow correct criteria. Precluding hunting from one class of user is illegal, yet the FSB continues to do so for "emotional" reasons rather than the ones they are given to follow. Lack of overlapping seasons precludes user conflict in the field. A healthy population of sheep that is not being used is being wasted. Hunting should be allowed at the full curl ram designation.

Thank you for fixing the current violations and please bring the FSB back into compliance with federal dictates, and allow hunting at the "safe" full curl ram level. This regime will not hurt the population at all per the current science. It could make more sheep for everyone.

Sincerely,

Karen Gordon

Fairbanks

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 8:20 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Chris Gossen** <cgossen1@gmail.com>
Date: Fri, Aug 4, 2017 at 8:19 AM
Subject: Proposal WP18-56
To: subsistence@fws.gov

Please vote for Proposal WP-18-56 and reopen the area to sheep hunting per ANILCA.

--
Chris Gossen
Energy and Emission Solutions Inc.
907-388-3533

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Wp18-56

AK Subsistence, FW7 <subsistence@fws.gov> Tue, Aug 1, 2017 at 7:51 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Walter Hanni** <walthanni@yahoo.com>
Date: Mon, Jul 31, 2017 at 6:44 PM
Subject: Wp 18-56
To: subsistence@fws.gov
Cc: Alaska Outdoor Council <membership@alaskaoutdoorcouncil.com>

It has been my experience having hunted the brooks range for sheep for many years that it's one of the most wonderful outdoor experiences I have ever had. In all the years of hunting I harvested far less sheep than I could have legally taken. It's a difficult hunt and sheep seem to live far away from convenient access. Opening more hunting land spreads hunters out giving everyone a more quality hunt. The game should be managed under state hunting regulations providing local hunters opportunity and others when the game population is healthy and can handle it. Thank you for this consideration. Sincerely Walt Hanni resident of Alaska since 1971

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 9:42 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Paul HARRELL** <harrellp1@msn.com>
Date: Fri, Aug 4, 2017 at 9:41 AM
Subject: Proposal WP18-56
To: "subsistence@fws.gov" <subsistence@fws.gov>

Please pass Proposal WP18-56 and open the area to sheep hunting per ANILCA.

Thank you!

Paul Harrell
North Pole, Alaska

Encourage one another to good works! 

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Comments on Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:52 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Wayne Heimer** <weheimer@alaskan.net>
Date: Thu, Aug 3, 2017 at 9:16 PM
Subject: Comments on Proposal WP18-56
To: subsistence@fws.gov

Please accept my comments on WP18-56, dealing with the Arctic Village Dall Sheep Management Area.

They are copied here and in the attached file.

Most sincerely,

Wayne E. Heimer
1098 Chena Pump Road
Fairbanks, Alaska 99709

2 attachments

ATT00001
26K

Arctic Village Dall Sheep Management Area.docx
125K

Arctic Village Dall Sheep Management Area:

Comments to Federal Subsistence Board on Proposal WP18-56, a proposal to open general hunting for Dall sheep in the presently existing Arctic Village Dall Sheep Management Area.

*The Arctic Village Dall Sheep Management Area has not always existed.

*It was created because residents of Arctic Village alleged a need for exclusive use to meet traditional Dall sheep subsistence needs. Three other villages were included among federally-recognized users in prior actions of the Federal Subsistence Board.

*These three villages have reported virtually no use of Dall sheep from the Area.

*Based on reporting over the last 25 years, subsistence use of Dall sheep by Arctic Village residents has averaged fewer three sheep per year.

*There can be no biological concern about Dall sheep population health in the Area as a result of human harvest.

*If there is no biological concern for population health, and documented subsistence use is virtually absent, there is no practical rationale for the continued existence of exclusive use of Dall sheep by communities, which have reported no significant use of the Dall sheep set aside for them.

*Hence, the Arctic Village Dall Sheep Management Area should be eliminated, and regular use of Dall sheep (for full curl ram harvesting) should be reestablished as per the regular State of Alaska Dall sheep open season from August 10 through September 20.

*Given that harvest of full curl rams actually removes the only "surplus" Dall sheep from a population, general full curl hunting is likely to affect subsistence opportunities only by subtracting an insignificant number of mature rams from the population.

*Mature rams taken in winter are not considered the best subsistence fare. Other sheep are preferred as food by most users during winter.

*The subsistence season (seven months long with a bag limit of three sheep) is the highest-risk harvest management scheme, which even vaguely resembles controlled harvest.

*This season opens long after the general ram hunting season has closed, weather has changed (with the falling of snow), encompasses the Dall sheep rut, and allows only federally recognized subsistence users to participate.

*If subsistence harvests remain as low as reported, there is no reason this seven-month season could not be sustained. Nevertheless, it remains a high-risk harvest strategy.

*The Arctic Village Dall Sheep Management Area is obsolete under ANILCA, as well as inconsistent with the USFWS Comprehensive Management Plan for ANWR.

*The Arctic Village Dall Sheep Management Area may be profitably considered an experiment in Dall sheep subsistence use, which proved impractical. Exclusion of non-local hunters is not biologically necessary, and most likely in conflict with ANILCA intent. Restrictions in the AREA proved to be unnecessary, and provided no irreplaceable benefit to the subsistence users for whom they were designed.

*The costs of this experiment to the state can only be estimated. However if the sustainable harvest of five full curl rams from the AREA per year at a mean economic value of $20,000 per ram over 25 years is tallied, the loss to the State's economy could have been as high as 2.5 million dollars.

*It is time to let the Arctic Village Dall Sheep Management Area lapse into the history of ideas that didn't "pan out" as expected.

Please accept proposal WP18-56 to essentially abolish the Arctic Village Dall Sheep Management Area.

Wayne E. Heimer
ADF&G Dall Sheep Biologist 1971-1997 (ret.)
1098 Chena Pump Road
Fairbanks, AK 99709

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Comments on Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 11:55 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Wayne Heimer** <weheimer@alaskan.net>
Date: Fri, Aug 4, 2017 at 11:53 AM
Subject: Re: Comments on Proposal WP18-56
To: subsistence@fws.gov
Cc: Kevin J Kehoe <Kevin.Kehoe@kantishnainc.com>, Karen Gordon <kgordon@mosquitonet.com>, "Dale, Bruce W (DFG)" <bruce.dale@alaska.gov>, "Darren L (DFG) Bruning" <darren.bruning@alaska.gov>

Attention Federal Subsistence Board: I seem to have made a bag limit mistake regarding Proposal WP18-56 in my comments (weheimer@alaskan.net) submitted yesterday. Please not Mr. Arno's correction. Sorry about that. The bag limit argument does not materially affect my position on Proposal WP18-56. Thank you.

W. Heimer
1098 Chena Pump Road
Fairbanks, AK 99709

Thanks, Rod. I'll cc the FSB on my mistake see above. KG and I went "round" on this difference Wednesday. Being lazy, I deferred to her greater present effort on the issue, and went with the state bag limit. "Good on" the FSB for being more conservative than the state originally was.

HISTORY: The "three-sheep" bag limit was "transplanted" to Red Sheep Creek from the North Side of the Brooks Range (Kaktovik) as well as to other areas of historic Dall sheep subsistence use as the state formally provided for sheep subsistence uses in places beyond Kaktovik. The three-sheep bag limit originated back during the first official recognition of Dall sheep subsistence hunting (out of Kaktovik on the Hula Hula River) by the state of Alaska in the mid 1980s. The "three sheep" bag limit and

seven month season were originally established as an "uber-liberal" effort to encourage documentation of Dall sheep subsistence uses by Kaktovik residents. The rationale was to make sure the season and bag limit were sufficiently liberal to provide expansively for sheep subsistence use in the hope that reporting would be accurate and voluntary. Conservation was not a consideration at that time. The prime directive was to document subsistence use by local residents.

The reporting experiment didn't work very well in Kaktovik or anywhere else, but the season length and bag limit established the precedent for the seven-month season and three-sheep bag limit. At the time, I argued against that idea because philosophically, I don't think its a good idea for managers to permit harvests that have the possibility of being beyond biological sustainability, particularly where population monitoring is ineffective or neglected. Specific to the Hula Hula River, I buttressed my argument on the casual statement by the Mayor of Kaktovik to Sverre Pederson (Subsistence Division-with whom I shared an office during my ANILCA days) that, "*There used to be a lot of sheep out there*[in the rolling country between the Hula Hula River and Okpilik River as seen from Katak Ridge-where there were virtually no sheep at time Sverre reported to me in the early 1990s]...*we shoot 'em all, I guess.*"

So much for history. Thank you for the correction in bag limit. I presume the Federal Subsistence Board will be appraised of this error on my part via this additional comment.

It's always good to be corrected. I've always said I'd rather be correct than consistent.

W. Heimer

On Aug 4, 2017, at 10:28 AM, Rod Arno <rodarno@gmail.com> wrote:

It should be noted that the current (July 1, 2016 - June 30, 2018) harvest of Dall sheep in the AVSMA (GMU 25A) under federal regulations is:

2 rams by Federal registration permit (FS2502) only. Aug 10 - April 30

It's only the Alaska Board of Game that allows a 3 sheep (ewes included) harvest in the AVSMA. (AOC recently submitted a proposal to put a stop to that in all of GMU25 but the proposal failed 6-1)

Please correct me if I'm wrong,
rod

Sent from Rod Arno's iPad.

On Aug 3, 2017, at 11:19 PM, Wayne Heimer <weheimer@alaskan.net> wrote:

*The subsistence season (seven months long with a bag limit of three sheep) is the highest-risk harvest management scheme, which even vaguely resembles controlled harvest.

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Please pass Proposal WP18-56 and open the area to sheep hunting per ANILCA.

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:48 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **George Houston** <ghouston@hevanet.com>
Date: Fri, Aug 4, 2017 at 7:09 AM
Subject: Please pass Proposal WP18-56 and open the area to sheep hunting per ANILCA.
To: subsistence@fws.gov

Please pass Proposal WP 18-56 and open the area to sheep hunting per ANILCA.

1. Subject area has a healthy dall sheep population

2. Federal law (the Alaska National Interest Lands Conservation Act (ANILCA)) mandates hunting be open to "non-locals" (see #5 and #6)

3. The Refuge is federal public land where ANYONE can enjoy recreational opportunities.

4. There is no present conservation concerns.

5. The Refuge encourages hunting as wildlife-oriented recreation.

6. Hunting can only be closed if there is a conservation concern or subsistence uses are not met.

7. Subsistence opportunities for sheep and other resources continue to be available.

8. The Federal Subsistence Board has apparently illegally kept this area closed from outsiders for emotional reasons rather than legal ones.

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 10:53 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>

---------- Forwarded message ----------
From: <lljacobs4@aol.com>
Date: Fri, Aug 4, 2017 at 10:31 AM
Subject: Proposal WP18-56
To: subsistence@fws.gov

Chair Christianson and members of the Board

I am writing to show support for the proposal before the Board that would reopen the area in the Eastern Brooks Range within the Artic National Wildlife Refuge for hunting of full curl rams to the public. Please pass Proposal WR18-56 and open the area to sheep hunting per ANILCA.

Thank You for your consideration
Larry Jacobs
President - OR-FNAWS
Board member - WSF

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:54 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **James P. Jacobson** <huntfish@ak.net>
Date: Fri, Aug 4, 2017 at 7:52 AM
Subject: Proposal WP18-56
To: subsistence@fws.gov

8-4-17 Dear Board Members:
Please follow the actual guidelines of federal law & PASS WP18-56.
Thank you,
J.P.Jacobson, U.S.Citizen & Alaska resident

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Approve Proposal WP-18-56.

AK Subsistence, FW7 <subsistence@fws.gov> Wed, Aug 2, 2017 at 11:32 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Kaiser, John J.** <John.Kaiser@awwu.biz>
Date: Wed, Aug 2, 2017 at 11:09 AM
Subject: Approve Proposal WP-18-56.
To: "subsistence@fws.gov" <subsistence@fws.gov>

I thought Federal is supposed to look out for every one of the United States of America! Please Open this area so my children who were born in Alaska, thus are Residents and Alaskan Natives, have the opportunity to harvest a Dall sheep in this area.

It is wrong to only allow a small group exclusive rights to something that belongs to all Alaskans.

John Kaiser

Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: Proposal 18-56
1 message

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 31, 2017 at 8:01 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **kkennedy2175** <kkennedy2175@gmail.com>
Date: Sun, Jul 30, 2017 at 11:04 PM
Subject: Proposal 18-56
To: subsistence@fws.gov

I encourage you to approve the proposal to open the artic refuge to sheet hunting for all Alaskans. This is a discimitory. If the tables were turned it would be called racist.
Opening will help the local economy with non government resources, and create non government jobs. All Alaska will benefit.

Kal Kennedy, Alaska citizen since 1990.

Sent via the Samsung GALAXY S®5, an AT&T 4G LTE smartphone

Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: Wp18-56

1 message

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 31, 2017 at 8:05 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **AK Subsistence, FW7** <subsistence@fws.gov>
Date: Mon, Jul 31, 2017 at 8:05 AM
Subject: Re: Wp18-56
To: Mike Kramer <mike@mikekramerlaw.com>

The Office of Subsistence Management is in receipt of your comments. Thank you.

On Sun, Jul 30, 2017 at 5:10 PM, Mike Kramer <mike@mikekramerlaw.com> wrote:

> Please open the red sheep creek area for general hunting. No one from Arctic Village hunts sheep in this large area and there is no biological or social reason to keep it closed.
> Sheep hunting statewide is becoming increasingly more difficult and many federal lands are closed to general hunting, forcing Brooks Range sheep hunters onto small parcels of state land or crowded into other accessible areas of anwr. Red Sheep creek is a long ways from Arctic village and the few non local hunters that will utilize this area will have no negative impact on Arctic Village residents.
>
> Sent from my iPhone, please forgive typos

Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: WP-18-56
1 message

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 31, 2017 at 8:01 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Doug Vincent-Lang** <dvincentlang@yahoo.com>
Date: Sun, Jul 30, 2017 at 10:28 PM
Subject: WP-18-56
To: subsistence@fws.gov

Please accept these comments regarding Proposal WP-18-56.

Nearly a million acres (900,000 acres) of previously open-to-hunting Arctic Village Dall Sheep Management Area (AVDSMA) within the Arctic National Wildlife Refuge in the Eastern Brooks Range has been closed by the federal government to non-local hunters since 1991 due to "social" concerns. There are no biological concerns about hunting of full curl rams and little reported use of sheep by local users. As such there is no conservation or social reason to keep this area closed.

Sheep hunting opportunity on these federal public lands should be available to the public under State of Alaska hunting regulations. Opening this area to hunting would not only benefit the local economies of nearby villages, but would also increase hunter opportunities in Alaska and lessen pressure on other Dall sheep hunting areas in the state.

Thank you for the opportunity to comment.

Doug Vincent-Lang

Anchorage, AK

dvincentlang@yahoo.com

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 2:49 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Jeff Lappe** <jalappe@hotmail.com>
Date: Fri, Aug 4, 2017 at 2:44 PM
Subject: WP18-56
To: "subsistence@fws.gov" <subsistence@fws.gov>

Please pass Proposal WP18-56 and open the area to sheep hunting per ANILCA.

Jeff Lappe

Sent from Outlook

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd:

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 10:22 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Gordon Lyons** <mspaindoc@msn.com>
Date: Fri, Aug 4, 2017 at 10:20 AM
Subject:
To: "subsistence@fws.gov" <subsistence@fws.gov>

Please pass Proposal WP18-56 and open the area to sheep hunting per ANILCA.
Thank you for your consideration. Any and all response/information/feedback would be greatly appreciated.
Sincerely,
Gordon Lyons

A. Gordon Lyons M.D.
Fellowship Trained/ABMS Board-Certified
Interventional Pain Medicine and
Anesthesiology

St. Dominic's Pain Management Center
Dominican Plaza
970 Lakeland Drive Suite 45
Jackson, MS 39216
Office 601.200.4690
Office Fax 601.200.4698

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd:

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:51 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **CRAIG NAKAMOTO** <nakamoto01@sbcglobal.net>
Date: Fri, Aug 4, 2017 at 2:54 AM
Subject:
To: "subsistence@fws.gov" <subsistence@fws.gov>

Please pass Proposal WP18-56 and open the area to sheep hunting per ANILCA.

Sincerely,

Craig Nakamoto,
President, Iowa FNAWS

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP-18-56 Arctic National Wildlife Refuge, Arctic Village Dall Sheep Management Area - Alaska

AK Subsistence, FW7 <subsistence@fws.gov> Tue, Aug 1, 2017 at 7:52 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Phil & Linda Nuechterlein** <knik07@gmail.com>
Date: Mon, Jul 31, 2017 at 10:27 PM
Subject: Proposal WP-18-56 Arctic National Wildlife Refuge, Arctic Village Dall Sheep Management Area - Alaska
To: subsistence@fws.gov

Greetings,

I would like to take the opportunity to voice my opinion on proposal WP-18-56.

It is my understanding that the Arctic Village Dall Sheep Management Area (AVDSMA) within the Arctic National Wildlife Refuge in the Eastern Brooks Range has been closed by the federal government to non-local hunters since 1991 due to "social" concerns. This should be changed for the following reasons:

1) **Local hunters apparently do not use or report the use of sheep.** Therefore, it appears that non-local hunters would not be competing with local hunters for this resource.

2) **There are apparently no biological reasons** to prohibit the general public from hunting mature full curl rams on this land.

3) **This is public land that should be available to all citizens** (and not restricted based on race, color, gender, creed, age, or zip code)

In conclusion, there is apparently no reason to keep this hunt closed to the general public. I respectfully request that you allow the public to hunt these lands under

State of Alaska hunting regulations.

Phil Nuechterlein

Eagle River, Alaska

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Hunt Area

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:49 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Pat O'Neill** <pat.gcr@outlook.com>
Date: Fri, Aug 4, 2017 at 6:49 AM
Subject: Hunt Area
To: "subsistence@fws.gov" <subsistence@fws.gov>

Dear Board Members,

Please consider passing proposal WP18-56 and open the area to Sheep Hunting per ANILCA.

Thank You for your consideration.

Pat

Pat O'Neill
President
Granite City Roofing, Inc.
PO Box 1482
St. Cloud, MN 56302
320-253-4441



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: WP-1856

AK Subsistence, FW7 <subsistence@fws.gov> Tue, Aug 1, 2017 at 7:52 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Donald Quarberg** <dmqlaf@yahoo.com>
Date: Mon, Jul 31, 2017 at 8:58 PM
Subject: WP-1856
To: subsistence@fws.gov

Open the 900,000 acres of Dall Sheep habitat within the Arctic Village Dall Sheep Management Area to sheep hunting by the general public. There is no biological reason to have this area closed, especially when the locals report no hunting of Dall Sheep. Eliminate this totally unnecessary closure!

Thank You, Don Quarberg

Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: Proposal WP-18-56

1 message

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 31, 2017 at 8:02 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Chuck** <jrsmom@ptialaska.net>
Date: Sun, Jul 30, 2017 at 7:48 PM
Subject: Proposal WP-18-56
To: subsistence@fws.gov

I strongly encourage you to approve proposal WP-18-56. There's no reason to prevent non local Alaska residents from hunting dall sheep in accordance with Alaska hunting regulations in the area described.

Thank you for your consideration.

Charles Rodgers

43725 Ross Drive

Soldotna, AK 99669

This email has been checked for viruses by Avast antivirus software.
https://www.avast.com/antivirus

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 10:55 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Paul Mckee <paul_mckee@fws.gov>

---------- Forwarded message ----------
From: **Mike Schlegel** <mws1941@gmail.com>
Date: Fri, Aug 4, 2017 at 10:32 AM
Subject: Proposal WP18-56
To: subsistence@fws.gov

August 4, 2017

To Whom It May Concern:

It is my understanding the Alaska Federal Subsistence Board has prohibited recreational hunting in the Eastern Brooks Range within the Arctic National Wildlife Refuge. It is also my understanding there are no biological issues/concerns regarding the Dall's sheep population in this portion of the Brooks range that suggest recreational hunting of full curl rams should not be allowed. The Alaska National Interest Lands Conservation Act mandates hunting opportunity for "non-locals" are provided where there are no conservation and/or subsistence issues. The Eastern Brooks Range fully meets these criteria. In addition, hunting is an approved and accepted recreational activity on federal refuges.

I encourage the Alaska Federal Subsistence Board to approve proposal WP18-56; subsistence hunting and recreational hunting can coexist when properly planned; hunting is conservation!

Thank you for the opportunity to comment;

Mike Schlegel

Retired Wildlife Biologist, Idaho Dept Fish and Game

506 S State Street

Grangeville, ID 83530

208-630-3001

mws1941@gmail.com

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Passing WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 2:54 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Schruf, Robert C (DOT)** <bob.schruf@alaska.gov>
Date: Fri, Aug 4, 2017 at 2:53 PM
Subject: Passing WP18-56
To: "subsistence@fws.gov" <subsistence@fws.gov>

Greetings,

If the locals do not harvest the Dall sheep in the eastern Brooks Range, then allow the non-local residents to maintain a healthy Dall sheep population, by harvesting the sheep.

"ACCESS FOR ALL"

Bob Schruf 907-378-3803

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Please re open Arctic Village Sheep Management Area

AK Subsistence, FW7 <subsistence@fws.gov> Thu, Aug 3, 2017 at 3:57 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Rebecca Schwanke** <becky99588@yahoo.com>
Date: Thu, Aug 3, 2017 at 3:31 PM
Subject: Please re open Arctic Village Sheep Management Area
To: "subsistence@fws.gov" <subsistence@fws.gov>
Cc: Skip Bourgeois <gbourgeoisiii@hotmail.com>, "Kevin J. Kehoe" <kevinkehoe@alaskan.com>

I am writing to support the approval of Proposal WP-18-56.

Closed for some time now, the Arctic Village Dall Sheep Management Area should be re-opened to sheep hunting under a general season full-curl regulation. Even low density sheep populations can sustain the limited harvest pressure than a full-curl regulation brings.

Not allowing general sheep hunting in this area equates to a significant lost opportunity for a number of sheep hunters. Fly in hunting would offer a much needed financial boost to nearby communities.

There would be no conflict that I am aware of with local subsistence hunting in this area, and there is no biological reason to keep this area closed.

Please re-open the area to general state sheep hunting.

As a federal subsistence sheep hunter and a lifelong Alaskan, I thank-you for your consideration,

Rebecca Schwanke
PO Box 612
Glennallen, AK 99588

AK Subsistence, FW7 <subsistence@fws.gov>

Sheep hunting
1 message

Randy Smith <racsmith2157@gmail.com> Fri, Aug 4, 2017 at 4:46 PM
To: subsistence@fws.gov

Please pass proposal WP18-56 and open the area to sheep hunting per ANILCA.

Thank You!

AK Subsistence, FW7 <subsistence@fws.gov>

Comments on proposal number WP-18-56
1 message

Steven Speer <stevenespeer@gmail.com> Fri, Aug 4, 2017 at 7:03 PM
To: subsistence@fws.gov

I would like to voice my support for re-opening Dall sheep hunting per proposal number WP-18-56 in the Arctic Village Dall Sheep Management Area within ANWR. It does not appear from any available data to be a closure that is based on biological sustainability of the resident sheep populations. As these sheep are not typically utilized by local villagers, the benefit to the villages will be through the money sportsmen will spend in the area. Increasing opportunity to hunters by restoring public hunting access can only help balance pressure on herds across the state and help maximize the benefit of this resource for the entire public without undue negative impact on local residents.

I also think it is important that any argument against restoring public hunting that roughly corresponds to "I don't have any interest in hunting these animals but I don't want you to either because I just don't want you here" is not an argument that the stewards of these resources should be willing to entertain. It is bad public policy that will only inflame and perpetuate racist attitudes in our society rather than create a common agenda of long term conservation for the benefit of all user groups.

Thank you,

Steven Speer
Aloha, Oregon

Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: Proposal WP-18-56

1 message

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 31, 2017 at 8:07 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Henry Springer** <oksun@gci.net>
Date: Mon, Jul 31, 2017 at 8:05 AM
Subject: Proposal WP-18-56
To: subsistence@fws.gov

To: Federal Subsistence Board, Anchorage, Alaska.

Ref. Proposal WP-18-56 hunting dall sheep within the Arctic National Wildlife Refuge in the Eastern Brooks Range.

I have lived in Alaska for 57 years and have hunted big game all over Alaska, both as a sport hunter and subsistence user. I have hunted Dall sheep in the Eastern Brooks range and am familiar with the conditions.

Hunting Dall sheep in the effected area should be allowed for non-local hunters. There is no dall-sheep conservation concern to the taking of mature rams. Subsistence users mostly prefer younger animals, The use of this resource by locals for subsistence purposes is not excessive and would allow for the taking of mature rams by others.

This is not a cheap area to hunt in, but hunting for mature dall rams is a unique thing for most non-local hunters and often a hunt of a life-time. It would also lessen the hunting pressure on some over-hunted dall sheep areas in the State and would aid the Alaska economy. These reasons seem sufficient to override some political concerns. I appreciate your serious consideration. Sincerely, Heinrich Springer

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: WP-18-56

AK Subsistence, FW7 <subsistence@fws.gov> Thu, Aug 3, 2017 at 3:56 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Gary Stevens** <garyatsls@cs.com>
Date: Thu, Aug 3, 2017 at 3:48 PM
Subject: WP-18-56
To: subsistence@fws.gov
Cc: Representative.Cathy.Tilton@akleg.gov, Senator.Shelley.Hughes@akleg.gov

Dear Members of the Federal Subsistence Board,

I urge you to adopt Proposal WP-18-56 to reopen sheep hunting in the Arctic Village Dall Sheep Management Area to "non-local hunters" . With basically no harvest of sheep, it appears to me that the local hunters are under utilizing this resource. Allowing non-local participation will help to spread out the existing pool of sheep hunters across the state as well as support the local economies within ANWR. Please consider allowing more opportunities for "non-local" participation in all areas currently restricted to "locals" only. Continuing to create these large areas limiting participation to "locals" is only creating larger and more divisive "social" issues. If there is no scientific/biological reason for the restriction, please don't impose restrictions.

Thank you for your consideration,
Gary Stevens
garyatsls@cs.com.
907-229-4710

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:49 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Todd Stowater** <Todd@thoringtonlaw.com>
Date: Fri, Aug 4, 2017 at 6:51 AM
Subject: Proposal WP18-56
To: "subsistence@fws.gov" <subsistence@fws.gov>

To Whom it may concern:

lease pass Proposal WP18-56 and open the area to sheep hunting per ANILCA.

It is my understanding that there is approximately 900,000 acres in ANWR that has been restricted to subsistence hunting only in violation of ANILCA for hunting of Dall's sheep by hunters other than subsistence hunters. There is an adequate population of full curl Dall's sheep that is currently not being hunted by anyone and should be open to hunters per Federal law. The primary restriction on hunting these Dall's sheep has been emotionally driven rather conservation or legal reasons. Subsistence opportunity will be still be available for those who wish to exercise that desire.

I have personally hunted Dall's sheep in Alaska and I would hope that opening this area to non-subsistence hunting would encourage others to do the same and have an opportunity to experience the wonderful State of Alaska.

Please give Proposal WP18-56 your prompt attention and pass the same.

Thank you,

Todd Stowater

McMahon, Stowater, Lynch & Laddusaw

120 N. Thorington St.

Algona, IA 50511

P (515)295-3532

F (515)295-3302

Todd@ThoringtonLaw.com

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: DO pass Proposal WP 18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 8:29 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Rich Thompson** <rich@kathykellydesign.com>
Date: Fri, Aug 4, 2017 at 8:28 AM
Subject: DO pass Proposal WP 18-56
To: subsistence@fws.gov

As there are no biological implications and subsistence opportunities are not a concern, please pass this proposal so that the ARTIC NATIONAL WILDLIFE REFUGE can be open to all citizens, particularly for sheep hunting opportunities.

Sincerely

R.S. Thompson

Newberg, OR

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Wild Sheep Foundation Comments to WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 3:45 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **K.M. Gordon** <kgordon@mosquitonet.com>
Date: Fri, Aug 4, 2017 at 3:28 PM
Subject: Wild Sheep Foundation Comments to WP18-56
To: subsistence@fws.gov

Attached are the comments from the Wild Sheep Foundation in support of Proposal WP18-56. Thank you for the opportunity to comment.

Gray Thornton

President and CEO

Wild Sheep Foundation

WSF Comments Final 2017 AK WP18-56.pdf
145K

WILD SHEEP™
Foundation

August 4, 2017

Federal Subsistence Board
Office of Subsistence Management
Attn: Theo Matuskowitz
1011 E. Tudor Road, MS-121
Anchorage, Alaska 99503-6199

Chairman Christianson and Members of the Board:

The Wild Sheep Foundation appreciates the opportunity to comment on Proposal WP18-56, and we ask the Federal Subsistence Board to approve this proposal to allow sheep hunting by non-federally-qualified subsistence users in the Arctic Village Dall Sheep Management Area within the Arctic National Wildlife Refuge (ANWR).

Above all, the Wild Sheep Foundation's focus is on conservation. As the premier international sheep-focused conservation organization representing nearly 7,000 members, and an affiliated membership of another 5,000 worldwide, the Wild Sheep Foundation strives to enhance wild sheep populations, promote scientific wildlife management, educate the public and youth on sustainable use and the conservation benefits of hunting while promoting the interests of the hunter. Conservation and hunting go hand-in-hand because it is hunters who actually pay for wildlife management through agreements between states and the US Fish and Wildlife Service.

According to ANWR's official website, the Refuge is characterized as "amazing public land owned by all US citizens," and that people commonly come to the Refuge to "camp, hike, float rivers, hunt, or fish." These activities are all officially allowable uses on Refuge land. Hunting on refuges is a customary and traditional activity for Americans, and should be reopened in the area proposed in Proposal WP18-56. It is the right of all Americans to recreate, including hunting, on federal public land.

According to ANILCA's Appendix, Section 303, one of the purposes for the ANWR was the conservation of Dall sheep. The Wild Sheep Foundation, in harmony with this objective, is also supremely focused on wild sheep conservation, and indeed raises and directs more than $4 Million annually to support professional scientific management and advancement of knowledge on biology, behavior, environmental resistance, health, and other needs of wild sheep and their habitats.

412 Pronghorn Trail, Bozeman, MT 59718 • 406.404.8750 • info@WildSheepFoundation.org • www.WildSheepFoundation.org

Hunting on the Refuge by non-federally-qualified subsistence users is supposed to be the rule and not the exception per ANILCA Title 815(4) which states that there can be no "authorizing a restriction on the taking of fish and wildlife for non-subsistence uses on the public lands ...unless necessary for the conservation of healthy populations of fish and wildlife."

Conservation concern and meeting subsistence uses are the only criteria for closing hunting to non-federally-qualified subsistence users per ANILCA, and indeed, because there is no conservation concern in the area in question, and there is no substantial evidence showing need to keep the area closed to non-subsistence users to provide a meaningful preference for actual subsistence uses, ANILCA says there should be no restriction. Because ANILCA gives no other social or cultural reason for closure of hunting, continuing the closure remains a violation of ANILCA.

Reported harvests of Dall sheep over the last 25 years suggest inconsequential use of Dall sheep and inconsequential subsistence harvest. Also, exclusion of other hunters has had no biological benefit to populations – either sheep or human.

The current regulations for non-locals is from August 10 to September 20 (41 days) while the locals' harvest season is October 1 to April 30 (182 days), a factor of almost 4.5 times as many days in the field. Because there is no overlap in seasons, there can be no conflict in the field between these two hunter groups. Additionally, while non-locals can only take one full curl ram, locals can harvest any three sheep, so not only are the locals' seasons much longer, their bag limits provide much more opportunity than that of non-locals.

The Refuge and its resources belong to all Americans. Closures due to perceived cultural or social reasons are not supported by either ANILCA or the Refuge's Comprehensive Conservation Plan. In fact, paraphrased, the latter document says:

- The Refuge has local, state, and national constituent users who must be considered in developing and implementing visitor use programs and policies. These visitor constituencies' use is best addressed through a fair and open public planning process. (Objective 5.4)

- Uses will not be prohibited unless a public process determines the use is detrimental to the area's resource values. (Objective 5.1) (Emphasis mine. Note that "cultural" or "social" uses are not legitimate criteria on which to order any closure to hunting.)

- Public access to Refuge lands for recreation is allowed to "provide the public with opportunities for wildlife-dependent recreation." (Objective 5.4)

Because hunting is an allowed use on the Refuge, it appears Refuge intent is that hunting is clearly considered "wildlife-dependent recreation," and thus should not be precluded in the face of no conservation concern or jeopardy to the area's resource values, and ANILCA Article 815 supports this.

In conclusion, the Wild Sheep Foundation believes there is no legal reason, and there are no supporting data, to keep the Arctic Village Dall Sheep Management Area closed to non-subsistence hunting any longer. In truth, ANILCA and the Refuge both EXPECT uses to not be limited EXCEPT when a documented conservation concern clearly requires it. These conditions have not been shown to exist, and to be in harmony with the Refuge's purposes, Comprehensive Conservation Plan, and ANILCA, open hunting should be allowed by the passage of Proposal WP18-56.

Sincerely,

Gray N. Thornton,
President & CEO

C: Karen Gordon, WSF Director, Fairbanks
Kevin Kehoe, AK WSF President, Anchorage

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:47 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Mike Tinker** <miketinkerak@gmail.com>
Date: Fri, Aug 4, 2017 at 7:38 AM
Subject: WP18-56
To: subsistence@fws.gov

Please pass this proposal to reopen the eastern Brooks Range to Dall sheep hunting.

Sent from my iPad

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Support for re-establishing sheep hunting in ANWR Brooks Range 900,000 acres

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 31, 2017 at 8:00 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Mead Treadwell** <mead@ventureadastra.com>
Date: Sun, Jul 30, 2017 at 11:37 PM
Subject: Support for re-establishing sheep hunting in ANWR Brooks Range 900,000 acres
To: subsistence@fws.gov
Cc: Bill Iverson <president@alaskaoutdoorconcil.org>

As a member of the Alaska Outdoor Council and an Alaskan who supports hunting I write in support of opening the Arctic Village area of ANWR that has been closed to sheep hunting since the first Bush Administration.

I support this in the belief it will help the economies of the communities in the area and not negatively impact subsistence. I believe state management will protect the resource and the needs of the people.

A proposal (WP-18-56) before the Federal Subsistence Board (which regulates hunting in the Refuge) states that:

a) there is no biological concern about hunting of full curl rams in general and,

b) that the local hunters don't apparently use or report use of sheep.

Therefore, with essentially no harvest of sheep, there is no conservation reason to keep this area closed. Sheep hunting opportunity on these federal public lands should be available to the public under State of Alaska hunting regulations. Opening this area to hunting would not only benefit the local economies of nearby villages, but would also increase hunter opportunities in Alaska and lessen pressure on other Dall sheep hunting areas in the state.

Thank you.

Mead Treadwell
Mobile: (907) 223-8128
meadwell@alaska.net
mead@ventureadastra.com
Sent from my iPhone

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP-18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:50 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Gerald Walters** <grldwalters2@aol.com>
Date: Fri, Aug 4, 2017 at 6:24 AM
Subject: Proposal WP-18-56
To: subsistence@fws.gov

Subsistence Board,

I am asking that you open up, to the general public, the 900,000 acre area, in the Eastern Brooks Range within the Arctic National Wildlife Refuge, that has been previously closed to public hunting. This area is currently closed to hunting, except for local village residents. There is a healthy Dall sheep population there, and the locals, prefer caribou to Dall sheep, so rarely hunt sheep. I am encouraging the Federal Subsistence Board to reopen this area, to hunting of full curl rams, so that the general public, that supports these lands with their tax dollars, will have an opportunity to visit and invest in your state.

Additional supporting facts that I ask you to consider:

1. The area has a healthy sheep population.
2. Federal law (the Alaska National Interest Lands Conservation Act (ANILCA)) mandates hunting be open to "non-locals" (see #5 and #6),
3. The Refuge is federal public land where ANYONE can recreate.
4. The Refuge encourages hunting as wildlife-oriented recreation.
5. Hunting can only be closed if there is a conservation concern or subsistence uses are not met.
6. There is no present conservation concern.
7. Subsistence opportunities for sheep and other resources continue to be available.
8. The Federal Subsistence Board has illegally kept this area closed from outsiders for emotional reasons rather than legal ones.

Sincerely,

Jerry Walters

Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: WP-18-56.
1 message

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 31, 2017 at 8:01 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **mark wayson** <markonwayson@yahoo.com>
Date: Mon, Jul 31, 2017 at 5:55 AM
Subject: WP-18-56.
To: subsistence@fws.gov

Sheep hunting as well as hunting other game animals should be open to all in the area in question.

Mark Wayson

Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: WP-18-56
1 message

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 31, 2017 at 2:08 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Gary Wilken** <garywilken@me.com>
Date: Mon, Jul 31, 2017 at 1:58 PM
Subject: WP-18-56
To: subsistence@fws.gov
Cc: Alaska Outdoor Council <membership@alaskaoutdoorcouncil.com>

Greetings US Fish & Game,

Please use this communication in support of reopening hunting of Dall sheep on federal public lands to all sheep hunters once again in the Arctic Village Dall Sheep Management Area.

Opening this area to hunting would not only benefit the local economies of nearby villages, but would also increase hunter opportunities in Alaska and lessen pressure on other Dall sheep hunting areas in the state.

Thank you for the opportunity to express my opinion.

Gary Wilken
2829 Chief William Drive #6
Fairbanks AK 99709

378-0707 m

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: AVDSMA

AK Subsistence, FW7 <subsistence@fws.gov> Wed, Aug 2, 2017 at 10:24 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Birch Yuknis** <byuknis@aol.com>
Date: Wed, Aug 2, 2017 at 10:23 AM
Subject: AVDSMA
To: subsistence@fws.gov

Hello and thank you for reading my email,

I am a lifelong Alaska resident. I was able to hunt in this area while in high school but it was closed shortly to nonlocals after I graduated college. I have made several trips to the Brooks Range sheep hunting and have long waited for this area to be "reopened" to everyone. I agree with the proposal WP 18-56 that is before the Federal Subsistence Board.

All of the data points to no biological reason to have this area closed to non-local hunters. This is a Federal Wildlife Refuge that should be open to all residents of the United States, not just a select group of locals. Based on this alone this area should be "opened" up to everyone.

Thank you for your time,

Birch Yuknis
5035 N Flying Circus Circle
Wasilla, Alaska 99654

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: WP-18-56
6 messages

AK Subsistence, FW7 <subsistence@fws.gov> Tue, Aug 1, 2017 at 7:52 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Jim Gallagher** <jimmy.g@acsalaska.net>
Date: Tue, Aug 1, 2017 at 4:15 AM
Subject: WP-18-56
To: subsistence@fws.gov

Please approve Proposal WP-18-56.

Sheep hunting opportunity on these federal public lands should be available to the public under State of Alaska hunting regulations.

Opening this area to hunting would not only benefit the local economies of nearby villages, but would also increase hunter opportunities in

Alaska and lessen pressure on other Dall sheep hunting areas in the state.

Thank you,

Born and raised Alaskan 1955

Jim E. Gallagher

Cell 907-242-5557

Jimmy.g@acsalaska.net

AK Subsistence, FW7 <subsistence@fws.gov> Tue, Aug 1, 2017 at 3:46 PM
To: Gene Peltola <gene_peltola@fws.gov>, Thomas Doolittle <thomas_doolittle@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Theo Matuskowitz <theo_matuskowitz@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Jeff Alling** <jeffa@alcanbuilders.com>
Date: Tue, Aug 1, 2017 at 3:29 PM
Subject: WP-18-56
To: "Subsistence@fws.gov" <Subsistence@fws.gov>

My name is Jeff Alling and I am a founding member of RHAK (Resident Hunters of Alaska) and I oppose the continued closure of Dall Sheep hunting in the AVDSMA area on the grounds that it is apparent that the local hunters do not use or do not report the use of this resource. Also I oppose the closure because there is no biological concern about hunting of Full Curl Rams.

This area has been closed to the taking of Dall Sheep by non-local hunters since

1991 for supposed "Social" concerns. This reason is nonsense as any contact I have had with locals from that area has been very positive.

Please reopen this area in an effort to revive this cherished freedom that has been taken from us by our Federal Government since 91.

Thank you.

Jeff Alling

Alcan Builders Inc.

3009 International Rd. Fairbanks, AK 99701

PH: 907-456-1383

FX: 907-452-4378

mailto:jeffa@alcanbuilders.com

Check us out at www.Alcanbuilders.com

AK Subsistence, FW7 <subsistence@fws.gov> Thu, Aug 3, 2017 at 9:31 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **andrew r. zajac** <zajac@mtaonline.net>
Date: Thu, Aug 3, 2017 at 9:29 AM
Subject: WP-18-56
To: subsistence@fws.gov

Dear Board Members,

I urge you to lift the ban on the hunting of Dall sheep in the Arctic Village Dall Sheep Management Area. If there is no biological concern nor hunting pressure on full curl rams, then the opportunity to hunt should be available to the general public, thus relieving hunting pressure in other areas around the state. Thank you.

Sincerely,
Andy Zajac
Eagle River, AK

Mckinney, Kayla
<kayla_mckinney@fws.gov>

Fwd: WP-18-56

AK Subsistence, FW7 <subsistence@fws.gov> Thu, Aug 3, 2017 at 9:31 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **andrew r. zajac** <zajac@mtaonline.net>
Date: Thu, Aug 3, 2017 at 9:29 AM
Subject: WP-18-56
To: subsistence@fws.gov

Dear Board Members,

I urge you to lift the ban on the hunting of Dall sheep in the Arctic Village Dall Sheep Management Area. If there is no biological concern nor hunting pressure on full curl rams, then the opportunity to hunt should be available to the general public, thus relieving hunting pressure in other areas around the state. Thank you.

Sincerely,
Andy Zajac
Eagle River, AK

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 8:24 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Randy Zarnke** <itrap2@gci.net>
Date: Fri, Aug 4, 2017 at 8:23 AM
Subject: Proposal WP18-56
To: subsistence@fws.gov

Please pass Proposal WP18-56 and open the area to sheep hunting per ANILCA.

Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:48 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

---------- Forwarded message ----------
From: **Joe Zupancic** <yetisquad@hotmail.com>
Date: Fri, Aug 4, 2017 at 7:35 AM
Subject: Proposal WP18-56
To: "subsistence@fws.gov" <subsistence@fws.gov>

Please pass Proposal WP18-56 and open the area to sheep hunting per ANILCA. I may never get to set foot in it but knowing it is there and open to hunting is exciting to think about.

Joe Zupancic
970-471-0053

APPENDIX A

REGULATORY HISTORY

At the beginning of the Federal Subsistence Management Program in Alaska in 1990, existing State regulations were adopted into Temporary Subsistence Management Regulations (55 Fed. Reg. 126. 27117 [June 29, 1990]). The customary and traditional use determination for sheep in Unit 25A was for residents of Arctic Village, Chalkyitsik, Fort Yukon, Kaktovik, and Venetie. The Board has not received a proposal to modify the determination.

In 1991, Proposal 75 was submitted by the Yukon Flats Fish and Game Advisory Committee and Proposal 100A by the Arctic National Wildlife Refuge. The Board met in March 1991 and based on the submitted proposals took action to propose new regulations and published them in the Federal Register (56 Fed. Reg. 73 15433 [April 16, 1991][1]). At its meeting in March 1991, the Board acted on Proposals 100A and 75.

The Chair stated,

> As far as the Board's concerned, our first compliance is—or obligation—is compliance with the Federal [regulations], that will be its guiding principle that will be used by the Board. It considers this responsibility for various recommendations and proposals. The policy is that the State will reassume full responsibility to manage fish and game subsistence use on Federal lands, and that will be a principle that will guide the coming decisions of the Board. In keeping with that, we will want to minimize actions that will duplicate or complicate the State's resumption of the program. However, there are certain things that are happening that will cause us to make some decisions that may do that to some extent, but those will be well-discussed, well-considered, and well-calculated before we have to do that. So those are some of the general guidance policies that the Board will function under (FSB 1991a:5–6).

Proposal 100A requested the Board to close Federal public lands in an area of Unit 25A encompassing most of the contemporary Arctic Village Sheep Management Area, modify the harvest limit from one mature ram to 2 rams and extend the hunting season to April 20. The northern boundary of the area was the mainstem of Cane Creek. The area did not include areas north of Cane Creek, including Red Sheep Creek. Regional Advisory Councils did not meet until fall 1993, and there were no Council recommendations for the Board to consider. The Board adopted the Interagency Staff Committee recommendation and adopted the proposal with modification. The modification was to extend the hunting season to April 30. The justification was that portions of the area did not appear to be able to support more sheep than were currently present, the population of sheep in the Red Sheep Creek drainage was of much higher densities and could continue to support the then existing seasons and harvest limits, the Red Sheep Creek drainage received quite a bit more effort than other areas of Unit 25A, and the remainder of Unit 25A supported a substantial opportunity for all hunters (FSB 1991b:150–164; 56 Fed. Reg. 123. 29344 [June 26, 1991]).

Proposal 75 requested that the Board close to the harvest of sheep except by Federally qualified subsistence users the drainages of Junjik River, East Fork Chandalar River, Red Sheep Creek, Cane Creek,

[1] The Federal Register notice mistakenly included both the existing regulation (1 ram with 7/8 curl horn or larger, Aug. 10–Sept. 20) as well as the proposed regulation.

Water Creek, Spring Creek, Ottertail Creek, and Crow Next Creek. The Board adopted the Interagency Staff Committee recommendation and rejected the proposal because of its earlier action taken on Proposal 100A, described above (FSB 1991b:164–168).

In June 1991, the Board met and considered comments (called "proposals") received during the public comment period on the specific season and harvest limit changes which were a part of the proposed rule resulting from the March 1991 meeting. Proposals 09, 10, and 11 were submitted by the Arctic Village Council and Proposal 21 was submitted by Brooks Range Arctic Hunts.

In Proposal 09, Arctic Village Council requested the Board to include Cane Creek and Red Sheep Creek drainages in the AVSMA that was closed to the harvest of sheep except by Federally qualified subsistence users. The proponent said that the area set aside did not include all of the areas that must be included to accommodate customary and traditional uses of sheep by residents of Arctic Village (OSM 1991). The Board adopted the Interagency Staff Committee recommendation and rejected the proposal. The Board said Arctic Village residents used Cane Creek and Red Sheep Creek only for a short time when air taxi service was available. These two areas could support both subsistence and sport harvest (FSB 1991c:78–80). Proposals 10 and 11 requested that the Board eliminate harvest limits in the AVSMA (Proposal 10) or increase the harvest limit to 3 sheep (Proposal 11). The Board adopted the Interagency Staff Committee recommendations and rejected both proposals. The Board said the sheep population in the AVSMA was extremely low and the proposed regulations would jeopardize the continuation of healthy populations of sheep (FSB 1991c:80–82). The Board adopted the Interagency Staff Committee recommendation and also rejected Proposal 21, which requested the Board to open the AVSMA to the harvest of sheep by non-Federally qualified users. The Interagency Staff Committee said that the sheep population was extremely low, and subsistence users must be afforded a priority (OSM 1991).

In 1992, Wildlife Request for Reconsideration (WRFR) 92-23 was submitted by the Arctic Village Council requesting that the Board reconsider its decision on Proposal 9, which if adopted would have added Cane Creek and Red Sheep Creek drainages to the AVSMA. The Board did not act on the request until 1993 when it received Proposal 58 from the Arctic Village Council requesting that the Board add Cane Creek and Red Sheep Creek drainages to the AVSMA and implement a community harvest limit. At its meeting in April 1993, the Board adopted the Interagency Staff Committee recommendation and rejected the proposal. The Board said that Cane Creek and Red Sheep Creek drainages supported adequate sheep to support harvest by non-Federally qualified users and that not enough data was available on harvest levels to support community harvest or reporting systems (FSB 1993:140–512).

In 1995, Proposal 54 was submitted by the Arctic Village Council requesting that the Board add Cane Creek and Red Sheep Creek drainages to the AVSMA. The Eastern Interior Council took no action on the proposal (EIASRAC 1995:88–97, OSM 1995a:359). The North Slope Subsistence Advisory Council (North Slope Council) recommended that the Board adopt the proposal (NSSRAC 1995:206, OSM 1995a:359). The Board adopted the proposal with modification. The modification was that the Board would revisit the proposal in another year. The Board said that although there was no biological reason for closing Cane Creek and Red Sheep Creek drainages to the harvest of sheep except by Federally qualified subsistence users, it had heard substantial testimony regarding the fact that due to the customary and traditional hunting practices of the residents of Arctic Village, not adopting the proposal would deny a

subsistence opportunity to the residents of Arctic Village (FSB 1995:611–634, 686–693; 60 Fed. Reg. 115. 31545 [June 15, 2005]).

In 1995, WRFR 95-06 was submitted by ADF&G requesting that the Board reconsider its decision on Proposal 54. The Board rejected the request in July 1995 (OSM 1995b).). The Board determined that the request was not based on information that was not previously considered by the Board, or that demonstrated that the existing information used by the Board was incorrect, or that demonstrated that the Board's interpretation of information, applicable law, or regulation was in error or contrary to existing law. One of these factors would need to be present for the Board to reconsider its decision, as described in regulation (50 CFR 100.20).

In 1996, Proposal 55 was submitted by ADF&G. It requested that the Board open Cane Creek and Red Sheep Creek drainages to the harvest of sheep by non-Federally qualified users. The Eastern Interior Council recommended opposing the proposal. The Eastern Interior Council said it had heard no compelling evidence to overturn recent Board action closing these drainages. Opposition to the proposal came before the Council from an Arctic Village resident's testimony, a letter from the Arctic Village Council, and from the Council's representative from Arctic Village. The Council affirmed its support for the existing AVSMA. The North Slope Council recommended deferring action for one year until more information concerning Kaktovik residents' use of the AVSMA was available, however, the Council expressed desire to "defer to wishes of their neighbors to the south" (OSM 1996:12). The Board rejected the proposal referring to its action on Proposal 54 the previous year in 1995, described above, and that there had still been no dialogue between the State and Arctic Village (FSB 1996:20).

This Regulatory History contains more information on each regulatory proposal below than above. This is because official records of Council and Board justifications were kept after 1995. Justification for Board actions that were provided in letters to the Councils, as mandated in ANILCA Section 805(c), were reviewed and compared to transcripts and provide an accurate description of the Board's justifications.

In 2006, Proposal WP06-57 was submitted by ADF&G. It requested that the Board open the AVSMA to the harvest of sheep by non-Federally qualified users. The Eastern Interior Council recommended opposing the proposal and said that it needed to see results from sheep population surveys before considering reopening non-Federally qualified hunters. The Eastern Interior Council said that people of Arctic Village were totally dependent on the land for food for their nutritional and cultural needs. The Council said managers cannot only depend on harvest tickets for harvest information. It continued that there was a problem with transporters throughout the region. Transporters brought people up to this area, and they did not clean up after themselves. The Eastern Interior Council heard testimony from Arctic Village residents during the meeting that sheep have been harvested but not reported by subsistence users in this area. The Council indicated there was a need for a meeting with the people of Arctic Village and a need for more work on this issue before the area was opened to non-Federally qualified users. The Council said there was no biological reason given to support this proposal, and here was an opportunity for the people in the area to work with nonsubsistence users before submitting a proposal (OSM 2006b:452–453). The North Slope Council recommended deferring the proposal to get more information on the status of the sheep population and more harvest information. The Council said it would feel very uncomfortable making a decision that might be detrimental when there was a lack of information (OSM 2006a:452–453). The Board rejected the proposal. The Board said it had listened to public testimony on this proposal and was unable to pass a

motion to allow non-Federally qualified users to hunt sheep in the drainages of Red Sheep Creek and Cane Creek or to defer action on the proposal with respect to the remainder of the AVSMA. The Board did not see a need for action at this time because of the commitment of the Arctic National Wildlife Refuge staff to conduct sheep surveys in the area the following summer (FSB 2006:261–283, OSM 2006a:6).

In 2006, Wildlife Special Action Request WSA06-03 was submitted by the USFWS. It requested that the Board open the Cane Creek and Red Sheep Creek drainages to the harvest of sheep by non-Federally qualified subsistence users from Aug. 10 through Sept. 20, 2006. The Board approved the request. It said it reviewed new information on sheep abundance in the AVSMA from a survey conducted by USFWS in June 2006 and presented in an assessment report. During the course of its consideration, the Board said it received an excerpt from the transcript of the May 2006 meeting of the Board relative to consideration of this issue concerning Proposal WP06-57, a draft staff analysis prepared by OSM, ADF&G comments, and written and telephonic public testimony (OSM 2017b).

In 2007, Proposal WP07-56 was submitted by ADF&G. It requested that the Board open Cane Creek and Red Sheep Creek drainages to the harvest of sheep by non-Federally qualified users from Aug. 10 through Sept. 20. The Eastern Interior Council recommended the Board defer action on the proposal for one year to allow formation of a working group of representatives from affected villages, hunting interests, and agencies to decide what an acceptable sheep harvest or number of sheep hunters would be in this area, and then draft a proposal to the Board of Game for its March 2008 meeting. The Council said the proposal would have contained the number of non-Federally qualified hunters to be allowed to hunt in the Cane Creek and Red Sheep Creek area. The Council said the working group timeline would give the Federal Subsistence Board time to monitor the progress of the working group, the Board of Game proposal(s), and the actions of the Board of Game before the Federal Subsistence Board met later in the spring of 2008. The Council said it had received testimony from Arctic Village sheep hunters, local elders, and Arctic Village Tribal Council members who all had requested the closure of the Red Sheep and Cane Creek area remain in effect. Testimony included the cultural importance of the area because of burial sites, allotments, and being a traditional area where they hunt sheep, and that they would not be able to compete with other hunters if the area was opened to other hunters. The Council said testimony also included the high cost of accessing the area and the difficulty reaching the area other than by aircraft. Council members discussed the relationship of caribou migrations and the need to hunt for sheep as well as the desired time to harvest sheep. When the caribou and moose are plentiful, local hunters do not hunt for sheep but when caribou and moose are not plentiful, they depend on sheep. The Council shared that the last time a similar proposal to open the area to other hunters was submitted, the Council had unanimously opposed it and was overridden by the Board. The Council sympathized with Arctic Village concerns and believed that closure of the Cane Creek and Red Sheep Creek area would be lifted by the Board based on its action with the recent special action to open the area (WSA06-03, which the Board approved). Several Council members worked with village leaders to see what options were available to limit the number of other hunters allowed to hunt in the area, hence the recommendation to defer to a working group (OSM 2007a). The North Slope Council recommended the Board oppose the proposal. The Council said that there was no evidence that passage of this proposal would not impact villages. The Council said resource needs should be assessed to ensure subsistence users' needs were being met at each village. The sheep population was so small, it would not support harvest by commercial and sport hunters (OSM 2007a).

The Board adopted the proposal. The Board said that Section 815(3) of ANILCA only allows restrictions on the taking of fish and wildlife for nonsubsistence uses on Federal public lands if necessary for the conservation of healthy populations of fish and wildlife, to continue subsistence uses of such populations, or pursuant to other applicable law. Maintaining the Federal closure to nonsubsistence hunting of sheep in the Red Sheep Creek and Cane Creek drainages was no longer necessary for the conservation of a healthy sheep population. Allowing sheep hunting by non-Federally qualified users in these drainages would not adversely affect the sheep population because these hunters would be limited to taking one full-curl ram in the fall season. Removal of some full-curl rams from the population was not expected to reduce the reproductive success of the sheep population. Maintaining the closure to nonsubsistence hunting of sheep in these drainages was also not necessary to provide for continued subsistence use of sheep. The sheep population could support harvest by both subsistence and nonsubsistence hunters. The existing closure was also not justified for reasons of public safety, administration, or pursuant other applicable law (OSM 2007b).

In 2012, Proposal WP12-76 was submitted by the Eastern Interior Council. It requested that the Board close Cane Creek and Red Sheep Creek drainages to the harvest of sheep by non-Federally qualified users from Aug. 10 through Sept. 20. The Eastern Interior Council recommended the Board support the proposal. The Council said the proposal enhanced the ability of the residents of Arctic Village to pursue subsistence opportunities and might reduce incidents of trespass and resource damage. The Council said it appreciated the information provided during public testimony and recognized the powerful connection between residents of Arctic Village and the subject area as one that was deeply culturally rooted. The Council said it was compelled by extensive and detailed public testimony and that subsistence users were concerned that nonsubsistence users were interfering with subsistence users, particularly the people of Arctic Village. The North Slope Council recommended the Board support the proposal. The Council said that the amount of travel time by rural residents was a concern due to distance required to travel and the cost of fuel. The Board adopted the proposal (OSM 2012a:355). The Board said there was no conservation concern, and the closure was needed to ensure the continuation of traditional subsistence uses of sheep by Arctic Village hunters (OSM 2012b:7).

In 2014, Proposal WP14-51 was submitted by the State of Alaska. It requested the Board open Cane Creek and Red Sheep Creek drainages to the harvest of sheep by non-Federally qualified users from Aug. 10 through Sept. 20. It also requested that hunters be required to complete a course on hunter ethics and an orientation course, including land status and trespass information. The Eastern Interior Council recommended the Board oppose the proposal. The Council said it had heard extensive testimony from tribal and community members form Arctic Village and Venetie expressing the importance of sheep in this area to their culture and community. The Council said that the public testimony also noted that air traffic disturbance and hunter activity was pushing sheep further away and higher. The Council said that the cultural importance of the sheep and the area to Arctic Village and other residents for this hunt area was their overriding concern. The North Slope Council recommended the Board oppose the proposal. The Council said deflection or disturbance of sheep by sport hunters and aircraft flights made it difficult for Arctic Village residents to reach sheep for subsistence hunting. The Council said these sheep were a very important subsistence food that was shared in the community, and even if local harvest numbers were not high, effort to reach the animals was considerable and the sharing of the meat and organs was widespread and important. The Council said these sheep and this location had special cultural and medicinal value due

to the history and relationship of the community as well the mineral licks that the sheep frequented in this area, which made their meat contain unique qualities (OSM 2014a:350).

The Board rejected Proposal WP14-51. The Board rejected this proposal based on the OSM analysis and conclusion, the recommendations of the North Slope and Eastern Interior Councils, and overwhelming public comment over the years and the testimony presented to the Board in the 2012 review of a similar proposal. The Board referenced extensive public testimony of local community concerns and cultural importance of this area and the long established administrative record on this issue. The Board recognized the cultural importance of the Cane Creek and Red Sheep Creek areas for subsistence harvest of sheep for the residents of Arctic Village and Venetie. The Board said the importance of this area was also known by the number and location of Native allotments, cultural sites, and ethnographic studies documenting the long history of use in this area (OSM 2014b:3).

Furthermore, the Board said it had heard testimony and reports that subsistence users attempts to harvest sheep in this area may have been interfered with by aircraft and nonsubsistence hunter activity. The Board concurred with this testimony that the activities in this area by nonsubsistence users had resulted in the displacement of sheep, pushing them out of range and preventing subsistence hunters from being able to harvest sheep. The Board supported keeping the closure in place to help insure the continued subsistence use of sheep for residents of Artic Village, Venetie, and the several other villages with customary and traditional use determinations for sheep in this area: Chalkyitsik, Fort Yukon, and Kaktovik. The Board said that this closure was based on ANILCA Section 815(3), which allows for a restriction on the taking of fish and wildlife for nonsubsistence uses on public lands when necessary to continue Federal subsistence uses (OSM 2014b:3).

In 2014, WRFR14-01 was submitted by the State of Alaska requesting that the Board reconsider its actions on Proposal WP14-51, described above. In September 2015, the Board denied the request (OSM 2017b). The Board determined that none of the claims in the request met the criteria to warrant further reconsideration, as set forth in 50 CFR Part 100.20.

WP18–57 Executive Summary			
General Description	Proposal WP18-57 requests that Federal public lands in Units 26A and 26B be closed to caribou hunting by non-Federally qualified users (NFQU). *Submitted by: North Slope Subsistence Regional Advisory Council.*		
Proposed Regulation	**Unit 26—Caribou**		
	Unit 26A—that portion of the Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Sea south and west of, and including the Utukok River drainage	*5 caribou per day as follows:*	
		Calves may not be taken	
		Bulls may be harvested;	*July 1– Oct. 14* *Dec. 6 -June 30*
		Cows may be harvested; however, cows accompanied by calves may not be taken July 16 -Oct. 15	*July 16–Mar.15*
		Federal public lands in Unit 26A are closed to caribou hunting except by Federally qualified subsistence users hunting under these regulations.	
	Unit 26A remainder	*5 caribou per day as follows;*	
		Calves may not be taken	
		Bulls may be harvested;	*July 1– Oct. 15* *Dec. 6 -June 30*

WP18–57 Executive Summary	
	Up to 3 cows per day may be harvested; however cows accompanied by calves may not be taken July 16 - Oct. 15 — *July 16–Mar.15* ***Federal public lands in Unit 26A are closed to caribou hunting except by Federally qualified subsistence users hunting under these regulations.***
Unit 26B – that portion south of 69°30' N. lat. and west of the Dalton Highway	*5 caribou per day as follows:* *Bulls may be harvested* — *July 1 -Oct. 14 Dec. 10–June. 30* *Cows may be harvested* — *July 1–Apr 30* ***Federal public lands in Unit 26B are closed to caribou hunting except by Federally qualified subsistence users hunting under these regulations.***
Unit 26B remainder	*5 caribou per day as follows:* *Bulls may be harvested* — *July 1 -June 30* *Cows may be harvested* — *July 1 -May 15* ***Federal public lands in Unit 26B are closed to caribou hunting except by Federally qualified subsistence users hunting under these regulations.***
You may not transport more than 5 caribou per regulatory year from Unit 26 except to the community of Anaktuvuk Pass.	

WP18–57 Executive Summary	
OSM Conclusion	**Oppose**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	**Oppose**
Seward Peninsula Subsistence Regional Advisory Council Recommendation	

WP18–57 Executive Summary	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	**Support**
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Oppose**
Written Public Comments	**None**

STAFF ANALYSIS
WP18-57

ISSUE

Proposal WP18-57, submitted by the North Slope Subsistence Regional Advisory Council, requests that Federal public lands in Units 26A and 26B be closed to caribou hunting by non-Federally qualified users (NFQU).

DISCUSSION

The proponent is concerned about the continued declines of the Western Arctic Caribou Herd (WACH), Teshekpuk Caribou Herd (TCH), and the Central Arctic Caribou Herd (CACH) and the ability of local subsistence users to meet their subsistence needs. The proponent is opposed to State regulations which allow a hunt for bulls from the CACH in Unit 26B through the rut when the population is in decline. The intent of this request is to ensure local people get the caribou they need, to protect the three caribou herds, and to reduce user conflicts. The proponent emphasizes the important traditional, cultural and nutritional value of caribou to local people and that a closure of Units 26A and 26B to NFQU will help local subsistence users harvest more caribou, increase their food security and reduce user conflicts.

Existing Federal Regulation

Unit 26—Caribou

Unit 26A—that portion of the Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Sea south and west of, and including the Utukok River drainage	*5 caribou per day as follows;*	
	Calves may not be taken	
	Bulls may be harvested;	*July 1– Oct. 14* *Dec. 6 -June 30*
	Cows may be harvested; however, cows accompanied by calves may not be taken July 16 -Oct. 15	*July 16–Mar. 15*

Unit 26A remainder	*5 caribou per day as follows;*	
	Calves may not be taken	
	Bulls may be harvested;	*July 1– Oct. 15* *Dec. 6 -June 30*
	Up to 3 cows per day may be harvested; however cows accompanied by calves may not be taken July 16 -Oct. 15	*July 16–Mar.15*

Unit 26B – that portion south of 69°30' N. lat. and west of the Dalton Highway	*5 caribou per day as follows:*	
	Bulls may be harvested	*July 1 -Oct. 14* *Dec. 10–June. 30*
	Cows may be harvested	*July 1–Apr 30*
Unit 26B remainder	*5 caribou per day as follows:*	
	Bulls may be harvested	*July 1 -June 30*
	Cows may be harvested	*July 1 -May 15*

You may not transport more than 5 caribou per regulatory year from Unit 26 except to the community of Anaktuvuk Pass.

Proposed Federal Regulation

Unit 26—Caribou

Unit 26A—that portion of the Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Sea south and west of, and including the Utukok River drainage	*5 caribou per day as follows:*	
	Calves may not be taken	
	Bulls may be harvested;	*July 1– Oct. 14* *Dec. 6 - June 30*
	Cows may be harvested; however, cows accompanied by calves may not be taken July 16 - Oct. 15	*July 16–Mar.15*
	Federal public lands in Unit 26A are closed to caribou hunting except by Federally qualified subsistence users hunting under these regulations.	
Unit 26A remainder	*5 caribou per day as follows;*	
	Calves may not be taken	
	Bulls may be harvested;	July 1– Oct. 15 Dec. 6 - June 30
	Up to 3 cows per day may be harvested; however cows	July 16–Mar.15

	accompanied by calves may not be taken July 16 - Oct. 15	
	Federal public lands in Unit 26A are closed to caribou hunting except by Federally qualified subsistence users hunting under these regulations.	
Unit 26B – that portion south of 69°30' N. lat. and west of the Dalton Highway	*5 caribou per day as follows:*	
	Bulls may be harvested	*July 1 - Oct. 14* *Dec. 10–June. 30*
	Cows may be harvested	*July 1–Apr 30*
	Federal public lands in Unit 26B are closed to caribou hunting except by Federally qualified subsistence users hunting under these regulations.	
Unit 26B remainder	*5 caribou per day as follows:*	
	Bulls may be harvested	*July 1 - June 30*
	Cows may be harvested	*July 1 - May 15*
	Federal public lands in Unit 26B are closed to caribou hunting except by Federally qualified subsistence users hunting under these regulations.	

You may not transport more than 5 caribou per regulatory year from Unit 26 except to the community of Anaktuvuk Pass.

Existing State Regulation

Unit 26A—Caribou

Unit 26A the Colville River drainage	*Resident Hunters: Five caribou per day, however, calves may not be taken:*

upstream from the Anaktuvuk River, and drainages of the Chukchi Sea south and west of, and including the Utukok River drainage	*Bulls*	*RC907*	*July 1 – Oct. 14* *Feb. 1 – June 30*
	Cows	*RC907*	*July 15 – Apr. 30*
	Nonresident hunters: One bull; however, calves may not be taken	*HT*	*July 15– Sept.30*
Unit 26A remainder	*Resident Hunters: Five bulls per day; however, calves may not be taken*	*RC907*	*July 1 – July 15* *Mar. 16-June 30*
	Five caribou per day three of which may be cows: calves may not be taken, and cows with calves may not be taken	*RC907*	*July 16 – Oct. 15*
	Three cows per day however, calves may not be taken	*RC907*	*Oct. 16 – Dec. 31*
	Five caribou per day three of which may be cows; calves may not be taken	*RC907*	*Jan. 1 – Mar. 15*
	Nonresident Hunters: One bull however, calves may not be taken	*HT*	*July 15 – Sept. 30*

Unit 26B—Caribou

Unit 26(B), Northwest portion north of the 69° 30' N. lat. and west of the east bank of the Kuparuk River to a point at 70° 10' N. lat., 149° 04' W. long., and	*Resident Hunters: 5 caribou per day*		
	Bulls	*HT*	*No closed season*

west approximately 22 miles to 70°10' N. lat and 149°56' W. long, then following the east bank of the Kalubik River to the Arctic Ocean	*Cows*	*HT*	*July 1- May 15*
	Nonresident Hunters: 1-bull	*HT*	*Aug. 1-Sept 15*
26B remainder	*Resident Hunters: 2 bulls*	*HT*	*Aug. 1-Apr. 30*
	Nonresident Hunters: 1 bull	*HT*	*Aug. 1-Sept. 15*

Extent of Federal Public Lands

Federal public lands comprise approximately 73% of Unit 26A and consist of 66.9% Bureau of Land Management (BLM) managed lands, 6.6% National Park Service (NPS) managed lands, and 0.1% U.S. Fish and Wildlife Service (USFWS) managed lands. Federal public lands comprise approximately 29% of Unit 26B and consist of 22.8% USFWS managed lands, 3.6% BLM managed lands, and 2.7% NPS managed lands (See **Unit 26 Map**).

Customary and Traditional Use Determinations

Residents of Unit 26, Anaktuvuk Pass, and Point Hope have a customary and traditional use determination for caribou in Unit 26A.

Residents of Unit 26, Anaktuvuk Pass, Point Hope, and Unit 24 within the Dalton Highway Corridor Management Corridor (DHCMA) have a customary and traditional use determination for caribou in Unit 26B.

Regulatory History

In 1995, the Federal Subsistence Board (Board) adopted Proposal P95-64 to increase the harvest limit from 5 caribou per day to 10 caribou per day in Unit 26 to increase opportunity for subsistence hunters (OSM 1995a). The Board also adopted Proposal P95-62 which closed the area east of the Killik River and south of the Colville River to NFQU (OSM 1995b). This closure was enacted to prevent NFQU from harvesting lead animals, which may have caused the migration to move away from the area that local subsistence users hunted in Unit 26A (OSM 1995b).

In 2005, the Alaska Board of Game (BOG) established a Controlled Use Area for the Anaktuvuk River drainage that prohibited the use of aircraft for caribou hunting from Aug. 15–Oct. 15. The intent of this proposal was to limit access by nonlocal hunters, reduce user conflicts, and lessen the impact on caribou

migration.

In 2006, the Board adopted Proposal WP06-65 which opened the area east of the Killik River and south of the Colville River to NFQU (OSM 2006). The 1995 closure was lifted for several reasons. First, due to changes in land status, lands formerly managed by BLM were transferred to Alaska Native corporations or the State pursuant to the Alaska Native Claims Settlement Act or the Statehood Act, respectively. However, only the lands east of Anaktuvuk Pass were affected by the closure, making the closure less effective. Second, the WACH, TCH, and CACH populations, which traverse Unit 26A, were healthy and could support both subsistence and non–subsistence uses.

In 2013, an aerial photo census indicated significant declines in the TCH (Caribou Trails 2014), WACH (Dau 2011), and possibly the CACH (Caribou Trails 2014). In response, the BOG adopted modified Proposal 202 (RC76) in March 2015 to reduce harvest opportunities for both residents and non-residents within the range of the WACH and the TCH. These regulation changes, which included lower bag limits, changes to harvest seasons, modification of hunt areas, restrictions on bull and cow harvest and a prohibition on calf harvest, were adopted to slow or reverse the population decline. These regulatory changes, which were the result of extensive discussion and compromise among a variety of user groups, took effect on July 1, 2015.

In an effort to enact conservation measures, the North Slope Subsistence Regional Advisory Council submitted four temporary wildlife special actions (WSA) for Units 23, 24, 26A, and 26B to change caribou harvest regulations on Federal public lands for the 2015/16 regulatory year. The Board approved Temporary Special Actions WSA15-03/04/05/06 with modification, which are similar to the changes made to State regulations in an attempt to reverse or slow the decline of the WACH and TCH. To address two primary factors contributing to the decline, low calf survival and high adult cow mortality, WSA15-03/04/05/06 prohibited the harvest of cows with calves, prohibited the harvest of calves, and reduced the harvest limit to 5 caribou per day, and shortened the cow and bull seasons. Some of the requested hunt areas were not included in the Special Action WSA15-03/04/05/06 because there was not sufficient time for the Councils to review the proposed changes before the start of the regulatory year.

In 2015, three proposals were submitted for the 2016-2018 wildlife regulatory cycle concerning caribou regulations in Unit 26A and 26B, two from the North Slope Subsistence Regional Advisory Council (WP16-63 and WP16-64) and one from Jack Reakoff of Wiseman (WP16-37). The Board adopted WP16-37 with modification and took no action on WP16-63/64 based on action taken on WP16-37 (OSM 2016). Changes to the 2016-2018 Federal regulations in Unit 26A included a reduction from ten to five caribou per day harvest limit, splitting Unit 26A into two hunt areas based on range and migration patterns of the WACH and TCH, selecting the opening date for bulls in the winter season as December 6, a prohibition on the take of calves, and protection of cows with calves from July 16-Oct. 15. Changes to caribou regulations in Unit 26B, where harvest is primarily from the CACH, were: a reduced harvest limit from ten to five caribou per day; splitting Unit 26B into two hunt areas, one south of 69°30’ N. lat. west of the Dalton Highway and 26B remainder; a restricted cow season from July to April/May; and a reduction in the cow and bull seasons. Changes to caribou regulations in 2015 by the BOG and the Federal Subsistence Board represented the first time in over 30 years that harvest restrictions were

implemented for the WACH and TCH. These regulation changes for the WACH were also supported by management recommendations outlined in the Western Arctic Herd Management Plan (WACH Working Group 2011). The intent of these regulations was to reduce the overall harvest and cow mortality to allow the WACH and TCH populations to recover.

In 2015, the Northwest Arctic Subsistence Regional Advisory Council submitted a Temporary Special Action Request (WSA16-01) to close caribou hunting on Federal public lands in Unit 23 to NFQU for the 2016/17 regulatory year. The Northwest Arctic Council stated that its request was necessary for conservation purposes and because nonlocal hunting activities were negatively affecting subsistence harvests. In April 2016, the Board approved Special Action Request WSA16-01, basing its decision on the strong support of the Northwest Arctic and North Slope Councils, public testimony in favor of the request as well as concerns over conservation and continuation of subsistence use (FSB 2016).

In June 2016, the State submitted Temporary Special Action Request WSA16-03 to reopen caribou hunting on Federal public lands in Unit 23 to NFQU, providing new biological information (e.g. calf recruitment, weight, body condition) on the WACH. The State specified that there was no biological reason for the closure and that it could increase user conflicts. In January 2017, the Board rejected WSA16-03 due to the position of all four affected Councils (Northwest Arctic, North Slope, Seward Peninsula, and Western Interior Alaska Subsistence Regional Advisory Councils), public testimony, and Tribal consultation comments opposing the request. Additionally, the Board found the new information provided by the State to be insufficient to rescind the closure (FSB 2017, OSM 2017a).

In January 2017, the BOG adopted Proposal 2, requiring registration permits for residents hunting caribou within the range of the Western Arctic and Teshekpuk herds in Units 23 and 26A. Registration permits are required for Units 22, 23, and 26A and harvest tickets are required for Units 21, 24, 25, 26B, and 26C (Proposal 85 in 2016) under State regulations. ADF&G submitted the proposal in order to better monitor harvest and improve management flexibility (ADF&G 2017a).

In February 2017, in response to the decline in the CACH, the BOG adopted Proposal 105 (RC22) with amendments eliminated the cow harvest, reduced the harvest from 5 caribou per day to 2 bulls for residents, and 1 bull for nonresidents in Unit 26B remainder for 2017/2018. The State objective was to redue overall caribou harvest from 930 to 680 and the cow harvest from 202 to 75 in Unit 26B (Lenart 2017a).

In March 2017, the Norwest Arctic and North Slope Subsistence Regional Advisory Councils submitted Temporary Special Action Requests WSA17-03, and WSA-04, to close caribou hunting on Federal public lands in Unit 23 and in Units 26A and 26B, respectively to NFQU for the 2017/18 regulatory year. Both Councils stated that the intent of the proposed closures was to ensure continuation of subsistence uses in the 2017/18 regulatory year, to protect declining caribou populations, and to reduce user conflicts. In June 2017, the Board approved Temporary Special Action WSA17-03 with modification to close Federal public lands to caribou hunting within a 10 mile wide corridor (5 miles on either side) along a portion of the Noatak River; within the Squirrel River drainage; and within the northern and southern boundaries of the Eli and Agashasshok River drainages; for the 2017/2018 regulatory year. While these closures may

help reduce user conflicts along these high use areas, the Board concluded that closure of all Federal public lands to NFQU was not warranted at that time.

In June 2017, the Board rejected WSA17-04 for a variety of reasons including: 1) the relatively small cow harvest by NFQU in Unit 26A; 2) the need for adequate time to determine if the recently enacted conservation actions for WACH, TCH, and CACH are effective in reducing the caribou harvest and reversing or slowing down the population declines; 3) the closure of Federal public lands in Unit 26A would likely shift hunters to State lands around Anaktuvuk Pass; 4) closure of Federal public lands in Unit 26B, which makes up only about 30% of the unit, is not likely to have as much effect as recent BOG regulations to protect the CACH; and 5) a reduction in hunting pressure along the Dalton Highway Corridor Management Area (DHCMA), which is thought to affect the migration of the CACH, is unlikely to be effective, as most NFQU will use the DHCMA to access adjacent State lands.

Current Events

Several proposals concerning Federal caribou harvest regulations in Unit 23 and Unit 26 were submitted for the 2018-2020 wildlife regulatory cycle.

At the Northwest Arctic Subsistence Regional Advisory Council meeting in March 2017, the Council voted to submit a proposal to decrease the caribou harvest limit in Unit 23 from 5 to 3 caribou/day (WP18-45).

At the Western Interior Council meeting in February 2017, the Council voted to submit Proposal WP18-32 to align Federal caribou seasons across the ranges of the WACH, TCH, and CACH. The intent of this proposal is to protect cows during migration. The Council expressed its intentions to submit a similar proposal to the BOG so that State and Federal seasons could be aligned.

Two proposals, the first submitted by the Western Arctic Caribou Herd Working Group (WACH Working Group) (WP18-46), and the second by Enoch Mitchell of Noatak (WP18-47), request that Federal public lands in Unit 23 be closed to caribou hunting except by Federally qualified subsistence users. Proposal WP18-47 specifically requests that the closure extend from 2018/19-2020/21 only.

Two proposals, the first submitted by the WACH Working Group (WP18-48) and the second by Louis Cusack (WP18-49), request that Federal reporting requirements for caribou in Units 22, 23, and 26A be aligned with the State's registration permit requirements.

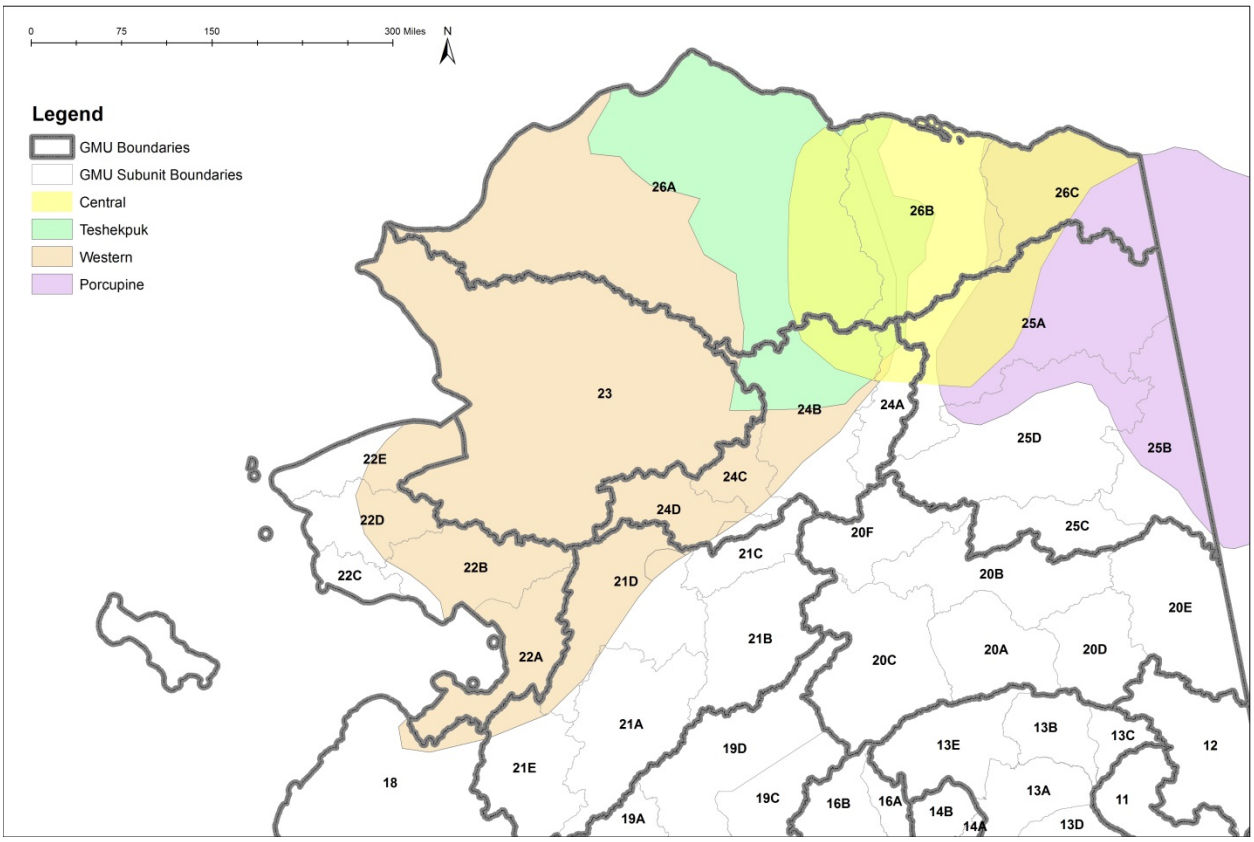
Biological Background

The TCH, WACH, and CACH have ranges that overlap in Unit 26A (**Map 1**) and there can be considerable mixing of herds during the fall and winter (Hemming 1971). During the early 2000s, the number of caribou from the WACH, TCH, CACH, and Porcupine Caribou Herd (PCH) peaked at over 700,000 animals, which may be the highest number since the 1970s (OSM 2017a). After declining slowly during the 1990s and early 2000s, the PCH has been increasing and by 2016 was at 197,000, which is the highest population yet recorded for this herd (OSM 2017b). Caribou abundance naturally

fluctuates over decades (Gunn 2001, WACH Working Group 2011). Gunn (2001) reports the mean doubling rate for Alaskan caribou populations as 10 ± 2.3 years. Although the underlying mechanisms causing these fluctuations are uncertain, Gunn (2001) suggests climatic oscillations as the primary factor, exacerbated by predation and density-dependent reduction in forage availability, resulting in poorer body condition. During the 1970s, there was little overlap between these four herds, but the degree of mixing seemed to increase as the herds increased in the early 2000s (Lenart 2011, Dau 2011, Parrett 2011).

Caribou calving generally occurs during late May and early June. Weaning generally occurs in late October and early November before the breeding season (Taillon et al. 2011). Calves stay with their mothers through their first winter, which improves calves' access to food and body condition. Joly (2000) found that calves orphaned later in life have greater chances of surviving. Data from Russell et al. (1991) suggests 50% and 75% of the calves orphaned in September and November, respectively, survived the winter (Joly 2000). Indeed, there is little evidence that calves orphaned after weaning experience strongly reduced overwintering survival rates than non-orphaned calves (Rughetti and Festa-Bianchet 2014, Joly 2000, Holand et al. 2012), although Holand et al. (2012) found orphaned calves to have greater losses of winter body mass than non-orphaned calves.

The WACH, TCH, and CACH migrate between seasonal summer and winter ranges and calving areas. Over many years, traditional migration routes have developed in response to spatial and temporal variability of environmental conditions encountered (Duquette 1988). Migration routes that were successful in previous years are likely learned by young caribou following older, more experienced animals (Pullainen 1974). Maintaining connectivity between the seasonal areas is important because restoring disturbed migration routes can be challenging (Wilcove and Wikelski 2008, Singh and Milner-Gulland 2011). Long-term climate changes may affect seasonal ranges and migratory patterns through changes in forage abundance, quality, and weather. In addition, increased development along migration routes could increase energy costs, impede movements, or deflect caribou to less optimal areas. Understanding the importance of spatial and temporal variation of the seasonal habitat use and the migration routes are important considerations for management of caribou herds.



Map 1. Herd overlap and ranges of the Western Arctic, Teshekpuk, Central Arctic and Porcupine Caribou herds (Caribou Trails 2014).

Central Arctic Caribou Herd

The CACH range includes the area from the eastern portion of the Arctic coastal plain of the North Slope to the Canadian border, the north side of the Brooks Range from the Itkillik River to the Canadian border, the south side of the Brooks Range from the North Fork of the Koyukuk River to the East Fork of the Chandalar River, and as far south as the Chandalar River valley (Lenart 2015). The traditional calving grounds of the CACH are between the Colville and Kuparuk rivers on the west side of the Sagavanirktok River and between the Sagavanirktok and Canning rivers on the east side. In response to oil and gas development and infrastructure in the 1990s caribou that calved in the western Unit 26B shifted their calving grounds to the southwest (Arthur and Del Vecchio 2009). The CACH summer range extends east from Fish Creek, just west of the Colville River, along the coast and inland about 30 miles to the Canadian border. Typically the CACH summer range extends from the Colville River to just east of the Katakturuk River and from the coast inland to the foothills of the Brooks Range. The winter range of the CACH occurs in the northern and southern foothills of the Brooks Range. In most years the CACH begin migrating toward the foothills of the Brooks Range in August and by September most of the caribou are in the foothills around Toolik Lake, Galbraith Lake, Accomplishment Creek, Ivishak River and the upper Sagavanirktok River. Depending on the year, the rut, which typically occurs in mid-October, can occur on the north or south side of the Brooks Range (Lenart 2015). The range of the CACH often overlaps

with the PCH on the summer and winter ranges to the east and with the WACH and TCH herds on the summer and winter ranges to the west (**Map 1**) (Lenart 2015).

The seasonal movements and migratory patterns of CACH have been studied using radiotelemetry for the past 30 years (Cameron et al. 1979, Whiten and Cameron 1983, Cameron et al. 1986, Carruthers et al. 1987, Cameron et al. 1995, Cameron et al. 2005). Migratory patterns of the CACH are oriented principally north-south, from the summer range and calving areas on the tundra- dominated Arctic coastal plain to the winter range in the foothills and mountains of the Brooks Range (Cameron et al. 1979, Carruthers et al. 1987, Fancy et al. 1989, Cameron et al. 2002, Nicholson et al. 2016). Spring migration to the calving areas, which is led by pregnant females, occurs during April and May (Duquette and Klein 1987). After calving, males and non-pregnant females form large groups in mid-June (Cameron and Whitten 1979). Similar to the TCH, CACH often move to windy areas along the Beaufort Sea coast or to areas with persistent patches of snow to avoid harassment by flies and mosquitoes during the middle of the summer (White et al. 1979). During August, when the insect activity lessens, the caribou begin a slow and irregular movement toward the foothills of the Brooks Range. The fall migration to the wintering areas starts in September and continues through November (Cameron et al. 1986, Lenart 2015).

From 2003-2007, movements of 54 caribou from the CACH were monitored (Nicholson et al. 2016). The annual summer and winter home ranges of the CACH, using a 90% fixed kernel utilization distribution, were similar between summer (mean = 27,929 km^2) and winter (mean = 26,585 km^2). Overlap between consecutive summer ranges was 62.4% and consecutive winter ranges 42.8% (Nicholson et al. 2016). The CACH typically cross the Dalton Highway from the northwest to the southeast during the fall migration, which is away from Anaktuvuk Pass (Nicholson et al. 2016). The CACH used multiple migration routes, or a network of corridors versus a single migration route. Although the caribou migratory patterns varied each year some areas were consistently used each year. The migration paths that consistently had high caribou concentrations during spring and fall migrations each year were along the Dalton Highway between Galbraith Lake and the Ribdon River (Nicholson et al. 2016).

The State manages the CACH to provide for subsistence and other hunting opportunities on a sustained yield basis. State management objectives for the CACH are as follows (Lenart 2015):

- Maintain a population of at least 28,000-32,000 caribou
- Maintain accessibility of seasonal ranges for CACH caribou
- Maintain a harvest of at least 1,400 caribou if the population is ≥ 28,000 caribou
- Maintain a ratio of at least 40 bulls: 100 cows
- Reduce conflicts between consumptive and nonconsumptive uses of caribou along the Dalton Highway

When the CACH was recognized as a distinct herd in 1975, the population was estimated to be 5,000 caribou (Cameron and Whitten 1979). The population increased to approximately 23,000 in 1992 (Valkenburg 1993), decreased to 18,000 in 1995, and then increased rapidly from 27,000 in 2000 to 70,034 in 2010 (Lenart 2015). Low cow mortality, high parturition rates, and high calf survival and recruitment contributed to the population increase of approximately 12% per year from 1998-2008

(Lenart 2015). In 2013, the population dropped to approximately 50,000 and by 2016 the population decreased to 22,360 caribou, which is below State management objectives (Lenart 2011, 2013, 2017a, b). The recent decline from 2010 to 2016 represented a decline of approximately 17% per year. The late spring of 2013, which killed many adult and yearling females, likely contributed to the population decline from 2010 to 2013. Two major factors influencing the population decline from 2013 to 2016 were the high mortality of adult females and emigration (Lenart 2017b). From 2013-2016 54% of the collared females (n = 54 in 2013) died and 19% switched from the CACH to other caribou herds (Lenart 2017b). Previous research indicates that predation has not played a major role in calf mortality and it is not thought to be a major factor in the decline (Lenart 2017b). Disease is also not implicated as a major factor for the decline of the CACH (Lenart 2017b). The State attributes the decline between 2013 and 2016 censuses to a large proportion of older females that died of old age, the late spring of 2013, and the CACH that switched herds (Lenart 2017a).

Composition surveys are usually conducted during the fall near the peak of the rut to take advantage of the mixing of the bulls, cows, and calves. Composition counts were conducted in 2009-2012, 2014, and 2016 (Lenart 2015, 2017a). Composition surveys were not done in 2013 because the CACH was mixed with the PCH (**Table 1**) (Lenart 2015). The calf:cow ratio did not decline until after 2012 (**Table 1**). From 2009-2012 calf:cow ratios averaged 49 calves: 100 cows (**Table 1**) (Lenart 2015). The calf:cow ratio was 48 calves: 100 cows when the population dropped to 22,360 caribou in 2016 (Lenart 2017a). Calf: cow ratios for caribou ≤ 4 years old, was above 70 calves: 100 cows during the period when the herd was growing between 2000 and 2010 (Lenart 2017a). From 2010-2016, when the herd was declining, the calf:cow ratio for the caribou ≤ 4 years old dropped below the 70 calves:100 cows. Although the bull:cow ratio had declined to 39 bulls: 100 cows in 2016 it was still close to the State recommended objective of 40 (Lenart 2015, 2017b).

Table 1. Central Arctic caribou sex and age composition information collected during fall composition surveys, 2009-2014 (Lenart 2015)[a].

Date	Bulls:100 cows	Calves:100 cows	Percent Calves (n)	Percent Cows (n)	Percent Bulls (n)	Sample Size	Groups
13-14 Oct. 2009	50	33	18 (1,193)	55 (3,641)	27 (1,814)	6,648	19
23 Oct. 2010	50	46	23 (889)	51 (1,930)	26 (968)	3,787	12
13 Oct. 2011	69	56	25 (1303)	44 (2,306)	31 (1,590)	5,199	22
14 Oct. 2012	56	61	23 (1,132)	55 (1,845)	22 (1,039)	4,016	15
13-14 Oct. 2014[b]	41	42	23 (462)	55 (1,097)	22 (445)	2,004	18
2016	39	48					

[a] 2016 data is incomplete (Lenart 2017b)

[b] Data may not be comparable with previous years due to small sample size.

Teshekpuk Caribou Herd

The TCH calving and summering areas overlap with the eastern portion of the National Petroleum Reserve–Alaska (NPR–A). Most of the TCH moves toward Teshekpuk Lake in May to calve in early June. The primary calving grounds of the TCH (approximately 1.8 million acres) occur to the east, southeast and northeast of Teshekpuk Lake (Person et al. 2007, Wilson et al. 2012). From late June through July cows and bulls move to the Beaufort Sea coast from Dease Inlet to the mouth of the Kogru River (Utqiagvik to the Colville Delta), around the north and south side of the Teshekpuk Lake, and the sand dunes along the Ikpikpuk River to seek relief from insects (Carroll 2007, Parrett 2007). The narrow corridors of land to the east and northwest of the Teshekpuk Lake are important migratory corridors to insect relief areas as well (Yokel et al. 2009). River corridors are also used more during periods of insect harassment. Fall and winter movements are more variable, although most of the TCH winters on the coastal plain around Atqasuk, south of Teshekpuk Lake. However, the TCH has wintered as far south as the Seward Peninsula, as far east as the Arctic NWR, and in the foothills and mountains of the Brooks Range (Carroll 2007). In 2008/2009, the TCH used many of these widely disparate areas in a single year (Parrett 2011, 2015a). From 2007-2011, the TCH wintered in four relatively distinct areas: the coastal plain between Atqasuk and Wainwright; the coastal plain west of Nuiqsut; the central Brooks Range; and the shared winter ranges with the WACH in the Noatak, Kobuk, and Selawik drainages. During the winters of 2012-2013 and 2013-2014, the TCH wintered primarily near Atqasuk and Wainwright and east of Anaktuvuk Pass (Parrett 2015a)

The State manages the TCH to provide for subsistence and other hunting opportunities on a sustained

yield basis, ensure that adequate habitat exists, and provide for viewing and other uses of caribou (Parrett 2011). Specific State management objectives for the TCH are as follows (Parrett 2011):

- Attempt to maintain a minimum population of 15,000 caribou, recognizing that caribou numbers naturally fluctuate.
- Maintain a harvest level of 900–2,800 caribou using strategies adapted to population levels and trends.
- Maintain a population composed of least 30 bulls per 100 cows.
- Monitor herd characteristics and population parameters (on an annual or regular basis).
- Develop a better understanding of the relationships and interactions among North Slope caribou herds.
- Encourage cooperative management of the herd and its habitat among State, Federal, and local entities and all users of the herd.
- Seek to minimize conflicts between resource development and the TCH.

Since 1984, the minimum population of the TCH has been estimated from aerial photo censuses and radio-telemetry data. Population estimates are determined by methods described by Rivest et al. (1998) which account for caribou in groups that do not have a collared animal and for missing collars. Based on these methods the TCH population increased from an estimated 18,292 caribou (minimum estimate 11,822) in 1982 to 68,932 caribou (minimum estimate 64,106) in 2008. From 2008 to 2014 the population declined by almost half to 39,000 caribou (**Figure 1**) (Parrett 2015a). Interpretation of population estimates is difficult due to movements and range overlap among caribou herds which results in both temporary and permanent immigration (Person et al. 2007). For example, following the 2013 census ADF&G made the decision to manage the TCH based on the minimum count because the bulk of the animals that were estimated rather than counted were with the WACH at the time of the photo census (Parrett 2015b, pers. comm.). In 2015, the minimum count was 35,181 with a population estimate of 41,542 (SE = 3,486) (Parrett 2017a, pers. comm.).

In 2013 and 2016 the number of bulls:100 cows was39 bulls:100 cows and 28 bulls:100 cows in 2016, respectively (**Figure 2**) (Parrett 2011, 2013, 2015a, Parrett 2017a, pers. comm.). Comparison of bull:cow and calf:cow ratios from 1991-2000 and later years is not possible due to dramatic changes in methodology. From 2009-2013 the calf:cow ratio increased from 18 calves:100 cows to 48 calves: 100 cows in 2016 (Parrett 2013, 2015a, Parrett 2017a, pers. comm.). In addition, the number of short–yearlings:adults based on spring composition surveys, which is a measure of recruitment, declined from an average of 20 short–yearlings:100 adults between 1999 and 2008 to an average of 14 short–yearlings :100 adults from 2009-2014 (**Figure 3**) (Parrett 2013) and increased in 2016 to 29 short-yearlings: 100 adults (Parrett 2017a, pers. comm.).

The annual mortality of adult radio collared females from the TCH has remained close to the long term (1991-2012) average of 14.5% (range 8–25%) (Parrett 2011, Caribou Trails 2014, Parrett 2015a). As the TCH has declined, calf weights declined indicating that poor nutrition may be having a significant effect on this herd (Carroll 2015, pers. comm., Parrett 2015b, pers. comm.). In 2016 increased calf weights, high adult female survival (92%), high yearling recruitment (29 yearlings / 100 adults), and high calf

production (81%), and a high calf:cow ratio (48 calves:100 cows) suggest that the population may be stable or declining at a slower rate (Parrett 2017a, pers. comm.) In contrast, the body condition of individuals from the WACH, which also declined dramatically, has remained relatively good, indicating that caribou are still finding enough food within their range (Caribou Trails 2014, Dau 2014). A recent study found that calf production was low, calf survival on calving grounds was high, 40% of the concentrated wintering range was on NPS land, and that starvation was a significant mortality factor on non-NPS lands (Parrett 2017a, pers. comm.). The late spring in 2013 likely contributed to the decline in winter survival in 2014.

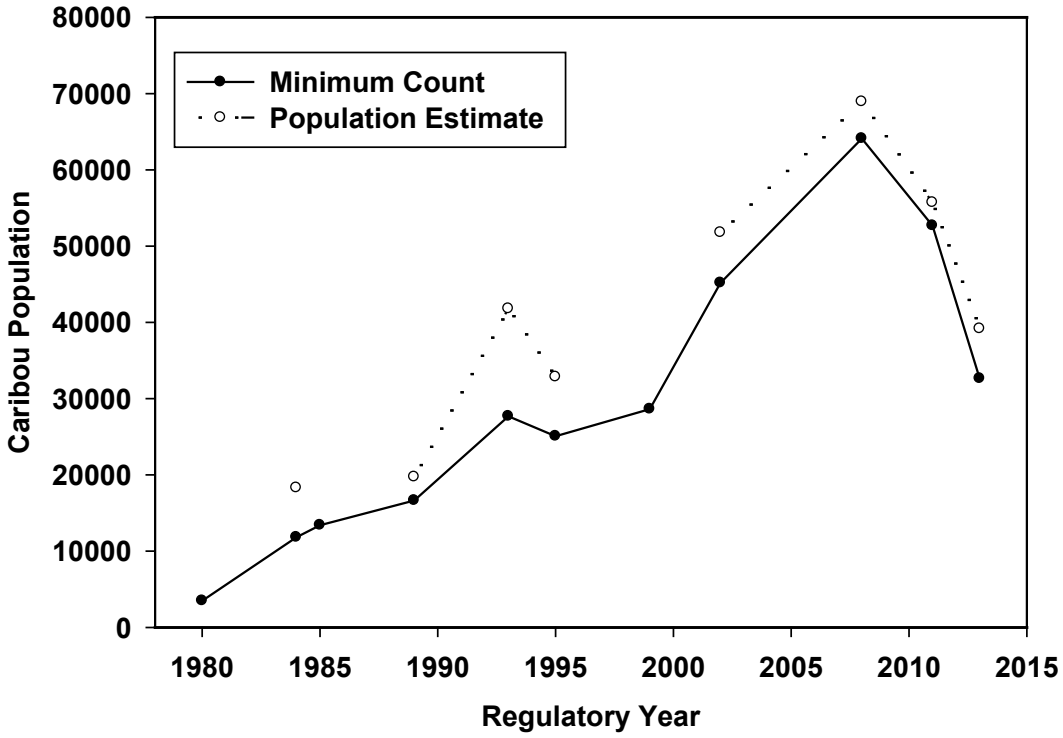


Figure 1. Minimum counts and population estimates of the Teshekpuk Caribou Herd from 1980-2014. Population estimates from 1984-2013 are based on aerial photographs of groups of caribou that contained radio–collared animals (Parrett 2011, 2013, Parrett 2015a).

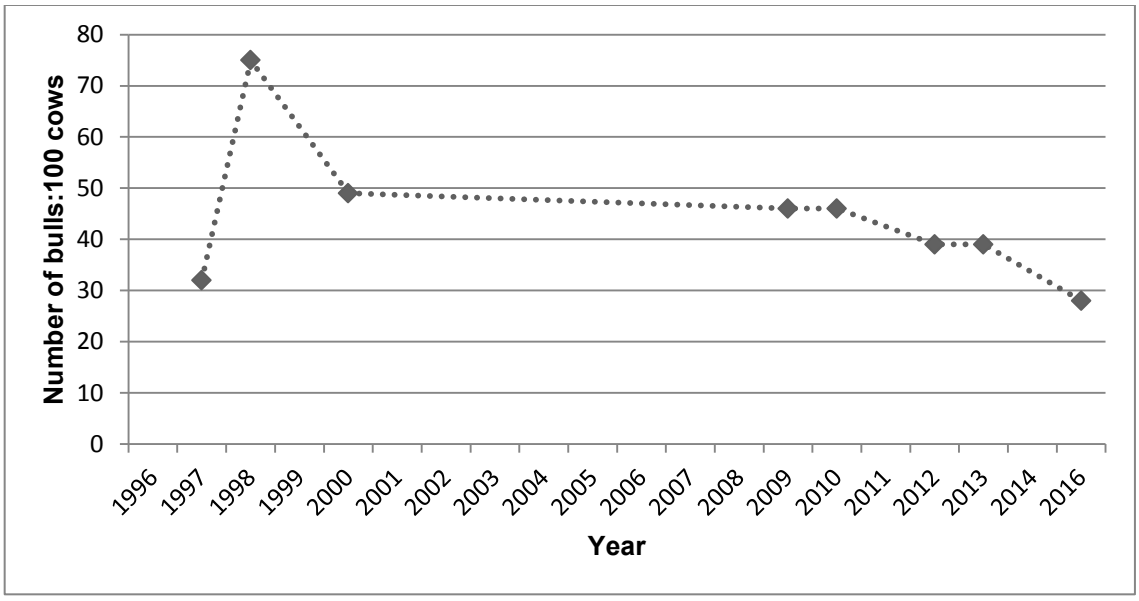


Figure 2. Bull:cow ratios of the Teshekpuk Caribou Herd (Parrett 2013).

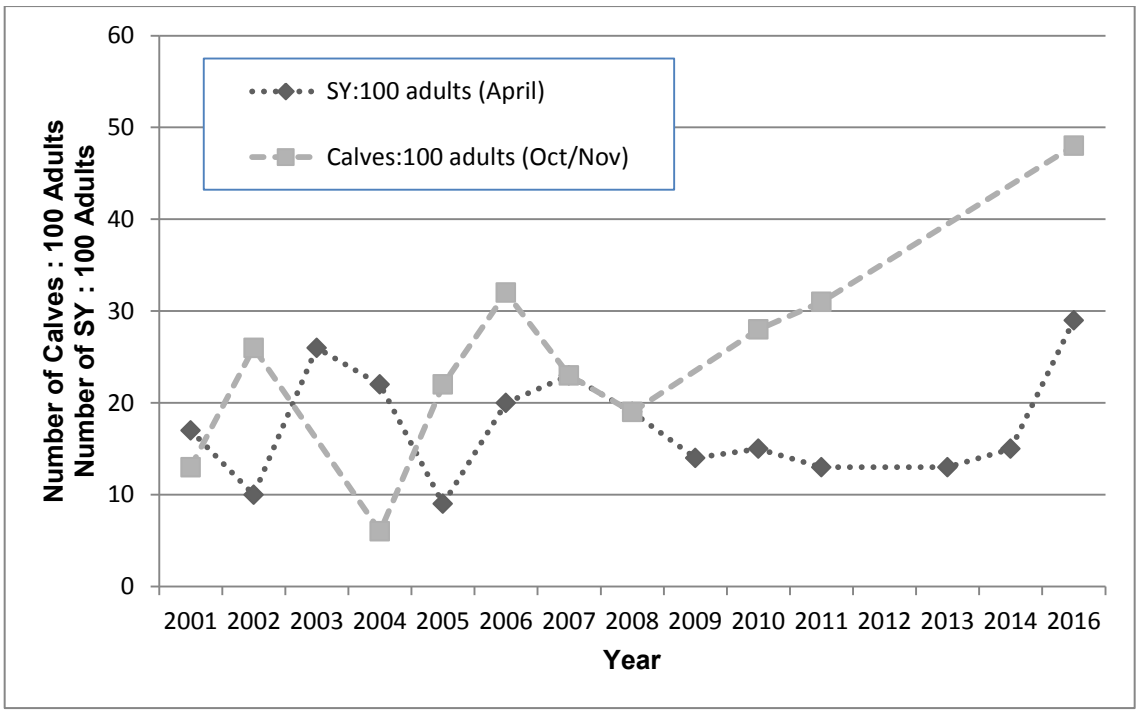
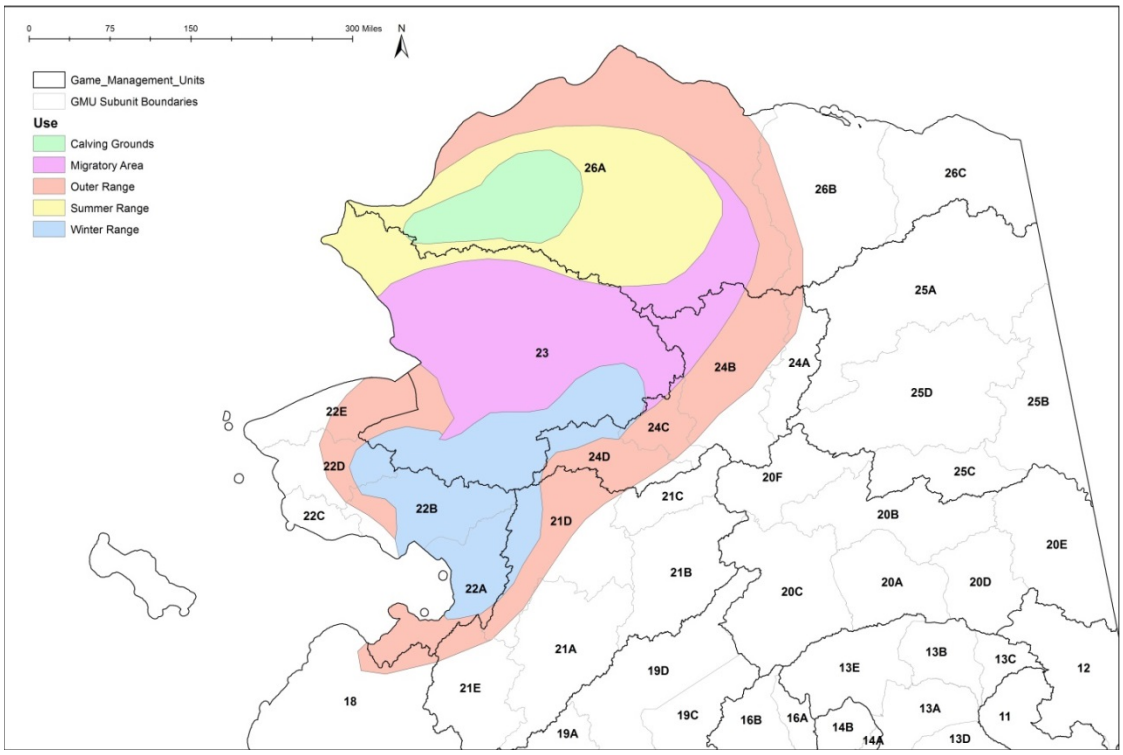


Figure 3. Calf:adult and short yearling (SY):adult ratios for the Teshekpuk Caribou Herd (Parrett 2015a). Short yearlings are 10-11 months old caribou.

Western Arctic Caribou Herd

The WACH, the largest herd in Alaska, has a home range of approximately 157,000 mi^2 in northwestern Alaska (**Map 2**). In the spring, most mature cows move north to calving grounds in the Utukok Hills, while bulls and immature cows lag behind and move toward summer range in the Wulik Peaks and Lisburne Hills (Dau 2011, WACH Working Group 2011). Dau (2013) determined the calving dates for the WACH to be June 9–13. This is based upon long-term movement and distribution data obtained from radio-collared caribou (these are the dates cows ceased movements and were assumed to be calving). After calving, cows and calves move west toward the Lisburne Hills where they mix with the remaining bulls and non-maternal cows. During the summer the herd moves rapidly to the Brooks Range.

In the fall the herd moves south toward their wintering grounds in the northern portion of the Nulato Hills. Rut occurs during fall migration (Dau 2011, WACH Working Group 2011). Dau (2013) determined the WACH rut dates to be October 22–26. This is based on back-calculations from calving dates using a 230-day gestation period. Since about 2000, the timing of fall migration has been less predictable, often occurring later than in previous decades (Dau 2015a). The proportion of caribou using certain migration paths varies each year (Joly and Cameron 2017). In recent years (2012-2014), the path of fall migration has shifted east (Dau 2015a).



Map 2. Calving grounds, wintering range, summering range, migratory areas, and home range extent of the Western Arctic Caribou Herd (WACH Working Group 2011)

In part, due to the collapse of the WACH in the 1970s, the WACH Working Group was formed. In 2003 it developed a WACH Cooperative Management Plan, and revised it in 2011 (WACH Working Group 2011). The WACH Management Plan identifies seven plan elements: cooperation, population management, habitat, regulations, reindeer, scientific and traditional ecological knowledge, and education as well as associated goals, strategies, and management actions. As part of the population management element, the WACH Working Group developed a guide to herd management determined by population size, population trend, and harvest rate. Revisions to recommended harvest levels under liberal and conservative management (2,850 caribou +/- 100) were made in December 2015 (WACH Working Group 2015, **Table 2**). Potential management actions and harvest recommendations for each management level can be found in Appendix 2 of the Western Arctic Caribou herd Cooperative Management Plan (WACH Working Group 2011).

The State manages the WACH to protect the population and its habitat, provide for subsistence and other hunting opportunities on a sustained yield basis, and provide for viewing and other uses of caribou (Dau 2011). State management objectives for the WACH are listed in the 2011 Western Arctic Caribou Cooperative Management Plan (WACH Working Group 2011, Dau 2011) and include:

- Encourage cooperative management of the WACH among State, Federal, local entities, and all users of the herd.
- Manage for healthy populations using management strategies adapted to fluctuating population levels and trends.
- Assess and protect important habitats.
- Promote consistent and effective State and Federal regulations for the conservation of the WACH.
- Seek to minimize conflict between reindeer herders and the WACH.
- Integrate scientific information, traditional ecological knowledge of Alaska Native users, and knowledge of all users into management of the herd.
- Increase understanding and appreciation of the WACH through the use of scientific information, traditional ecological knowledge of the Alaska Native users, and knowledge of all other users.

The WACH population declined rapidly in the early 1970s bottoming out at about 75,000 animals in 1976. Aerial photo censuses have been used since 1986 to estimate population size. The WACH declined at an average annual rate of 7.1% from approximately 490,000 in 2003 to 235,000 in 2013 (Dau 2011, 2013, 2014, 2015a, Caribou Trails 2014) (**Figure 4**).

Between 1982 and 2011, the WACH was within the liberal management level prescribed by the WACH Working Group (**Table2**). In 2013, the WACH population estimate fell below the threshold for liberal management of a decreasing population (265,000), slipping into the conservative management level. In July 2015, ADF&G attempted an aerial photo census of the herd. However, the photos taken could not be used due to poor light conditions that obscured unknown portions of the herd (Dau 2015b). ADF&G conducted a successful photo census of the WACH on July 1, 2016. This census resulted in a minimum count of 194,863 caribou with a point estimate of 200,928 (Standard Error = 4,295), suggesting the

WACH is still within the conservative management level, although close to the threshold for preservative management (**Figure 4, Table 2**)(Parrett 2016a). Results of this census indicate an average annual decline of 5% per year since 2013, representing a much lower rate than the 15% annual decline between 2011 and 2013. The large cohorts of 2015 and 2016, which currently comprise a substantial proportion of the herd, contributed to the recent decreased rate of decline (Parrett 2016a). In July 2017, ADF&G conducted a photo census using new digital cameras and determined that the WACH population increased. The minimum count of 239,055 may not be directly comparable to previous counts using film cameras (Parrett 2017b). The Rivest population estimate was 259,000 ± 29,000 (Parrett 2017b). The better resolution and ability to get accurate counts increases the potential of getting a more accurate assessment of population including the calves. Combined with increases in the adult cow and calf survival suggests that the decline in the WACH may have stabilized or is increasing slightly. Consensus at the WACH Working Group Meeting held in Anchorage, Alaska on December 13-14, 2107, was to wait at least another year to see if the WACH continues to increase before changing harvest regulations (Lincoln 2017b).

Between 1970 and 2016, the bull:cow ratio exceeded critical management levels in all years except 1975, 2001, and 2014 (**Table 3**). Reduced sampling intensity in 2001 likely biased the 2001 bull:cow ratio low (Dau 2013). Since 1992, the bull:cow ratio has trended downward (Dau 2015a). The average annual number of bulls:100 cows was greater during the period of population growth (54:100 between 1976–2001) than during the recent period of decline (44:100 between 2004–2016). Additionally, Dau (2015a) states that while trends in bull:cow ratios are accurate, actual values should be interpreted with caution due to sexual segregation during sampling and the inability to sample the entire population, which likely account for more annual variability than actual changes in composition.

Although factors contributing to the decline are not known with certainty, increased adult cow mortality and decreased calf recruitment and survival played a role (Dau 2011). Since the mid-1980s, adult mortality has slowly increased while recruitment has slowly decreased (Dau 2013). In a population model developed specifically for the WACH, Prichard (2009) found adult survival to have the largest impact on population size.

Table 2. Western Arctic Caribou Herd management levels using herd size, population trend, and harvest rate (WACH Working Group 2011, 2015).

Management and Harvest Level	Population Trend			Harvest Recommendations May Include:
	Declining Low: 6%	**Stable Med: 7%**	**Increasing High: 8%**	
Liberal	Pop: 265,000+	Pop: 230,000+	Pop: 200,000+	• Reduce harvest of bulls by nonresidents to maintain at least 40 bulls: 100 cows • No restriction of bull harvest by resident hunters unless bull:cow ratios fall below 40 bulls:100 cows
	Harvest: 16,000-22,000	Harvest: 16,000-22,000	Harvest: 16,000-22,000	
Conservative	Pop: 200,000-265,000	Pop: 170,000-230,000	Pop: 150,000-200,000	• No harvest of calves • No cow harvest by nonresidents • Restriction of bull harvest by nonresidents • Limit the subsistence harvest of bulls only when necessary to maintain a minimum 40:100 bull:cow ratio
	Harvest: 12,000-16,000	Harvest: 12,000-16,000	Harvest: 12,000-16,000	
Preservative	Pop: 130,000-200,000	Pop: 115,000-170,000	Pop: 100,000-150,000	• No harvest of calves • Limit harvest of cows by resident hunters through permit hunts and/or village quotas • Limit the subsistence harvest of bulls to maintain at least 40 bulls:100 cows • Harvest restricted to residents only, according to state and federal law. Closure of some federal public lands to nonqualified users may be necessary
	Harvest: 8,000-12,000	Harvest: 8,000-12,000	Harvest: 8,000-12,000	
Critical Keep Bull:Cow ratio ≥ 40 Bulls:100 Cows	Pop: < 130,000	Pop: < 115,000	Pop: < 100,000	• No harvest of calves • Highly restrict the harvest of cows through permit hunts and/or village quotas • Limit the subsistence harvest of bulls to maintain at least 40 bulls:100 cows • Harvest restricted to residents only, according to state and federal law. Closure of some federal public lands to nonqualified users may be necessary
	Harvest: 6,000-8,000	Harvest: 6,000-8,000	Harvest: 6,000-8,000	

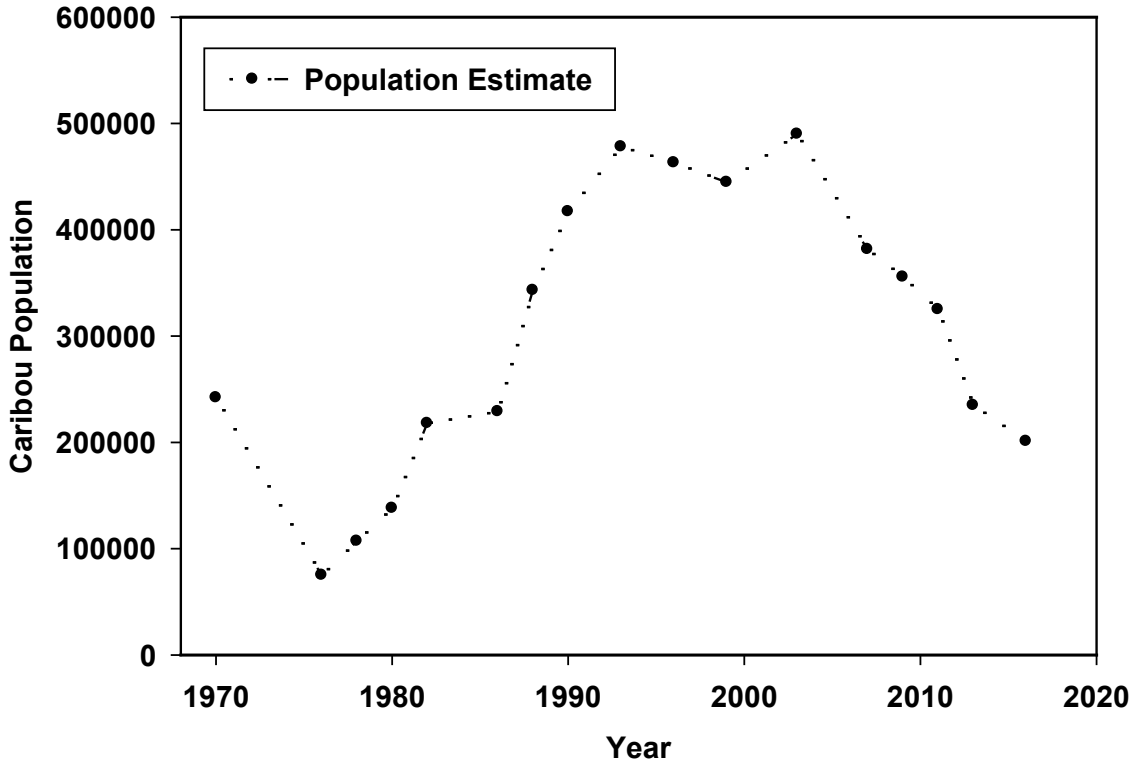


Figure 4. Maximum estimated population estimates of the Western Arctic Caribou Herd from 1970-2016. Population estimates from 1986-2016 are based on aerial photographs of groups of caribou that contained radio–collared animals (Dau 2011, 2013, 2014, 2015a, Parrett 2017a, pers. comm.).

Calf production has likely had little influence on the population trajectory (Dau 2013, 2015a). Between 1990 and 2003, the June calf:cow ratio averaged 66 calves:100 cows/year. Between 2004 and 2016, the June calf:cow ratio averaged 71 calves:100 cows/year (**Table 3, Figure 5**). In June 2016, 85 calves:100 cows were observed, which approximates the highest parturition level ever recorded for the herd (86 calves:100 cows in 1992) (Dau 2016a).

Decreased calf survival through summer and fall and recruitment into the herd are likely contributing to the current population decline (Dau 2013, 2015a). Fall calf:cow ratios indicate calf survival over summer. Between 1976 and 2016, the fall calf:cow ratio ranged from 35 to 59 calves:100 cows/year, averaging 46 calves:100 cows/year (**Figure 5**). Fall calf:cow ratios declined from an average of 46 calves:100 cows/year between 1990-2003 to an average of 42 calves:100 cows/year between 2004-2016 (Dau 2015a, **Figure 5**). Since 2008, ADF&G has recorded calf weights at Onion Portage as an index of

herd nutritional status. In September 2015, calf weights averaged 100 lbs., the highest average ever recorded (Parrett 2015c).

Table 3. Western Arctic Caribou Herd fall composition 1976 – 2014 (Dau 2011, 2013, 2014, 2015a, 2016b).

Regulatory Year	Total bulls: 100 cows[a]	Calves: 100 cows	Calves: 100 adults	Bulls	Cows	Calves	Total
1976/1977	63	52	32	273	431	222	926
1980/1981	53	53	34	715	1,354	711	2,780
1982/1983	58	59	37	1,896	3,285	1,923	7,104
1992/1993	64	52	32	1,600	2,498	1,299	5,397
1995/1996	58	52	33	1,176	2,029	1,057	4,262
1996/1997	51	49	33	2,621	5,119	2,525	10,265
1997/1998	49	43	29	2,588	5,229	2,255	10,072
1998/1999	54	45	29	2,298	4,231	1,909	8,438
1999/2000	49	47	31	2,059	4,191	1,960	8,210
2001/2002	38	37	27	1,117	2,943	1,095	5,155
2004/2005	48	35	24	2,916	6,087	2,154	11,157
2006/2007	42	40	28	1,900	4,501	1,811	8,212
2008/2009	45	48	33	2,981	6,618	3,156	12,755
2010/2011	49	35	23	2,419	4,973	1,735	9,127
2012/2013	42	38	27	2,119	5,082	1,919	9,120
2014/2015	39	[b]	[b]	[b]	[b]	[b]	[b]
2015/2016	41[c]	54	[b]	[b]	[b]	[b]	[b]

[a] 40 bulls:100 cows is the minimum level recommended in the WACH Cooperative Management Plan (WACH Working Group 2011)

[b] Data not available

[c] Estimated from power point presentation presented at the WACH Working Group Meeting December 13, 2016 (Parrett 2016b)

Similarly, the ratio of short yearlings (SY, 10-11 months old caribou) to adults provides a measure of overwintering calf survival and recruitment. Between 1990 and 2003, SY:adult ratios averaged 20 SY:100 adults/year. Since the decline began in 2003, SY:adult ratios have averaged 16 SY:100 adults/year (2004-2016, **Figure 5**). However, 23 SY:100 adults were observed during spring 2016 surveys, the highest ratio recorded since 2007 (Dau 2016b). The overwinter calf survival for the 2015 cohort (Oct. 2015-June 2016) was 84% (Parrett 2016b). While 2016 measures suggest improvements in recruitment, the overall trend since the early 1980s has been downward (Dau 2015a).

Increased cow mortality is likely affecting the trajectory of the herd (Dau 2011, 2013). The annual mortality rate of radio-collared adult cows increased, from an average of 15% between 1987 and 2003, to 23% from 2004–2014 (Dau 2011, 2013, 2014, 2015a). Estimated mortality includes all causes of death

including hunting (Dau 2011). Dau (2015a) states that cow mortality estimates are conservative due to exclusion of unhealthy (i.e. diseased) and yearling cows. Dau (2009, 2013) reported that rain–on–snow events, deep snow and winter thaws may have contributed to the relatively high estimated mortality rates of 23% during 2008-2009, 27% during 2009-2010 and 33% in 2011-2012. Prior to 2004, estimated adult cow mortality only exceeded 20% twice, but has exceeded 20% in 7 out of 9 regulatory years between 2004 and 2012. The annual mortality rate was 8% as of April 2016 (Dau 2016b). This may fluctuate substantially throughout the year based on changing local conditions and harvest levels. Dau (2015a) indicates that mortality rates may also change in subsequent management reports as the fate of collared animals is determined, and that these inconsistencies are most pronounced for the previous 1–3 years.

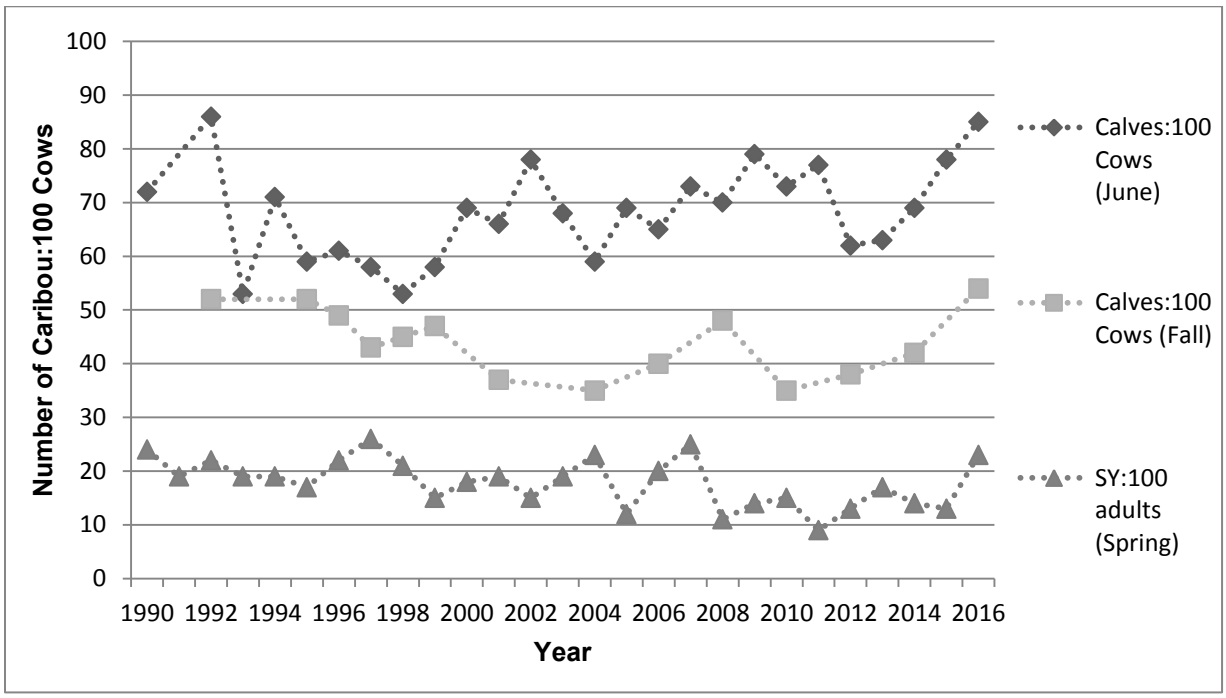


Figure 5. Calf:cow and short yearling (SY):adult ratios for the WACH (Dau 2013, 2015a, 2016a, ADF&G 2017c). Short yearlings are 10-11 months old caribou.

Far more caribou died from natural causes than from hunting between 1992 and 2012. Cow mortality remained constant throughout the year. However, natural and harvest mortality for bulls spiked during the fall. Predation, particularly by wolves, accounted for the majority of the natural mortality (Dau 2013). However as the WACH has declined and estimated harvest has remained relatively stable, the percentage of mortality due to hunting has increased relative to natural mortality. For example, during the period October 1, 2013 to September 30, 2014, estimated hunting mortality was approximately 42% and estimated natural mortality about 56% (Dau 2014). In previous years (1983–2013), the estimated hunting mortality exceeded 30% only once in 1997-1998 (Dau 2013). Additionally, Prichard (2009) and Dau (2015a) suggest that harvest levels and rates of cow harvest can greatly impact population trajectory. If bull:cow ratios continue to decline, harvest of cows may increase, exacerbating the current population decline.

Dau (2015a) cites fall and winter icing events as the primary factor initiating the population decline in

2003. Increased predation, hunting pressure, deteriorating range condition (including habitat loss and fragmentation), climate change, and disease may also be contributing factors (Gunn 2001, Dau 2013, 2014, 2015a). Changing climatic conditions can affect snow depth, icing, forage quality and growth, frequency, location, and intensity of wildfires, insect abundance, and predation which can affect migration and have long-term population level effects (Joly et al. 2011). Joly et al. (2007) documented a decline in lichen cover in portions of the wintering areas of the WACH. Dau (2011, 2014) reported that degradation in range condition is not thought to be a primary factor in the decline of the WACH because animals in the WACH, unlike the TCH, have generally maintained good body condition since the decline began. Body condition is assessed on a subjective scale from 1-5. The body condition of adult females in 2015 were characterized as "fat" (mean = 3.9/5) with no caribou being rated as skinny or very skinny (Parrett 2015c). However, the body condition of the WACH in spring may be a better indicator of the effects of winter range condition versus the fall when the body condition of the WACH is routinely assessed and when caribou are in prime condition, and weights may be more reflective of summer range conditions (Joly 2015, pers. comm.). Fall condition is also the best indicator of whether or not caribou are likely to become pregnant (Parrett 2017a, pers. comm.).

Habitat

Caribou feed on a wide variety of plants including lichens, fungi, sedges, grasses, forbs, and twigs of woody plants. Arctic caribou depend primarily on lichens during the fall and winter but, during summer they feed on leaves, grasses and sedges (Miller 2003). The importance of high use areas for the TCH at Teshekpuk Lake during the summer has been well documented (Person et al. 2007, Carroll 2007, Parrett 2011, Wilson 2012, Smith et al. 2015). Presumably the importance of areas to the north, south, and east of Teshekpuk Lake during calving is due to the high concentration of sedge-grass meadows (Wilson et al. 2012) and extremely low predator densities (Parrett 2017a, pers. comm.). In 2013 BLM closed 3.1 million acres around Teshekpuk Lake in the NPR–A to oil and gas development in recognition of the importance of these areas for caribou, waterfowl and shorebirds (BLM 1998, 2008, 2013; Cameron et al. 2005, Arthur and Del Vecchio 2009).

Harvest History

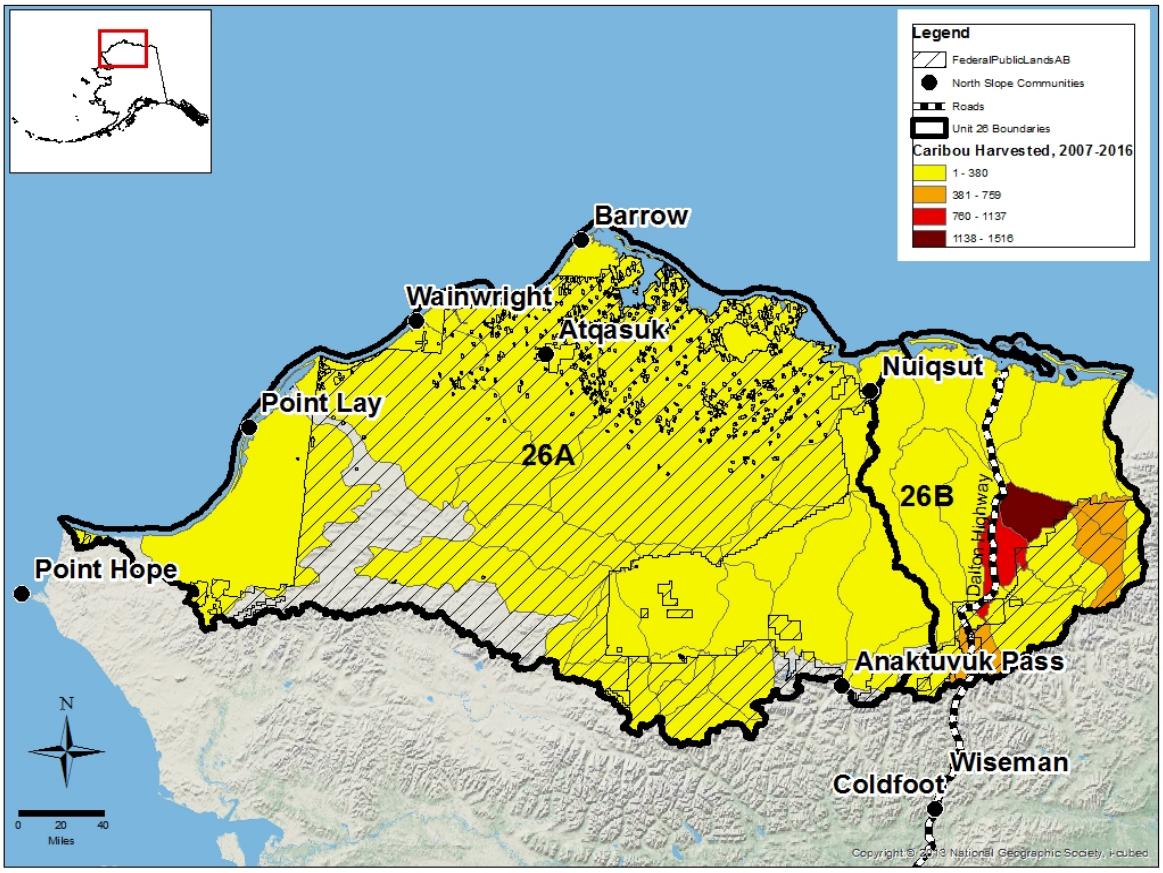
Reliance on caribou from a particular herd varies by community. Weather, distance of caribou from the community, terrain, and high fuel costs are some of the factors that can affect the availability and accessibility of caribou (Parrett 2015a). Local residents for Units 23, 26A and 26B are defined as those having customary and traditional use in these units. Point Hope, which is located in Unit 23, and Anaktuvuk Pass, which is located in Unit 24B near the border with Unit 26A, are included in this analysis because they have a Customary and Traditional Use for caribou in Units 26A and 26B. Documentation of harvest for Alaska residents has varied depending on whether they live north or south of the Yukon River. Prior to 2017/2018, Alaska residents who lived north of the Yukon River were not required to obtain harvest tickets although they were required to register with ADF&G or an authorized vendor. Compliance with registration requirement was low and not enforced (Braem 2017a, pers. comm.). Harvest by Alaska residents who live south of the Yukon River and nonresidents was monitored using

harvest reports (Lenart 2015, Dau 2015a).

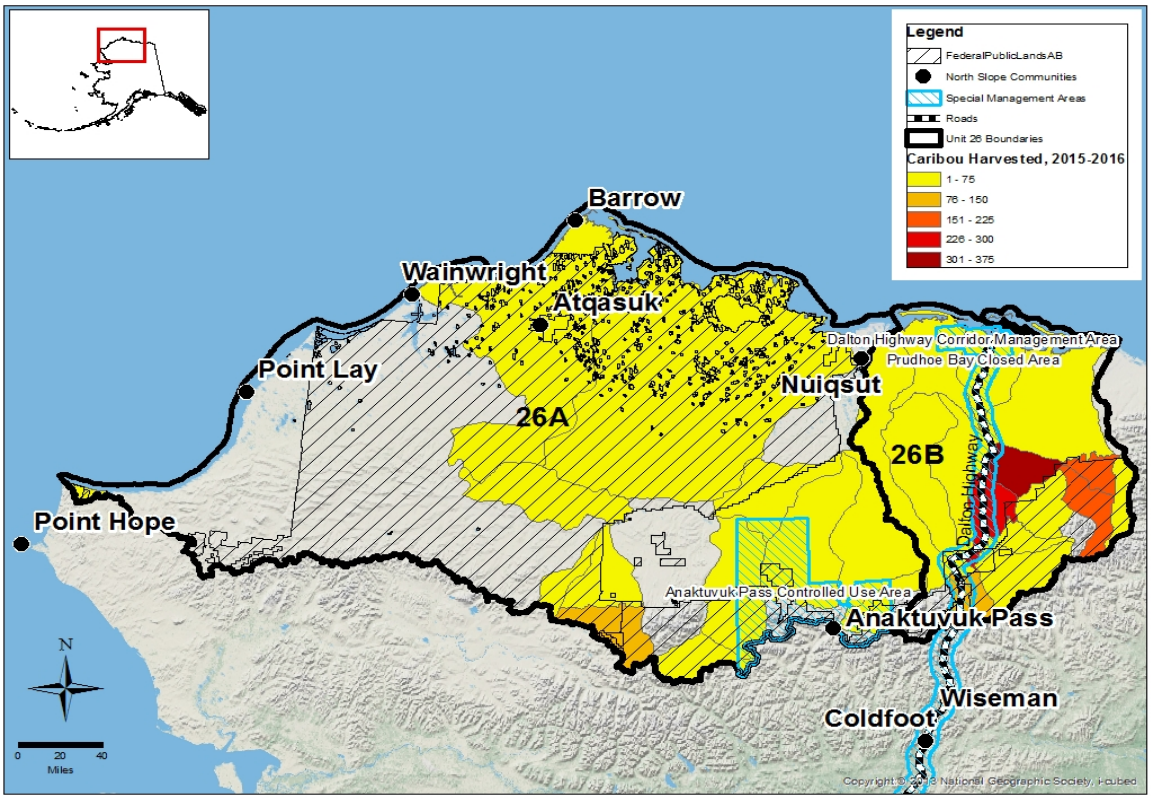
Understanding the overlap between caribou hunting by local users and nonlocal users is complicated by the lack of annual information on the exact location, harvest numbers, and caribou herd used by local hunters. Recently-enacted State regulations requiring registration permits for residents hunting caribou within the range of the Western Arctic and Teshekpuk herds in Units 21, 23, 24, and 26 seek to improve harvest monitoring and allow for more detailed analysis of harvest trends and distribution.

Generalized caribou harvest patterns by NFQU in Units 26A and 26B, which are based on specific areas within the units (Uniform Coding Unit –UCU) and includes nonresidents and nonlocal residents of Alaska from 2007-2016, are shown in **Map 3**. It should be noted that the displayed spatial data is reflective of reported harvest records with locational data at fine scales; records lacking spatial specificity are not represented. Assuming unreported data is proportional to available data, **Maps 3-6 and 8-10** represent general spatial harvest patterns. Between 2007 and 2016, a total of 9,429 caribou were harvested by NFQU in Units 26A and 26B. Among those, 6,405 (66%) were from nonlocal Alaska residents and 3,024 (34.0%) from nonresidents (ADF&G 2017a). All the hunting in the Unit that extends from the Arctic Coast south along the western boundary of Unit 26B occurs in the Toolik Lake area which is very near the Dalton Highway at the southern end of the UCU. Hunter success was greater in the DHCMA north of the area where the Echooka River crosses the road, on State land adjacent to the Ivishak and Echooka Rivers, and in an area farther east in the Arctic NWR which is typically accessed by airboats using the Ivishak and Echooka Rivers (WIRAC 2016:100-101).

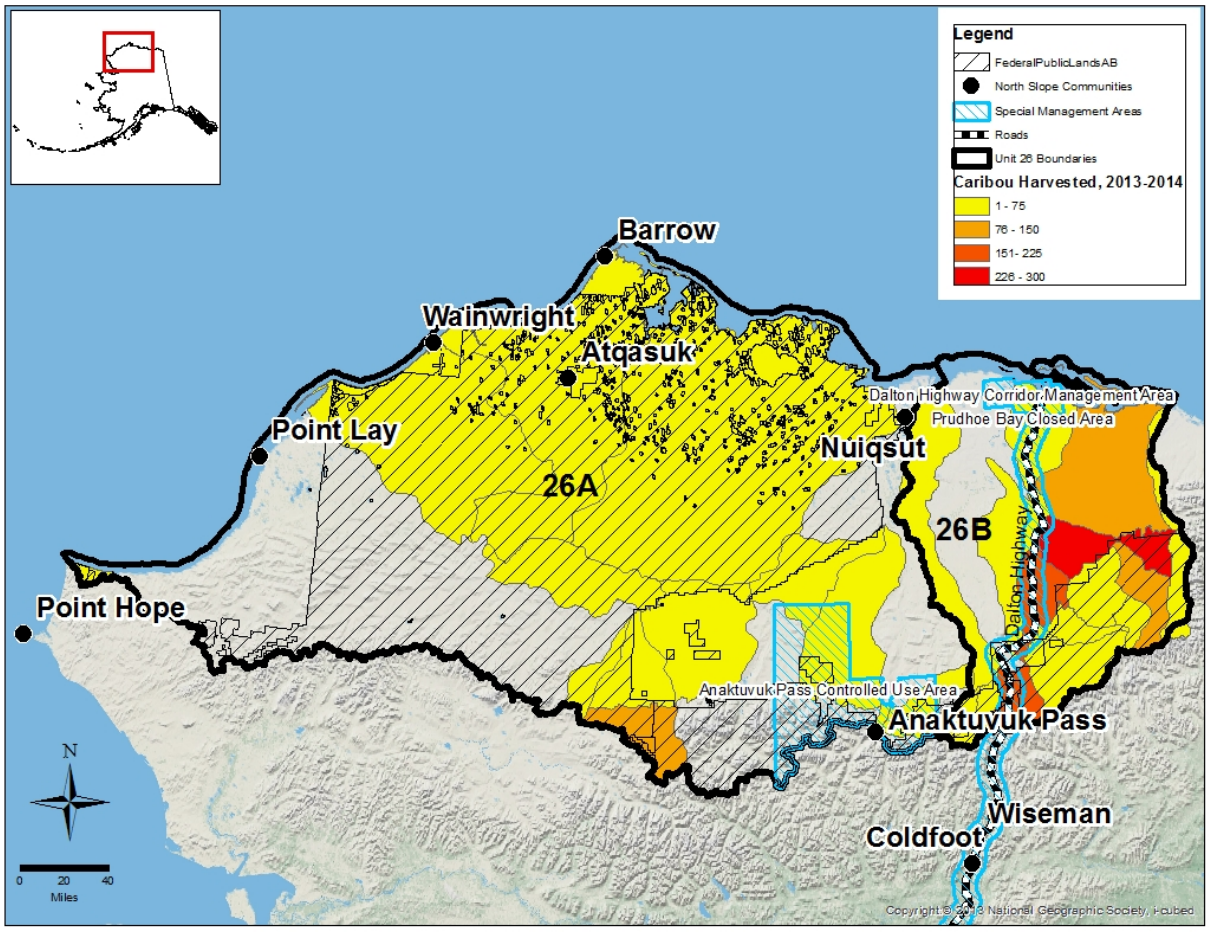
Harvest patterns by NFQU from 2015-2016, the period when the more restrictive Federal and State caribou regulations were in place, are shown in **Map 4**. Between 2015 and 2016, a total of 2,392 caribou were harvested by NFQU in Units 26A and 26B. Among those, 1,265 (53%) were from nonlocal Alaska residents and 1,126 (47.0%) from nonresidents (ADF&G 2017a). The core areas used during the 10 year assessment were essentially the same following the new more restrictive caribou regulations. In 2015-2016, NFQU harvested fewer caribou in the northwest corner of the Arctic NWR and harvested more caribou in the State areas adjacent to the Arctic NWR and southern portion of the DHCMA than in 2013-2014. Between 2013 and 2014, a total of 1,976 caribou were harvested by NFQU in Units 26A and 26B. Among those, 1,152 (58%) were from nonlocal Alaska residents and 824 (42%) and from nonresidents (ADF&G 2017a). Comparison of the two year period from 2013-2014 (**Map 5**) with 2015-2016 (**Map 4**) shows an increase in 2015-2016 of the harvest within the vicinity of Anaktuvuk Pass in Unit 26A. These changes in harvest patterns may be due in part to hunters shifting hunting areas and intensity to areas within Unit 26A and 26B in response to the closure of Federal public lands to caribou hunting by NFQU in Unit 23 in 2016/2017 or to changes in the movement of the caribou herds.



Map 3. Reported caribou harvest in Units 26A and 26B from the WACH, TCH, and CACH by NFQU, 2007-2016 (WinfoNet 2017).



Map 4. Reported caribou harvest in Units 26A and 26B from the WACH, TCH, and CACH by NFQU , 2015-2016 (WinfoNet 2017).



Map 5. Reported caribou harvest in Units 26A and 26B from the WACH, TCH, and CACH by NFQU , 2013-2014 (WinfoNet 2017).

Central Arctic Caribou Herd

Although most of the harvest from the CACH comes from Unit 26B some occurs in Units 24A, 24B, 25A, 26A, and 26C. Harvests in summer and early fall that occur in Units 24A, 24B, 25A, and 26C are be primarily from other herds such as the PCH, TCH, or WACH. Additional harvest from the CACH may occur when it is near Kaktovik (Unit 26C) in the summer, near Wiseman and Coldfoot (Unit 24A) in the fall and winter, and near Arctic Village (Unit 25A) in the fall and winter (**Figure 6**). During the fall and winter some caribou from the TCH and WACH occasionally mix with the CACH. For the purposes of documenting the annual harvest from the CACH from community harvest surveys by local residents outside of Unit 26B, Lenart (2017a) used an estimate of 100 caribou (Lenart 2017b) (**Table 4**). Harvest information presented for the CACH will refer to Unit 26B unless noted otherwise.

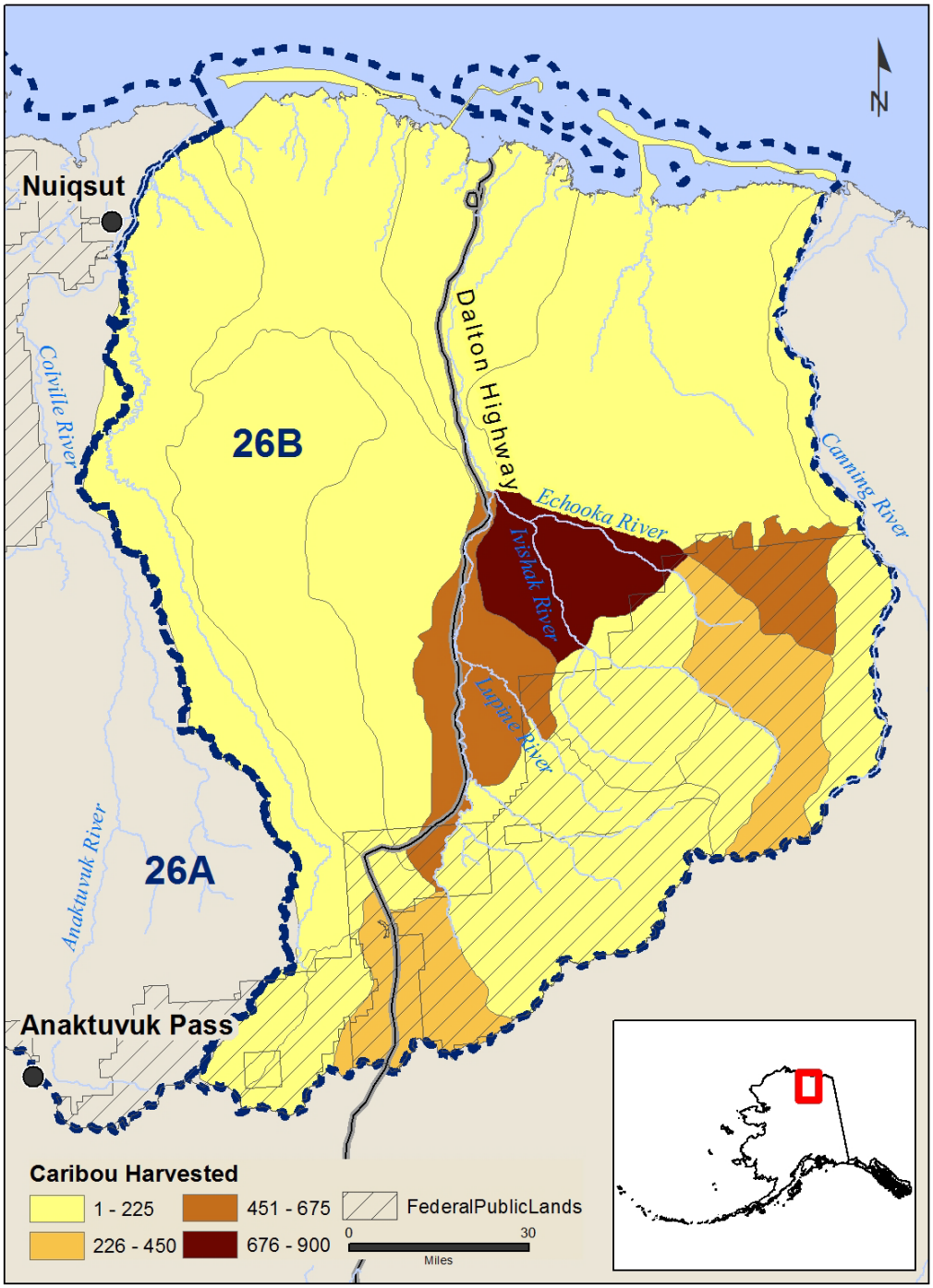
Harvest by local hunters from Nuiqsut occurs in the summer and fall, from July through September, and during the spring, from March through April (Braem et al. 2011, Brown et al. 2016). A little more than 50% of the caribou harvest taken by Nuiqsut hunters occurs in the summer and fall and is from both the

TCH and CACH (Lenart 2015). Nuiqsut hunters represent most of the local harvest from the CACH even though, they tend to hunt west of the community,. Based on the distribution of caribou and the timing and location, Braem et al. (2011) estimated that 13% of the total harvest between 2002 and 2007 by Nuiqsut residents was in Unit 26B, just east across the border with Unit 26A where the community is located. Braem et al. (2011) estimated that Nuiqsut hunters averaged approximately 61 caribou from the CACH annually from 2002 and 2007. The average total annual caribou harvest by Nuiqsut hunters, which includes TCH and CACH, from 2000-2006 was 474 caribou. In 2014, 774 caribou were estimated to have been harvested by Nuiqsut residents (Brown et al. 2016). Harvest by local hunters as documented by community surveys, Nuiqsut residents harvested approximately 317 caribou (41%) from the CACH in 2014 (Braem 2017b). In 2014, Nuiqsut residents harvested caribou in all months except May. The most productive months were June (114), July (189), and August (215). Harvest declined sharply after August, only 73 caribou were harvested in September. The fewest caribou were taken in April (2) and November (4). There were 43 caribou harvested for which the date of harvest was not known. Of the caribou harvested in 2014, 72% were bulls. An estimated 166 cows were harvested in 2014 with 45% being harvested in January and February (Brown et al. 2016).

The average annual CACH harvest from 2013/14 to 2015/16 in Unit 26B was approximately 937 caribou. (**Table 4**) (Lenart 2017a, WinfoNet 2017). Bow hunters took approximately 21% of the total harvest during this time. The average number of bulls harvested annually from the CACH from 2012-2015 was 699 and the average number of cows harvested was 234 (**Table 4**). A majority of the reported caribou harvest from the CACH occurs in August and September (Lenart 2015).

The proportion of resident and nonresident harvest has fluctuated with CACH population trends (**Figure 6, Table 5**). In general resident harvest has decreased with the recent population decline and the nonresident harvest has increased slightly (**Figure 6, Table 5).** Nonlocal residents accounted for 89% of the total caribou harvest from 2013-2015, which is approximately 827 caribou annually (Lenart 2017a). The location and total caribou harvest by NFQU hunters from the CACH during the population decline from 2011-2016 is shown in **Map 6**. Between 2011 and 2016, a total of 5,049 caribou were harvested by NFQU in Unit 26B. Among those, 3,433 (68%) were from nonlocal Alaska residents and 1,616 (32%) and from nonresidents (WinfoNet 2017). The annual cow harvest by NFQU in Unit 26B increased from 47 in 2006-2009 to 234 in 2010-2016 (**Figure 7**). This increase coincided with the change in the harvest limits from two to five caribou and harvest season for cows from Oct.1-Apr. 30 to July 1-Apr. 30 in the 2010 State regulations.

Although a harvest rate of 5% of the population has been used as a guideline by ADF&G since 1991 to determine the allowable harvest, the reported harvest has been well below the harvestable surplus, averaging less than 2% since 2000/01 (Lenart 2015). However, with the recent population decline, Lenart (2017a) recommended a harvest level of 3% of the population. ADF&G adopted new caribou regulations for Unit 26B in 2017/2018 with the intended goal of reducing the annual harvest from an average of 937 caribou from 2013-2015 to 680 (3% of 22,360) and reduce the cow harvest from approximately 200 to 75 (Lenart 2017a).



Map 6. Reported caribou harvest in Unit 26B from the CACH by NFQU during the population decline 2011-2016 (WinfoNet 2017).

Table 4. Reported harvest from the Central Arctic Caribou Herd by sex and method of take in Alaska, 2006-2015 (Braem et al. 2011, Brown et al. 2016; Lenart 2013, 2015, 2017a; ADF&G 2017b).

Regulatory Year[a]	Male	Female	Unit 26A Residents[a]	Total Harvest (# harvested by bow)[b]	Total Hunters
2006/07	795	32	100	927 (301)	1,331
2007/08	596	65	100	761 (183)	1.380
2008/09	658	47	100	805 (180)	1,362
2009/10	750	45	100	895 (224)	1,317
2010/11	976	234	100	1,310 (296)	1,622
2011/12	808	344	100	1,252 (330)	1,401
2012/13	727	276	100	1,103 (285)	1,430
2013/14	721	134	100	955 (190)	1,423
2014/15	717	195	100	1,012 (198)	na[c]
2015/16	522	222	100	844 (92)	na[c]
Mean	699	234	100	1,033 (219)	–

[a] Estimated yearly average from Unit 26A residents from community harvest surveys, Kaktovik and Nuiqsut

[b] Total includes bow harvest and harvest from Unit 26A residents

[c] Not available

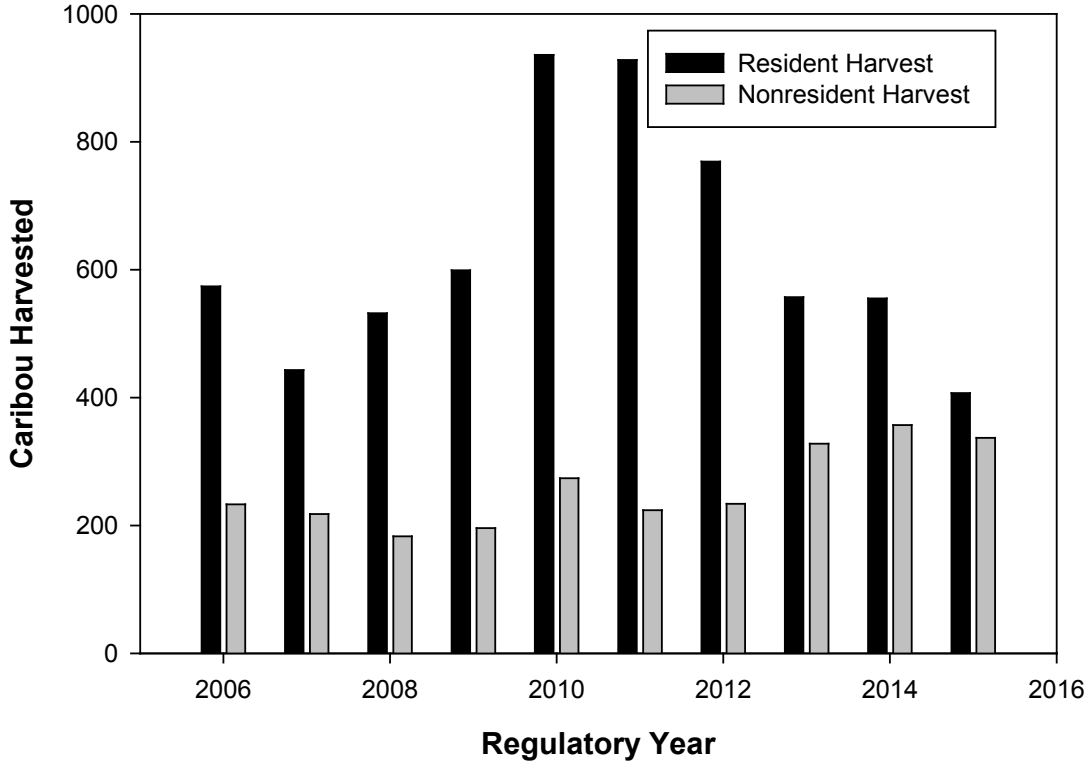


Figure 6. Reported CACH harvest by residency, 2006-2015.

Table 5. Characteristics of the Central Arctic Caribou Herd average annual harvest in Unit 26B by residency, 2013-2015. The proportion of the total Unit 26B caribou harvest by residency for 2006-2015 is included for comparison (Lenart 2017a).

Residency	Total CACH Harvest	Female CACH Harvest	Proportion of the Harvest (%) 2013-2015	Proportion of the Harvest (%) 2006-2015	Hunters	Success Rate (%)
Unit 26A Residents	100	20	11%	10%	na	na
Other Alaskan Residents	490	158	53%	64%	910	38%
Nonresident	340	24	36%	26%	430	62%
Total	930	202	-	-	-	-

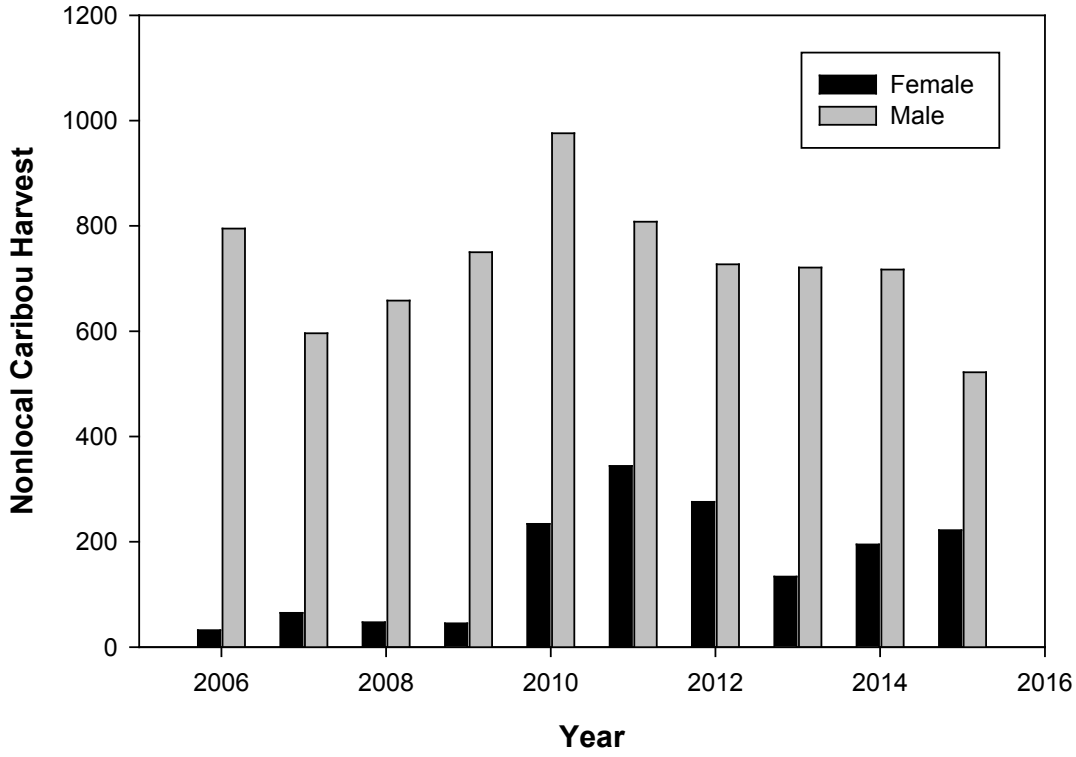
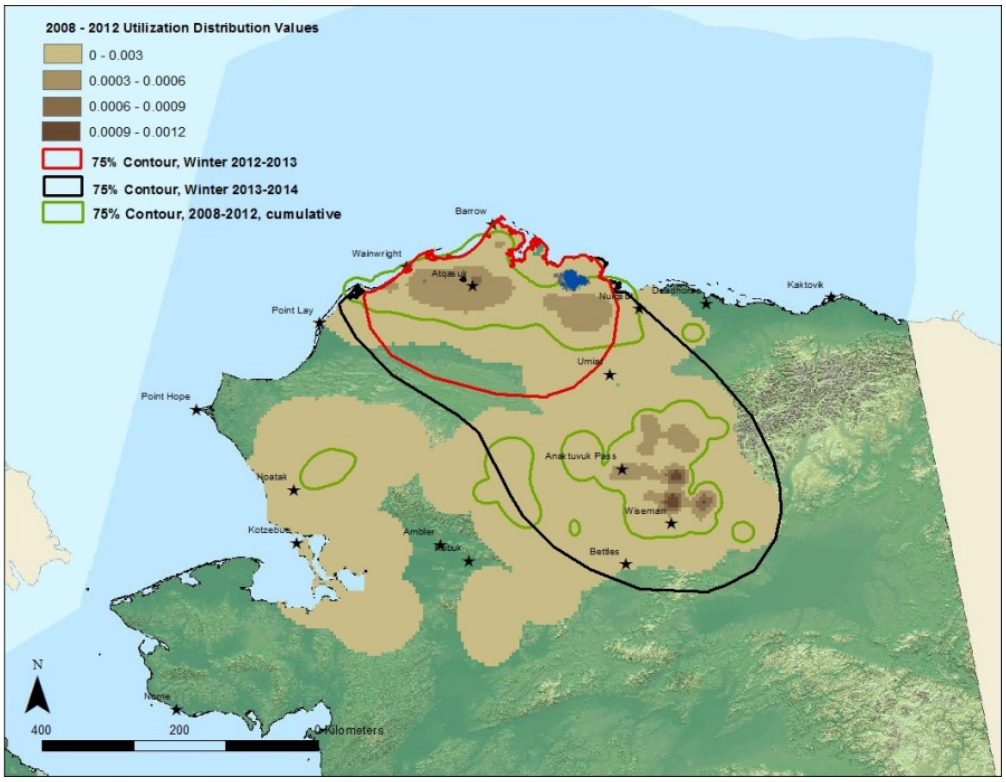


Figure 7. Central Arctic caribou herd harvest by sex by Nonlocals in Unit 26B, 2006-2016

Teshekpuk Caribou Herd

The TCH annual caribou harvest is 4,000-5,000 year (Parrett 2015a). Most of the harvest is by local Federally qualified subsistence users (FQSU). Less than 1% of the TCH harvest is by nonlocal residents in Alaska and nonresidents (Parrett 2011, Parrett 2015a). Residents of Atqasuk, Utqiagvik, Nuiqsut, and Wainwright harvest caribou primarily from the TCH while residents from Anaktuvuk Pass, Point Lay, and Point Hope harvest caribou primarily from the WACH (**Table 6**) (Dau 2011, Parrett 2011). For example the TCH winter range did not overlap Anaktuvuk Pass in 2012/2013 but did in 2013/2014 (**Map 7**). Residents of Nuiqsut, which is on the northeast corner of Unit 26A, harvested approximately 77% and 86% of their caribou from the TCH between 2002 and 2007 and 2010 and 2011, respectively (Parrett 2013). A little more than 50% of the caribou harvest taken by Nuiqsut hunters occurs in the summer and fall and is from both the TCH and CACH (Lenart 2015). Although some harvest from the TCH occurs outside of Unit 26A in Units 23, 24, and 26B, it is unlikely that the overall harvest is significant when the TCH is mixed with other caribou herds (Parrett 2013, 2015a).



Map 7. Cumulative Teshekpuk caribou herd winter range, Alaska, 2008-2012, with utilization distribution values depicted in shades of brown, 75% kernel contour from the 2008-2012 in green. The 75% contours from the two individual winters from 2012-2014 are depicted by the red and black outlines (Parrett 2015a).

Range overlap between the three caribou herds, frequent changes in the wintering distribution of the TCH and WACH, and annual variation in the community harvest survey effort and location make it difficult to determine the proportion of the TCH, WACH and CACH in the harvest. Knowledge of caribou distribution at the time of the reported harvest is often used to estimate the proportion of the harvest from each herd. Community harvest surveys continue to be the preferred method to estimate harvest by FQSU, since previous attempts to conduct registration hunts were not effective (Georgette 1994, Parrett 2015a).

The use of harvest tickets required by nonlocal hunters provides time and location of the harvest and, together with knowledge of the caribou distribution and allows for a more accurate assessment of the proportion of caribou harvested from each herd. For harvests by FQSU, analysis of the proportional harvest from different herds has been difficult due to poor or non-existent reporting, variation in the timing and effort of community harvest surveys, changes in the distribution and timing of TCH migration, and overlapping distribution with adjacent herds. However, previous efforts from 2002-2007 determined that Utqiagvik residents harvest primarily from the TCH (Parrett 2013, Braem 2017b). If used throughout the range harvest tickets would allow for better tracking of the FQSU harvests with respect to the overlapping caribou herds.

For communities where harvest surveys have not been conducted or the estimates are unreliable, the Division of Wildlife Conservation estimated annual harvests based on the current community population, previous per capita harvest estimates,and yearly caribou availability. A general overview of the relative utilization of caribou herds by community from 2008/09 to 2009/10 is presented in **Table 6** (Parrett 2011, Dau 2011, and Lenart 2011). These years were chosen because there was good separation between the herds during this period. The total estimated annual harvest from the TCH during 2008/09 (3,219 caribou) (Parrett 2011) was similar to 2012/13 and 2013/14 (3387 caribou) (Parrett 2015a) **(Table 6**). Most of the caribou harvest in 2012/2013 and 2013/2014 occurred in August and September (Parrett 2015a). The estimated annual harvest during 2012/13 and 2013/14 using this method was approximately 3,387 (Parrett 2015a).

Table 6. Estimated caribou harvest of the Teshekpuk, Western Arctic and Central Arctic caribou herds during the 2008/2009 regulatory years by FQSU in Unit 26A (Parrett 2011, Dau 2011, Lenart 2011, Sutherland 2005). Note: Due to the mixing of the herds, annual variation in the community harvest surveys and missing data, the percentages for each community do not add up to 100%.

Community	Human population[a]	Per capita caribou harvest[bc]	Approximate total community harvest	Estimated annual TCH harvest (%)[d]	Estimated annual WACH harvest (%)[d]	Estimated annual CACH harvest (%)[d]
Anaktuvuk Pass	298	1.8	524	157 (30)	431 (82)	
Atqasuk	218	0.9	201	197 (98)	6 (2)	
Barrow (Utqiagvik)	4,127	0.5	2,063	2,002 (97)	62 (3)	
Nuiqsut	396	1.1	451	388 (86)	3 (1)	58 (13)
Point Lay	226	1.3	292	58 (20)	210 (40)	
Point Hope	689	0.3	220	0	220 (100)	
Wainwright	547	1.3	695	417 (60)	48 (15)	
Total Harvest				3,219	980	58

[a] Community population size based on 2007 census estimates
[b] Citations associated with per-capita caribou harvest assessment by community can be found in **Table 5** (Parrett 2011).
[c] Sutherland (2005)
[d] Percent of the total community harvest

The harvest estimate for Utqiagvik, from household surveys conducted by ADF&G in 2014/15 was 4,231 caribou (Brown et al. 2016). Based on data collected by the North Slope Borough Wildlife Department the average annual harvest estimate for Utqiagvik from 1992-2003 was 2096 caribou (Brown et al. 2016). Currently the harvestable surplus for the TCH is estimated to be approximately 2,500 at a 6% harvest rate. A conservative estimated harvest rate for the period between 2012/13 to 2013/14 is approximately 10% of the 2013 (3,917 caribou) population estimate of 39,172 (range 32,000-45,000) (Parrett 2015a). However, due to the mixing of TCH with the WACH and CACH, lack of annual harvest data for FQSU and lack of spatial data it is difficult to determine the actual TCH harvest. The conservative harvest rate estimate for

the TCH is 10% , which is almost double the harvest rate estimates for the WACH and CACH (Parrett 2015a) and a conservation concern. If the TCH population declines to below 35,000 the harvest rate may be reduced to 4-5%, assuming that the harvest composition remains consistent at approximately 15% bulls and 2% cows (Parrett 2017a, pers. comm.).

Due to the remoteness and inaccessibility of much of the area most of the TCH harvest is by local hunters (Parrett 2015a). TCH harvest by local hunters in recent years occurs primarily from July to October (Braem et al. 2011, Parrett 2011, Brown et al. 2016) whereas nonresidents and nonlocal residents typically harvest most of their caribou from the WACH, along the Colville River drainage, in August and September (Parrett 2015a). For example, greater than 95% of the caribou harvested by nonresidents and nonlocal residents in 2012/13 and 2013/14 occurred in August and September (Parrett 2015a). The nonresident and nonlocal resident harvest in Unit 26A, which averages about 10 caribou a year or 1% of the total TCH harvest, is split evenly between the nonlocal and nonresidents (Parrett 2013).

Western Arctic Caribou Herd

Annual caribou harvest by local residents is estimated from community harvest surveys, when available. In 2015 the linear model (Sutherland 2005) used to estimate caribou harvests by hunters who live within the range of the WACH was replaced by a new analysis of covariance developed by Adam Craig, a biometrician with ADF&G's Division of Wildlife Conservation Region V (Arctic and Western Alaska). These models incorporate factors such as community size and availability of caribou (Dau 2015a). Craig's models replaced models developed by Sutherland (2005) in 2015, resulting in changes to local caribou harvest estimates from past years. While Craig's model accurately reflects long-term trends in annual local harvests, it is too insensitive to detect short-term changes in harvest levels useful to real time management decisions to regulate harvests and does not accurately reflect actual harvest levels or harvest levels by Unit (Dau 2015a). This analysis only considers the updated harvest estimates using the new model from Dau (2015a). The accuracy of harvest reporting by locals may improve with the new State requirements for harvest tickets and registration permits for those that live north of the Yukon River. Caribou harvest by NFQU is based on harvest ticket reports (Dau 2015a).

From 2000–2014, the estimated harvest from the WACH averaged 11,984 caribou/year, ranging from 10,666-13,537 caribou/year (**Figure 8**) (Dau 2015a). The total harvest during 2012/13 and 2013/14 was 13,352 and 12,713 caribou, respectively. These harvest estimates assumed that 95% of all caribou harvested by nonlocal hunters in Unit 26A were from the WACH and the remainder from the TCH. Using the 2011 and 2013 population estimates the total annual harvest during 2012/13 and 2013/14 was approximately 4-5% of the population (Dau 2015a). These harvest levels are within or below the conservative harvest level specified in the WACH Management Plan (**Table 2**). However, harvest estimates do not include wounding loss or caribou killed but not salvaged, which may be hundreds of caribou (Dau 2015a). Local residents, as defined as living within the range of the WACH, account for approximately 95% of the WACH harvest, with residents of Unit 23 accounting for the approximately 58% (**Figure 9**) (Parrett 2017a, pers. comm.). Approximately 37% of the annual WACH harvest is taken by the local residents in Unit 26A, 22, and 24 (**Figure 9**).

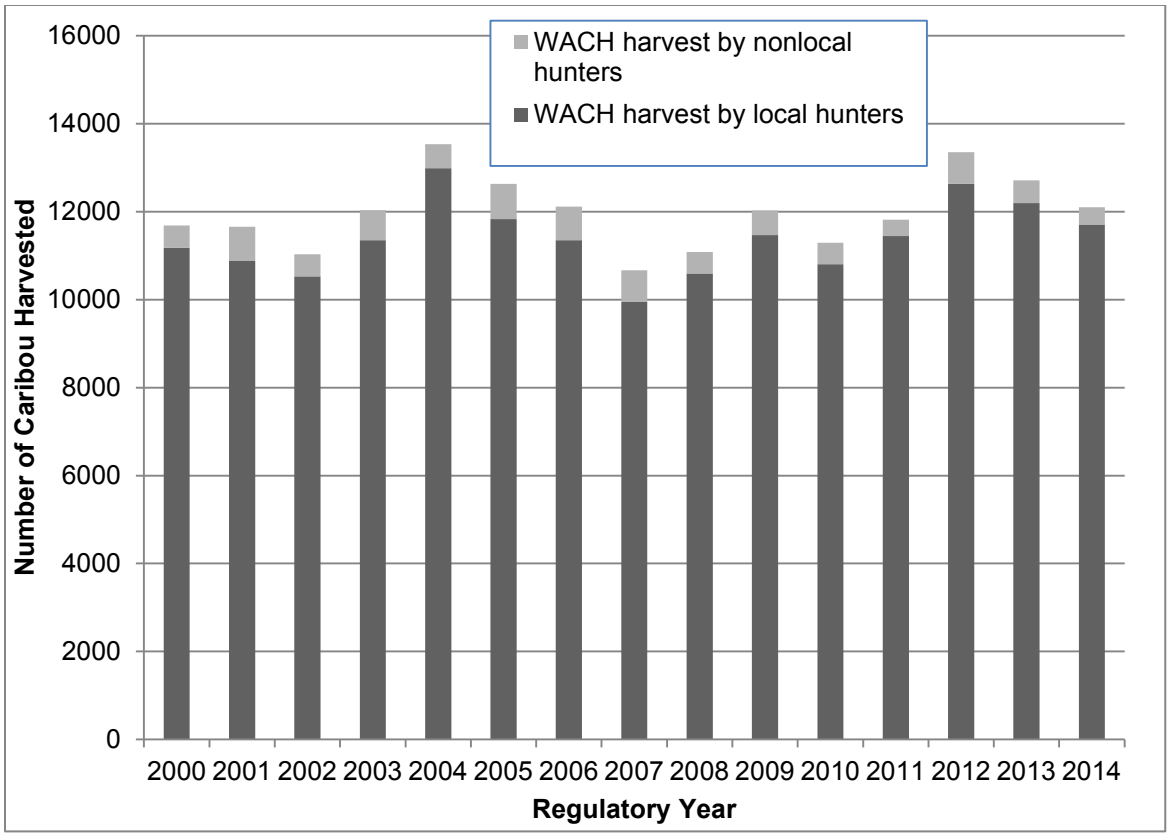


Figure 8. Estimated number of caribou harvested from the WACH by residency (Dau 2015a).

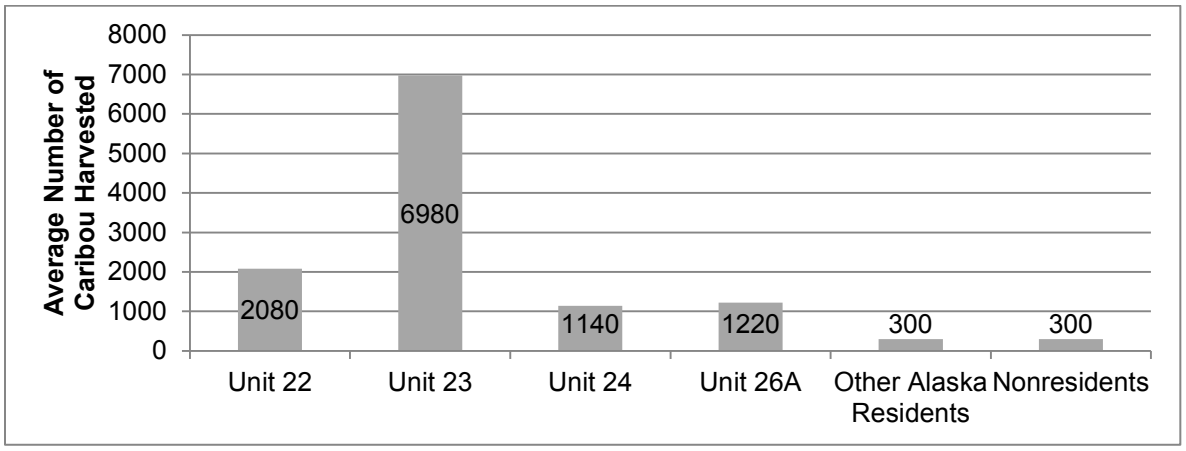


Figure 9. Average WACH annual caribou harvest by unit and residency from 1998-2015 (Parrett 2017a, pers. comm.).

From 2001-2013, total average annual nonlocal WACH harvest was 598 caribou (range 421-793) (**Figure 10**). Over the same time period, nonlocal WACH harvest from Units 26A, 26B, and 24B averaged 102 caribou/year (range 60-144) (**Figure 10**). Nonlocal WACH harvest from Unit 23 and Units 26A, 26B, and 24B combined accounts for 76% and 14% of the total nonlocal WACH harvest on average, respectively.

Between 1998 and 2014, the number of NFQU hunting caribou and the number of caribou harvested by NFQU in Unit 23 averaged 487 hunters (range: 404-662) and 511 caribou (range: 248-669), respectively (**Figure 11,** USFWS 2017). In 2015, after the BOG enacted restrictions, the number of NFQU and caribou harvested by NFQU decreased appreciably (340 hunters and 230 caribou). In 2016, during the closure of Federal lands to NFQU, the number of NFQU and caribou harvested by NFQU decreased even further (149 hunters and 111 caribou), although there may still be some outstanding 2016 harvest reports from nonlocal residents (**Figure 11,** WinfoNet 2017). Based on patterns in submission rates and timing of harvest reports, the State estimated a 50% reduction in the number of nonlocal hunters (230 vs 463) and caribou harvest by nonlocal hunters (139 vs 273) in Unit 23 compared to the previous 3 years as a result of the closure (Parrett 2016b, 2017b; ADF&G 2017c). Preliminary numbers suggest that nonlocal hunters declined 65% compared to 2013-2015 (Parrett 2017b).

Based on those hunters that provided harvest ticket reports for Unit 26A, the number of nonresidents compared to Alaska residents outside the WACH range that harvested caribou from the WACH increased from 2011-2015 (**Figure 12**). Approximately 95% of the total Unit 26A caribou harvest was from the WACH and by residents within the WACH range (Dau 2013). The annual harvest by NFQU is a very small percentage (≈1%) of the total WACH harvest (**Figures 10 and 13)**. Female harvest by NFQU in Unit 26A averaged 10% (range 2-19) from 2006-2016.

Harvestable surplus for the WACH is calculated as 6% of the total population (Braem 2017a, pers. comm.). In recent years, as the WACH population has declined, the total harvestable surplus has also declined (Dau 2011, Parrett 2015a). In 2015/16, the combined TCH/WACH harvestable surplus declined from an estimated 13,250 caribou in 2014/15 to an estimated 12,400 caribou. While there is substantial uncertainty in the harvestable surplus estimates, the overall trend is decreasing and it is likely that sustainable harvest will soon be exceeded if the decline continues (Parrett 2015a, Dau 2015a). Of particular concern is the overharvest of cows, which has probably occurred since 2010/11 (Dau 2015a). Dau (2015a) states, "even modest increases in the cow harvest above sustainable levels could have a significant effect on the population trajectory of the WACH (14-29). Harvest from the WACH, which has remained fairly consistent, is one of the factors that prompted the BOG to enact restrictions to WACH and TCH caribou harvest in March 2015.

Using the percentage of harvest reported by community from the WACH in 2008/09 (**Table 6**) and the 2014 community harvest estimates for Utqiagvik, Anaktuvuk Pass, Nuiqsut, and Point Hope (Brown et al. 2016) and the 2013 total nonlocal harvest (117 caribou) (Dau 2015a), the total WACH caribou harvest for Unit 26A in 2014 was approximately 1,185 caribou. Adding another 120 caribou from Point Lay and Atqasuk (Parrett 2011) would bring the total to approximately 1,305 caribou harvested from the WACH in 2014 in Unit 26A. This year (2014) was chosen because this was the most recent community harvest records for the North Slope communities (Brown et al. 2016).

The harvest estimate for Anaktuvuk Pass, in 2014/15 was 770 caribou. Based on data collected by the North Slope Borough Wildlife Department and ADF&G, the average annual harvest estimate for Anaktuvuk Pass based on household surveys conducted in 2000/01, 2001/02, 2002/03, 2006/07, 2011. 2014 was 586 (Brown et al. 2016). However this does not include 3-5 years of low harvest since 2008.

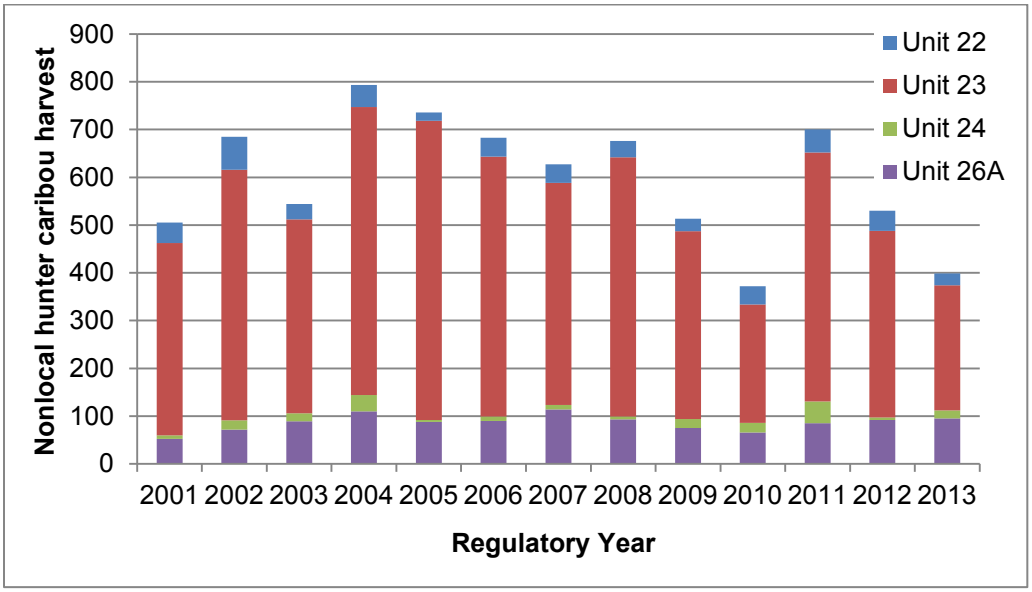


Figure 10. Nonlocal WACH harvest by unit (Dau 2015a, Dau 2013). Unit 21D was not included as only 0-2 caribou have been harvested from this unit each year.

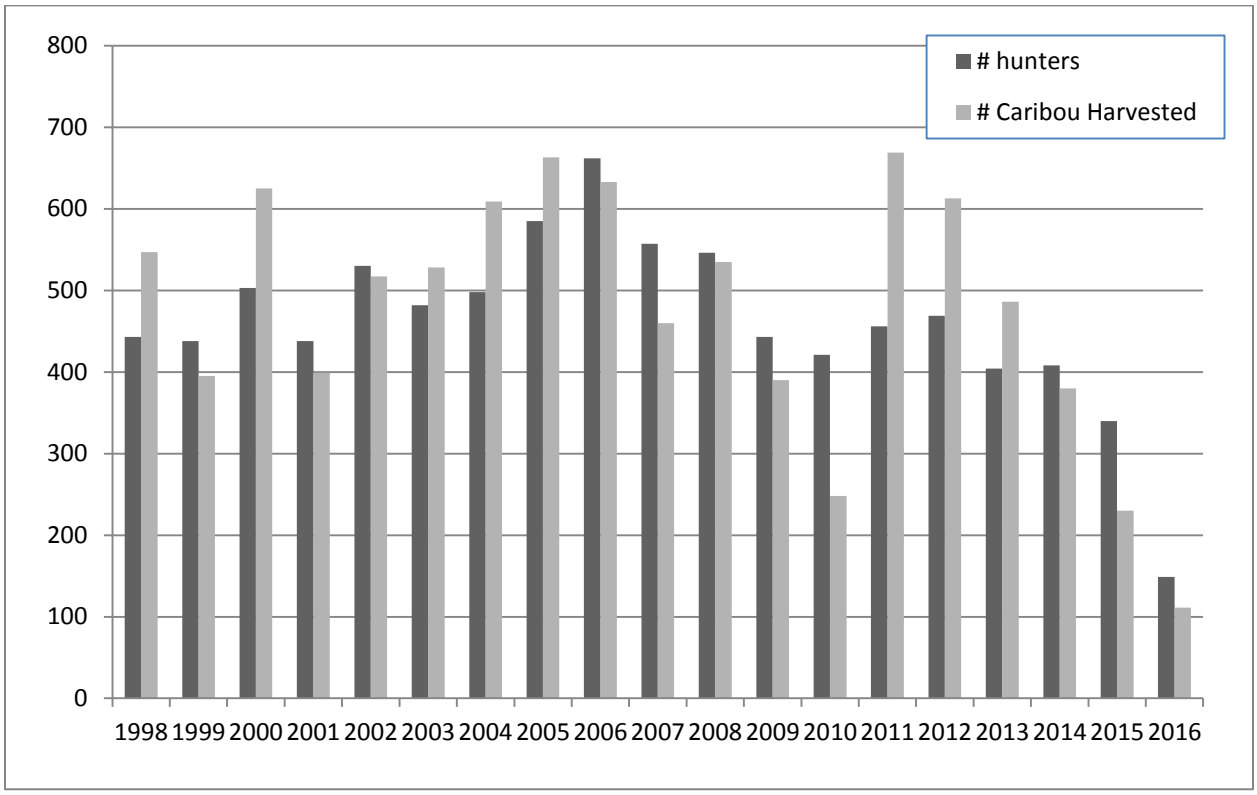


Figure 11. Number of non-Federally qualified users (NFQU) and number of caribou harvested by NFQU in Unit 23 (ADF&G 2016, FWS 2016, WinfoNet 2017).

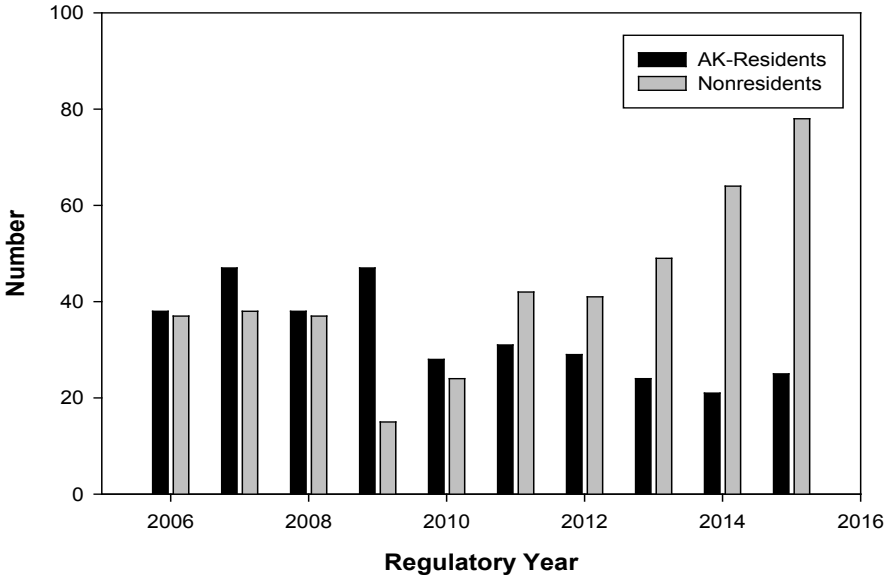


Figure 12. Residency of successful nonlocal caribou hunters from the WACH in Unit 26A, 2006-2015 (Dau 2013, 2015a).

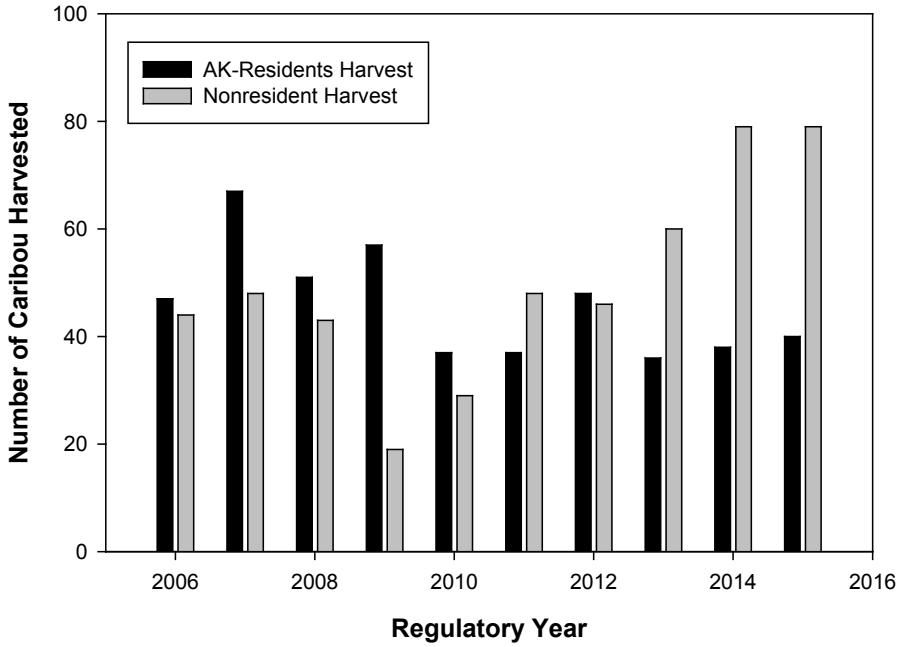


Figure 13. Nonlocal WACH harvest in Unit 26A, 2006-2015 (Dau 2013, ADF&G 2017b).

Cultural Knowledge and Traditional Practices

The archaeological record of the region extends 8,000 to 10,000 years before present and sites are scattered across the Brooks Range and the North Slope (Anderson 1984, Dumond 1984). Prior to 1840, the Inupiat people of the region were loosely organized in six groups or nations of small kin-based settlements (Burch 1980). These groupings largely disappeared by 1900 but communities still use the territories that preceded modern villages (Braem 2013).

Caribou are an important subsistence resource for the Inupiaq people of northern Alaska (Burch 1998, Spencer 1984). This is particularly true for inland communities such as Atqasuk and Anaktuvuk Pass where marine mammals are not available. While whaling communities tended to be more permanent, inland peoples traditionally tended toward annual and seasonal movements to reflect caribou migrations (Spencer 1984). The abandonment of this more mobile lifestyle has probably had significant consequences for the adaptability of hunters and their ability to meet subsistence needs. The two predominant modes of subsistence were intertwined by trading relationships between inland and coastal communities that sometimes helped to supplement dietary needs (Spencer 1984).

Historically the North Slope Inupiat hunted caribou year-round (Braem 2013). This continues today, with heavier harvests in certain months and seasons depending on the community (Braem 2013). A variety of methods were used to harvest caribou historically including spearing swimming animals, driving caribou into natural and manmade barriers, snaring, bow and arrow, and deadfalls (Braem 2013). Caribou drives allowed a large number of caribou to be harvested in a short time (Burch 2012, Spencer 1959, Murdoch 1988). These methods were replaced with firearms in the 19th century.

Burch (1988) described the importance of caribou for the people of Northwest. Caribou were used for sustenance but also for material to make parkas, underwear, socks, boots, mittens, and gloves (Braem 2013). Burch (1998) documented a unanimous preference for the late summer coats of caribou cow and calf hides, seen as providing both the softness and quality needed for high quality clothing, after the summer shedding and before acquiring a shaggy winter coat. While bulls were targeted for their fat stores and meat, cows and calves were targeted for their hides, considered prime during the early part of August (Burch 1998). The main objective for summer hunting was the acquisition of hides, "It reportedly took two calf skins to make one parka, and every hunter tried to get at least twenty of them" (Burch 1998:163).

Traditionally, coastal groups tended to store caribou frozen in ice cellars while inland groups more commonly stripped and dried the meat (Braem 2013). Today, caribou is frozen, dried, and eaten fresh (Braem 2013). As a food resource, caribou remain important to meeting the subsistence needs of Inupiaq families on the North Slope. In 1989 the coastal community of Wainwright harvested approximately 83,187 lb. of caribou (178 lb. per capita), representing 24% of the community's harvest in that year (ADF&G 2017c). Comparatively, Wainwright harvested approximately 243,594 lbs. of marine mammals (521 lb. per capita), representing 69% of the community's harvest (ADF&G 2017c).

In 2014, the inland community of Anaktuvuk Pass harvested approximately 104,664 lb. of caribou (330 lb. per capita), representing 84% of the community harvest in that year (Brown et al. 2016). Among the

harvested animals, 51% were bulls, 39% were cows, and 10% were of unknown sex (Brown et al. 2016). Cows were primarily harvested between November and April while bulls were primarily harvested throughout the rest of the year (Brown et al. 2016). Approximately 89% of Anaktuvuk Pass households reported using caribou in 2014, with 47% of households giving caribou away and 68% of households receiving caribou (ADF&G 2017c); use and sharing of caribou in this community remains high and has led to food security concerns in recent years when caribou migration patterns shifted away from the community.

In addition to Anaktuvuk Pass, ADF&G conducted surveys in Point Hope, Nuiqsut, and Utqiagvik in 2015 for the 2014 harvest year (Brown et al. 2016). Anaktuvuk Pass' per capita harvest was highest (2.4 caribou; 315 lb. edible weight per capita) but the total number of harvested caribou was modest (770 caribou). Point Hope represented the lowest caribou harvest by number of animals (185) and by per capita edible weight (34 lb.). Utqiagvik, the largest community in the region, harvested 4,231 caribou in 2014, representing 103 lb. per capita of edible weight.

Residents from communities along the DHCMA have documented use of caribou from CACH, TCH and WACH. Holen et al. (2012) and Brown et al. (2016) documented that the 2011 caribou hunting areas followed the DHCMA north from Wiseman up to Galbraith and Toolik lakes in Unit 26. In addition there were two small caribou hunting areas near Wiseman and Nolan (**Appendix A**). Some of the respondents interviewed from Wiseman during the community harvest surveys in 2011 noted that hunting pressure on caribou and Dall Sheep from nonlocal hunters had increased substantially making it harder for local residents to meet their harvest goals (Holen et al. 2012, p 376-378). Residents from Coldfoot also mentioned that overharvesting was depleting the CACH, TCH, and WACH that utilize the area (Holen et al. 2012)

Meeting the nutritional and caloric needs of arctic communities is important and is the foundation of subsistence activities. Still, the meaning of subsistence extends far beyond human nutrition for Alaska's native peoples. Holthaus (2012) describes subsistence as the base on which Alaska Native culture establishes its identity though "philosophy, ethics, religious belief and practice, art, ritual, ceremony, and celebration." Fienup-Riordan (1990) also describes subsistence in terms of the cultural cycles of birth and death representing the close human relationship and reciprocity between humans and the natural world. Concerning caribou specifically, Ms. Esther Hugo – a lifelong resident of Anaktuvuk Pass, describes the human-caribou relationship as a "way of life." The holistic view of subsistence was embodied in the special action request motion for WSA17-04 by the North Slope Council to, among other things, provide for a "reasonable traditional subsistence experience" (NSRAC 2017:248).

User Conflicts

While the percentage of diets comprised by caribou varies from community to community, this resource clearly remains a staple of subsistence in Alaska's arctic. Recent declines in caribou herds and shifts in caribou migration patterns have led to food security concerns, especially for inland communities that lack access to more abundant coastal resources such as marine mammals. Because commercial goods are both limited and expensive in rural Alaska, they often do not represent an adequate replacement to meet the

traditional nutritional needs of residents.

Caribou populations naturally fluctuate over decades (Gunn 2001, WACH Working Group 2011) and this may result in proportional constrictions and expansions of migratory pathways that shift caribou near or away from communities. Other factors may influence migratory patterns such as anthropogenic disturbance, industrial development, habitat suitability, and climactic conditions. The influence of NFQU hunting activities, especially the use of aircraft and motorized vehicles as well as the harvest of lead caribou adjacent to what are considered important migratory corridors, has been an ongoing and contentious topic in the northwestern Arctic, since at least the 1980s (Georgette and Loon 1988, Jacobson 2008, Harrington and Fix 2009 *in* Fix and Ackerman 2015, Halas 2015, NWARAC 2015, Braem et al. 2015). In the Northwest Arctic, the Unit 23 Working Group was established to assist with some of these concerns among various user groups. These user conflicts were, in part, the impetus for the closure of Federal public lands to NFQU in Unit 23 for the 2016/2017 regulatory year.

Similar user conflict concerns have been voiced in the North Slope region over time (NWARAC and NSRAC 2016, WIRAC 2016, NSRAC 2015 2016, 2017). In 1995 the Board adopted a proposal from the City of Anaktuvuk Pass to close Federal public lands in Unit 26A, south of the Colville River, upstream from and including the Anaktuvuk River drainage, to NFQU from August 1st through September 30th. The justification was to allow for caribou migrations to take their normal route into Anaktuvuk Pass. While concerns for caribou migration through Anaktuvuk Pass continue to be voiced, many of the recent concerns expressed for Unit 26 have pertained to the DHCMA and NFQU hunter access via this road; some have also expressed concern for disturbance activities facilitated by guides and transporters north of Anaktuvuk Pass (NWARAC AND NSRAC 2016, WIRAC 2016). NFQU caribou harvests in Unit 26 is highest in the vicinity of the Dalton Highway and along river corridors east of this road (see **Maps 8, 9, 10**). The chair of the Western Interior Alaska Regional Advisory Council, Jack Reakoff, expressed his concerns as follows (WIRAC 2016:100-101):

> I live over there by the pipeline and we had zero caribou in our valley this year, mainly because of the increased harvest of cow caribou into July 1 on the Haul Road (Dalton Highway). That basically lets those hunters kill all those lead cows and stop the migration… they have jet boats, air boats, they put those in the rivers on the North Slope, they pound those caribou… It's the high power boat traffic that can get into the upper drainages that affect those caribou migrations. The other is the aspect of air taxis dumping off hunters in the middle of, in the front of migrations… There's hundreds and hundreds of hunters that go on the Dalton Highway. They're deflecting the Central Arctic Herd off to the east.

The Council chair later explained that state regulations enacted in 2010 that increased harvest limits, caused cows that had not been previously exposed to hunting during the fall migration to be hunted extensively, especially by hunters accessing the Ivishak and Ribdon rivers by boat and by air (Reakoff 2017, pers. comm.). He said that if caribou approached the road, cows were frequently killed by many bow hunters in the area. He also stated that after several seasons, many cows learned to stay north and circumvent the Dalton Highway, thus travelling in a semi-circle fashion to reach the area of Itkillik and Toolik. The BOG closed the caribou season west of the Dalton Highway in 2014 to protect the Teshekpuk

herd, and the Council chair indicated that CAH caribou are learning to stay to the west to avoid being hunted in the winter (Reakoff 2017, pers. comm.).

The Council chair also elaborated on his concerns regarding the use of airboats and jetboats (Reakoff 2017, pers. comm.). He said that while boats themselves can scare caribou, it is really about the concentration of hunters that can deter herd migration. He used an example of a voluntary hunter check station operated by ADF&G in the late 1990s at the Yukon River Bridge. According to Reakoff there was an average of 2000 hunters tabulated annually and that this only included those that stopped voluntarily and while the station was open on the weekends (Reakoff 2017, pers. comm.). He believes that the recent BOG implemented season changes will address the problems in Unit 26B.

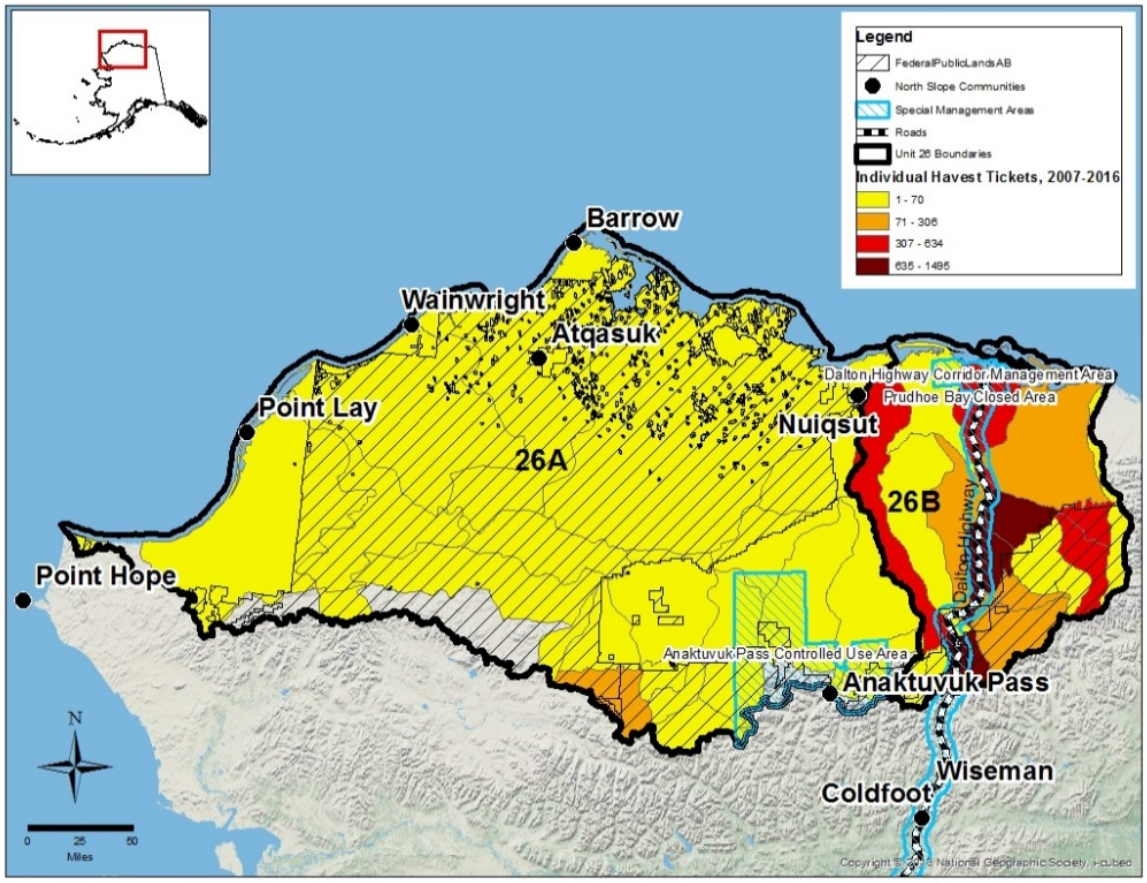
Maps 8, 9, and **10** project relative hunting intensity by minor river drainage over a ten year period (2007-2016) in two recent years (2015 and 2016), and in two prior years (2013 and 2014), respectively. Relative hunting intensity is spatially calculated using unique individual ticket numbers for all hunters indicating that they hunted and either killed (successful) or did not kill (unsuccessful) a caribou. For each time scale hunting intensity is relatively low and dispersed throughout Unit 26A and intensity is substantially greater and more variable in Unit 26B. In Unit 26A, the only area exhibiting slightly greater relative hunting intensity between 2013/2014 and 2015/2016 was in the vicinity of the Nigu River, to the north and west of Gates of the Arctic National Park and Preserve. In 2013/2014 there were 59 individual harvest tickets indicating hunting activity in this drainage; in 2015/2016 there were 71. This slight increase isn't visible in the graduated symbology scales used in **Map 9** and **Map 10**. It is possible that the slightly higher relative hunting intensity in this area is a result of a 2016 closure to NFQU hunting caribou on Federal public lands in adjacent Unit 23. This was corroborated by a representative of the Arctic Slope Regional Corporation who also attributed the increased hunting activity to increased guide and transporter use of the area.

There have been shifts in relative hunting intensity in drainages in Unit 26B over time (**Maps 8, 9, 10**). In recent years, hunting intensity has lessened for many drainages in the subunit except for those that already exhibited relatively little hunting intensity and along and to the east of the Dalton Highway in the central portion of the subunit. These recent reductions in relative harvest intensity may reflect recent regulatory changes. The minor drainage represented along the western boundary of the subunit does not accurately depict harvest as the majority of records here are from the Toolik Lake area in the southeastern most portion of the minor drainage, an area more easily accessible from the Dalton Highway.

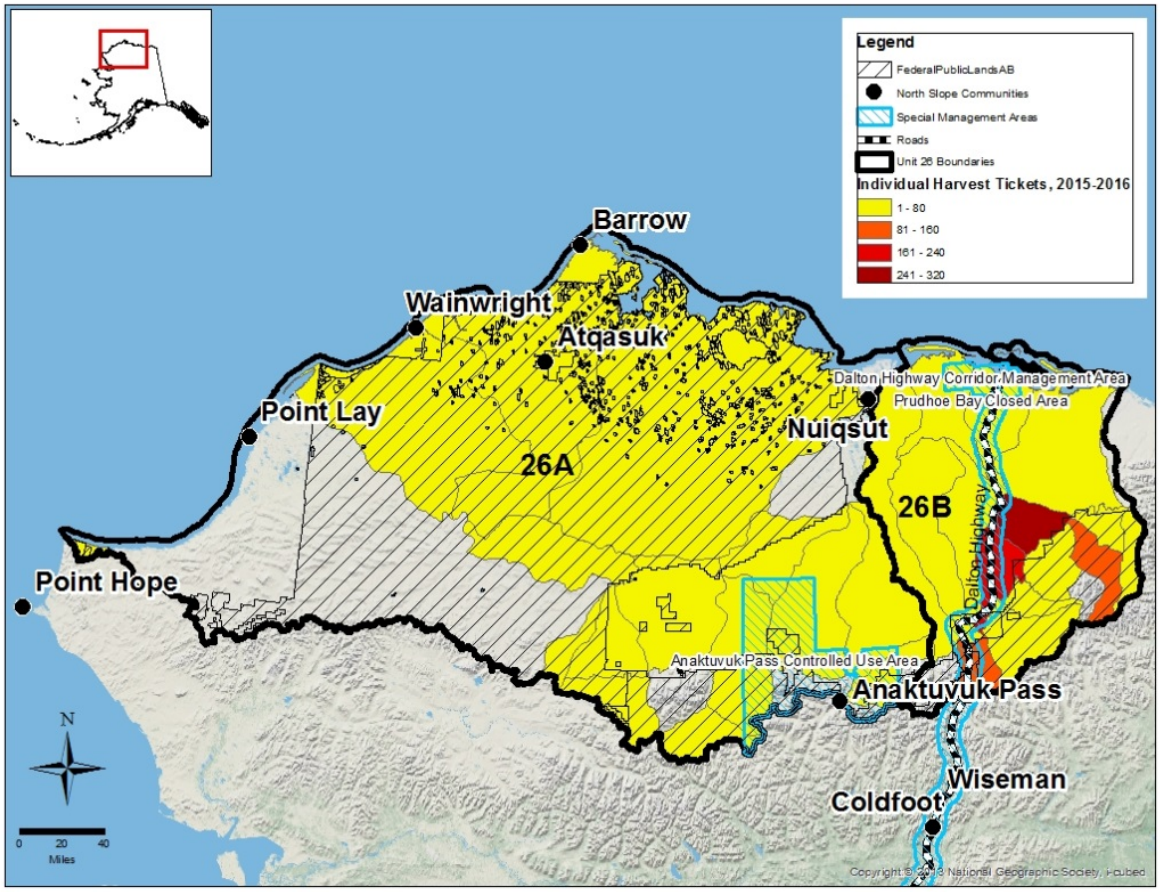
Despite relative hunting intensity reductions in many drainages of Unit 26B, the DHCMA remains the most intensely hunted area within the subunit, particularly from the southern border of Unit 26 north to where the Sagavanirktok River diverges from the road. Areas to the east of this region also exhibit higher hunting intensity which may be the result of motorized boat access along river corridors. Boats can be used to access the lower and middle sections of the Ivishak and Echooka Rivers within the Arctic NWR. Rafts can be used in the shallower headwaters of the Ivishak and Echooka Rivers (**Map 6**). Much of the highest hunting intensity along the Dalton Highway occurs on State land, though the southernmost stretch of road within the unit is surrounded by BLM managed land. This BLM managed land surrounds popular NFQU hunting areas in proximity to Toolik Lake and Galbraith Lake. The Western Interior Council chair

indicated however that hunting activity has decreased in these areas due to an absence of nearby caribou (Reakoff 2017, pers. comm.). Another popular hunting area in this vicinity is in Atigun Gorge and along the confluence of the Sagavanirktok and Atigun Rivers, both of which fall largely within the Arctic NWR to the east of the BLM managed lands described previously. The Western Interior Council chair suggested that it has been several seasons since large numbers of caribou have been present in "Atigun country" in the fall (Reakoff 2017, pers. comm.).

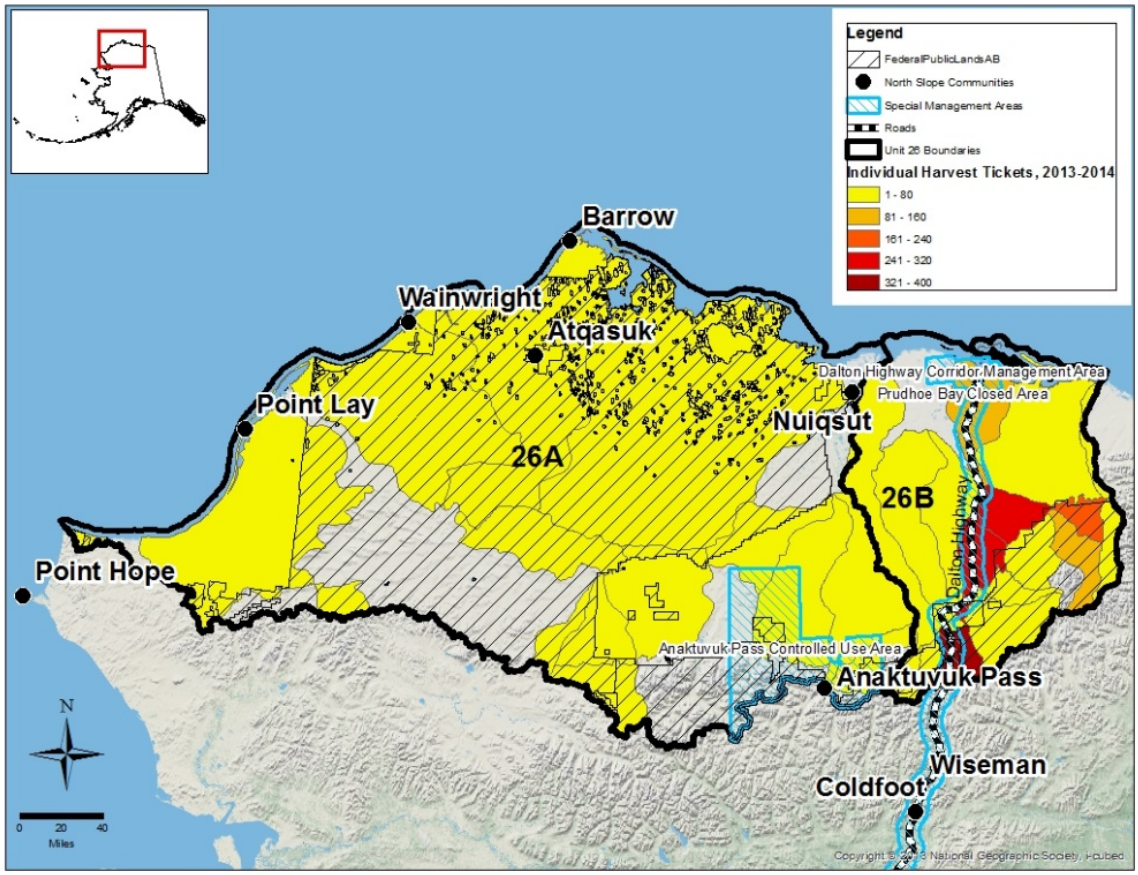
Members of the North Slope Council have expressed concern for an expanded harvest season that allows the taking of cow caribou from the vicinity of the Dalton Highway during their migration (NSRAC 2016), though state regulations for the 2017/2018 regulatory year have eliminated cow caribou harvest in Unit 26B remainder. Given that cow caribou can no longer be legally harvested in 26B remainder, concerns over the use of jetboats and airboats in accessing mountain corridors and the associated killing of lead caribou may be somewhat lessened. Relative hunting intensity and harvest data in subsequent years may elucidate the spatial effects of the cow closure.



Map 8. Cumulative caribou hunting intensity (number of hunters) by NFQU by minor river drainages from 2007-2016 (WinfoNet 2017). Includes both successful and non-successful hunters.



Map 9. Cumulative caribou hunting intensity (number of hunters) by NFQU by minor river drainages from 2015-2016 (WinfoNet 2017). Includes both successful and non-successful hunters.



Map 10. Cumulative caribou hunting intensity (number of hunters) by NFQU by minor river drainages from 2013-2014 (WinfoNet 2017). Includes both successful and non-successful hunters.

The North Slope Council has also expressed concern regarding observations of animals injured as a result of bow hunting (NSRAC 2016). Despite documented concerns through repeated public testimony, information is lacking on the degree of impact that these hunting activities have on both short and long-term caribou migration patterns. A member of the WACH Working Group indicated that she perceived the closure in Unit 23 in 2016 to have facilitated improved migration to the vicinity of Anaktuvuk Pass (NSRAC 2016), though it is unclear how this would have affected the migration of WACH animals. The Northwest Arctic Subsistence Regional Advisory Council stated that closure of Federal public lands in Unit 23 to caribou hunting by NFQU in 2016 helped local people harvest more caribou, increasing their food security and reducing user conflicts (NWARAC 2016, 2017).

Whether the effects of NFQU hunting activity on the North Slope are perceived or realized, the reality is that three of the four caribou herds in the region (WACH, TCH, and CACH) have experienced recent declines. User conflicts are likely to intensify when resources are scarce and when food security is threatened (Homer-Dixon 1994, Cohen and Pinstrup-Andersen 1999, Pomeroy et al. 2016). An Anaktuvuk Pass resident expressed her concerns as follows (NSRAC2015:45-46):

> We're talking about lives here. Food for our stomach, food for our health, food that our parents and our grandparents had passed on. Just tears because we did not catch what we needed again and again… It's just the pain and the hurt and I don't have [any] caribou to eat like it used to be.

Other Alternatives Considered

The first alternative considered was to reduce hunter conflicts by closing both the BLM lands occurring on either side of the Dalton Highway in the southern portion of the unit and the portion of the Arctic NWR falling within Unit 26B. Given then intensity of use along the Dalton Highway and within several Arctic NWR drainages, this option may decrease competition and user conflict between NFQU and FQSU. While NFQU harvest may shift northward along the Dalton Highway, this option may provide Federally qualified users with an area of substantially reduced competition.

Given that this alternative would close lands with boundaries that largely include the northern edge of the Brooks Range, including small mountain corridors from the interior to the North Slope, it may reduce barriers to caribou migrating through the mountain passes, river corridors, and across the DHCMA on Federal public lands. While NFQU may still use jetboats and airboats to access the Lupine, Echooka and Ivishak Rivers and Juniper Creek within Arctic NWR, hunting of caribou would be restricted to the gravel bars. Additionally, closure of Federal public lands along the DHCMA may reduce hunting pressure, thus allowing for more unrestricted movement of caribou across the DHCMA.

This alternative could increase competition with other hunters on State lands which are adjacent to the DHCMA especially in southern portions of Unit 26B. The relatively small area under Federal jurisdiction, the relatively short amount of time to determine the effects of recent changes to State and Federal caribou hunting regulations implemented in 2015/2016, and the newly enacted State regulations for the CACH for 2017/2018, which limit NFQU to 1 bull caribou and eliminate cow harvest in Unit 26B remainder, suggest that restrictions on these Federal public lands to caribou hunting by NFQU are not warranted at this time. It is unlikely that closing Federal public lands to NFQU in Unit 26B would reduce the harvest because hunters may shift locations to the adjacent State lands.

Effects

If this proposal is adopted, caribou hunting on Federal public lands in Unit 26A and Unit 26B would be limited to FQSU with a customary and traditional use determination for caribou in Unit 26A and 26B. This would reduce competition between FQSU and NFQU on Federal public lands in Units 26A and 26B and may increase hunting pressure on State or private lands.

While the sustainable harvest of WACH caribou may soon be exceeded, the overharvest of cows is of particular concern (Dau 2015a). As nonresidents may only harvest one bull, their impact on the WACH population trajectory is likely negligible. Total NFQU harvest from Unit 26A accounts for only about 9% of the total WACH in Unit 26A and about 1% of the total estimated harvest from the WACH (117 caribou out of an estimated total harvest of 11,984 caribou on average). The nonresident and nonlocal resident harvest from the TCH is minimal (Parrett 2015a). Parrett (2015a) estimated that approximately 10 caribou, which represents approximately 1% of the total annual TCH harvest, are harvested annually by

nonlocal users. From a biological perspective, eliminating the nonlocal harvest, which accounts for less than 1% of the total harvest in Unit 26A, will not have a meaningful impact on WACH or TCH conservation or population recovery. It may, however, alleviate some FQSU concerns regarding the possible deflection of caribou in critical migratory corridors or in areas of increasing harvest activity.

Closing caribou hunting to NFQU on all Federal public lands in Unit 26B would have the greatest impact to NFQU that hunt in Unit 26B from the CACH population. Nonlocal residents accounted for 89% of the total caribou harvest from the CACH between 2013 and 2015, which is approximately 827 caribou annually. The proportion of nonresidents has been increasing in recent years whereas hunting by nonlocal residents has decreased (Table 5, Figure 6). Most of the CACH harvest in Unit 26B occurs on State lands so closing the relatively small amount of Federal land in Unit 26B to NFQU will shift hunters to State land with a little reduction in the overall harvest (Arthur 2017 pers. comm). New State regulations, which take effect July 1, 2017, eliminate cow harvest, except in the northwest corner of Unit 26B, and reduce the nonresident harvest to one bull. These new regulations should reduce the overall caribou harvest from the CACH to sustainable levels (Lenart 2017b).

It is unclear to what extent hunting pressure in the DHCMA and in the headwaters of various river drainages influences the migratory patterns of the CACH caribou and to a lesser extent caribou from the TCH and WACH. The northwest-southeast direction of the fall CACH migration across the Dalton Highway and the variability of the migration patterns suggest that disturbance within the area of greatest caribou concentration that occurs between Galbraith Lake and Ribdon River is not likely to reduce the availability of caribou to local residents living west of the highway.

OSM CONCLUSION

Oppose Proposal WP18-57.

Justification

In total, the TCH, WACH, and CACH caribou populations in northern and western Alaska have declined approximately 50%. The declines have not been uniform among the herds. Low calf survival and recruitment, high adult cow mortality, and human harvest, coupled with deteriorating range conditions, climate change, predation and disease, are all contributing factors to the overall decline of caribou. The State's estimated harvestable surplus for both the TCH and the CACH is declining and is currently fully allocated among users based on the most recent Federal and State harvest rates. The WACH is approaching a similar situation.

Beginning in 2015, State and Federal regulations have been adopted to reduce the cow harvest by FQSU and NFQU, and to slow and/or reverse the overall caribou population declines. Cow harvest by NFQU is relatively small in the WACH and TCH, but has increased in recent years. In response to the recent decline in the CACH population, the BOG adopted new caribou hunting regulations which eliminated the cow harvest, reduced the harvest from 5 caribou per day to 2 bull caribou for residents, and 1 bull caribou for nonresidents in Unit 26B remainder for 2017/2018. Recently enacted conservation actions for the WACH, TCH, and CACH need to be given time to determine if they are effective in reducing the caribou

harvest, and in slowing down or reversing the population declines in these caribou herds before additional closures are enacted.

It is likely that closing the relatively small amount of Federal public lands in Unit 26B would shift the hunters onto State land. Anaktuvuk Pass hunters are the most impacted by NFQU hunting nearby, many of whom hunt on State land north, northeast, and northwest of the community. Closing Federal land further north (in NPR-A) risks further concentrating NFQU onto State lands adjacent to Anaktuvuk Pass, thereby increasing impacts to that community. Additionally, closure of Federal public lands to NFQU in Unit 26B will not have as much of an effect as the recent BOG action to protect cows and reduce the overall caribou harvest since much of the harvest occurs on State lands.

In addition to closing Federal public lands to NFQU, local users, particularly those from communities along the DHCMA (which includes areas in Units 26A and B), would not see much reduction in competition as most NFQU would likely continue to hunt caribou from the CACH or Porcupine Herd on State lands in Unit 26B. Subsequently, the effects of hunting intensity and motorized vehicle use along the highway would likely not alleviate FQSU concerns that these activities alter caribou migration in the area. The closure is unlikely to deter non-local hunters from hunting within and adjacent to the DHCMA, thus the proponent's goal of "reducing non-local take" would not be achieved.

Under ANILCA §815.3 and the Board's Closure Policy, the Board may adopt closures to hunting by non-Federally qualified users if it is necessary for the conservation of healthy wildlife populations or continuation of subsistence uses of wildlife populations by Federally qualified subsistence users. The number of caribou harvested by NFQU is not biologically significant for the WACH and TCH in Unit 26A. However, caribou harvest by NFQU in Unit 26B from the CACH was considered to potentially have more significant consequences for that herd, which have now been addressed with newly enacted State regulations for 2017/2018. The goals of these new State regulations for the CACH are to reduce the overall caribou harvest from 930 to 680 and reduce the cow harvest from 202 to no more than 75. ADF&G harvest and population objectives are very specific, and they expect to meet the newly proposed harvest objectives this year. We recommend that these changes take effect in lieu of enacting additional regulations.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

North Slope Subsistence Regional Advisory Council

Support WP18-57. The Council expressed concerns over the decline of the Western Arctic and Teshekpuk caribou herds and especially the recent dramatic decline of the Central Arctic caribou herd. The council noted that even though there was a small "sliver" of Federal land in Unit 26B, perhaps it was important to have the closure if even for a small area of land in order to provide protection of the herd in that area which is critical to the migration of the herd. Subsistence communities in the area have been impacted by hunting activity in this area and access from off the Dalton Highway. The Council stressed the importance of the rural subsistence priority and that a closure to non-Federally qualified users was not taken lightly but warranted at this time when subsistence needs were not being met. Communities in the region have already taken efforts to support conservation of the caribou herd by reducing their own subsistence harvest and now the only tool left available was to close to non-federally qualified hunters on Federal lands.

Council members expressed grave concern about the continuing viability of the herds in the area, and noted that evidence on the record (a drop from 490,000 to 200,000 for the WACH) shows there is a conservation concern. The Council noted that the special action closure in Unit 23 has shown positive results, providing for more subsistence opportunities for people in that area and thus felt this measure could also be beneficial in Unit 26A and B. Additionally the Council felt that if there was a shift of hunters from federal lands in Unit 23 to Unit 26 that a follow up closure to non-Federally qualified users in Unit 26 would help support communities in the North Slope region.

While it is anticipated that perhaps the WACH count may be stabilizing, there still needs to be conservative action. Despite the overall low number of non-Federally qualified users in Unit 26, the Council stressed that each one of those hunters represents aircraft activity that contributes to the diversion of the herd. It is not the number of hunters but how they access the herd that causes problems. The Council feels that reducing that non-Federally qualified user harvest will have overall beneficial outcome in support of subsistence opportunity. The Council dismissed the argument that it would concentrate hunters onto State lands near the local communities, noting that there is a vast area of State lands in areas accessible along the Dalton Highway.

The Council also noted that the issue ends up being competition between people who can afford planes and be guided to the front of the herd and people in a rural economically-depressed area who need the caribou to survive, where caribou is an integral part of their community, culture, and food security. The restriction of other users *is* necessary at this time. Deference should be given to the people in the community who rely on the resource for food security.

Western Interior Alaska Subsistence Regional Advisory Council

Oppose WP18-57. The Council noted the low non-local harvest in Unit 26A and the minimal federal lands in Unit 26B. The Council noted that the proposal would not reduce the number of people hunting the affected herds, just concentrate them in particular areas. The Council also noted that the harvestable

surplus is high enough to support non-subsistence hunting while providing a subsistence priority, so adoption would violate Section 815 of ANILCA.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposal WP18-57: This proposal, submitted by the North Slope Subsistence Regional Advisory Council, would exclude non-federally qualified users (NFQU) from hunting caribou on federal public lands in Game Management Units (Units) 26A and 26B.

Introduction: The Teshekpuk caribou herd is utilized by many communities on the North Slope. It is also well known that this herd has declined in recent years to a population of about 40,000. While this decline has been noticeable, it is important to note that the population appears to be stable and that it falls within the range of normal population fluctuations for this herd. ADF&G is fully invested in this resource and in addition to conducting a photocensus this summer (2017), we will continue to monitor other important herd metrics such as recruitment, parturition rates, body condition, and survival rates throughout the coming years.

At this time, the Teshekpuk Caribou Herd is not in a state of biological emergency. In fact, the past two years have provided biological evidence that suggests the decline has stabilized and the herd may be beginning to increase. For example:

- Adult female mortality is 9%, which is lower than the long term average of 15%
- Parturition rate is 84%, which is higher than the long term average of 68%
- Recent spring short-yearling recruitment or calf survival of 29 calves:100 cows is the highest it has been since the 1990s
- Fall herd composition surveys indicate a very high calf survival from June-October
    - Although bull:100cow ratios were lower in fall 2017, it is not a cause for concern at this time

Although harvest was not an important factor in the Central Arctic Caribou Herd (CAH) decline, state seasons for the CAH were addressed and modified by the Alaska Board of Game in 2017 in order to reduce harvest so that it falls within the available harvestable surplus. These changes primarily decreased

nonlocal and nonresident seasons and bag limits: areas hunted mostly by local residents were minimally impacted.

The current management objective for the CAH is a population of at least 28,000–32,000 caribou, which reflects the Intensive Management objective. The July 2016 photocensus resulted in a population estimate of 22,630 caribou (range: 20,074–25,186), indicating a substantial decline in the herd from 2013. Preliminary results from the July 2017 photocensus indicate the herd has not continued to decline.

Public requests for closure of federal public lands seem largely driven by complicated issues such as user conflict, questions about caribou migration, and abundance. Although harvest estimates have been complicated by the overlapping range of herds and obtained on a rotating annual basis dependent on funding, we do know that harvest occurring in Unit 26A by hunters who live outside of Unit 26A accounts for one-half of 1 percent of the TCH harvest and a similarly inconsequential percentage of the Western Arctic caribou herd harvest.

Impact on Subsistence Uses: If adopted, this would have little impact on the numbers of caribou harvested by subsistence users. The number of NFQU hunters and harvest is not significant and the BOG has put measures into place, such as the Anaktuvuk Pass Controlled Use Area, to reduce user conflicts. This change would not create significantly increased opportunity for federally qualified subsistence users.

Impact on Other Uses: If adopted, this would impact all Alaskan residents who live outside of Unit 26A and nonresidents.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for the Western Arctic and Teshekpuk Lake caribou herds in Units 21, 22, 23, 24, and 26.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for Western Arctic and Teshekpuk Lake caribou is 8,000-12,000 animals.

Unit/Area	Bag Limit	Open Season (Permit/Hunt #) Resident	Nonresident
26A The Colville River drainage Upstream From the Anaktuvuk River, and drainages of the Chukchi Sea south and west Of, and including the Utukok River drainage	5 caribou per day, up to 5 bulls/day calves may not be taken up to 5 cows per day calves may not be taken 1 bull (HT) calves may not be taken	(RC907) July 1 - October 14 February. 1 - June 30 July 15 - April 30	July 15 - September 30
Remainder of Unit 26(A)	5 bulls per day calves may not be taken; 5 caribou per day; no more than 3 cows per day cows accompanied by calves and calves may not be taken; 3 cows per day calves may not be taken; 5 caribou per day no more than 3 cows per day calves may not be taken; 5 bulls per day calves may not be taken 1 bull; calves may not be taken	July 1 - July 15 July 16 - October 15 October 16 - December. 31 January 1 - March 15 March 16 - June 30	July 15 - September 30
Unit 26(B), that portion north of 69° 30' N. lat. and west of the east bank of the Kuparuk River to a point at 70° 10' N. lat., 149° 04' W. long., then west approximately 22 miles to 70° 10' N. lat. and 149° 56' W. long., then following the east bank of the Kalubik River to the Arctic Ocean	5 caribou per day, as follows; bulls cows 1 bull	no closed season July 15 – September 30	August 1 - September 15

Unit 26 (B) Remainder	2 bulls	Aug 1-April 30	
	1 bull		August 1 – September 15

Special instructions: for RC907:

- PERMIT AVAILABILITY: Permits available online, at the Fish and Game offices in Kotzebue and Barrow, and at license vendors within Units 23 and 26A beginning June 15.
- WHEN AND WHERE: Unit 23 north of and including Singoalik River drainage and Unit 26A, that portion of the Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Seas south and west of and including the Utukok River drainage:
    - Bag Limit: Five caribou per day, calves may not be taken
    - Season:
        - Bulls: July 1 - Oct 14; February 1 - June 30
        - Cows: July 15 - April 30
- Remainder of Unit 23:
    - Bag Limit: Five caribou per day, calves may not be taken
    - Season:
        - Bulls: July 1 - Oct 14; February 1 - June 30
        - Cows: Sept. 1 - March 31
- Remainder of 26A:
    - Bag Limit: Five bulls per day, calves may not be taken
    - Season: July 1 - July 15; March 16 - June 30
    - Five caribou per day, three of which may be cows; calves may not be taken, and cows with calves may not be taken July 16 - October 15
    - Three cows per day, calves may not be taken Oct 16 - December 31
    - Five caribou per day, three of which may be cows; calves may not be taken January 1 - Mar 15
- REPORTING: Successful Hunters: Report within 15 days of taking a legal annual bag limit. Unsuccessful hunters, those who did not hunt, and hunters who were successful but harvested less than 20 caribou must submit their report by July 15. Report in person, online at hunt.alaska.gov, by telephone (907) 443-2271 or (800) 560-2271 (you can leave a recorded message at Ext 8191), outside drop box at Nome ADF&G, or by pre-paid mail.
- WHO QUALIFIES: Alaska residents are qualified to hunt in all areas. Immediately upon taking an animal you must completely remove the number corresponding to that part of your bag limit and fill in the date you killed the animal as well as its sex in ink.

Conservation Issues: Currently, there are no conservation concerns that would be alleviated by prohibiting the very small amount of non-local caribou harvest in Unit 26A. The Central Arctic Herd in Unit 26B currently numbers about 22,630 caribou. The current management objective for the herd is 28,000–32,000 caribou.

Harvestable surplus is 680 caribou, of which no more than 75 should be females. This harvest rate is 3% of the herd because this should allow for herd growth while allowing hunting opportunity. Harvest by federally-qualified users is estimated at 100 caribou, including about 20 females. Current state regulations were adopted for fall 2017 so that harvest does not exceed harvestable surplus. Cow harvest was eliminated in most of Unit 26B, except in the northwest portion, where federally qualified users typically hunt.

Enforcement Issues: There are no enforcement issues regarding non-local caribou harvest in Unit 26A.

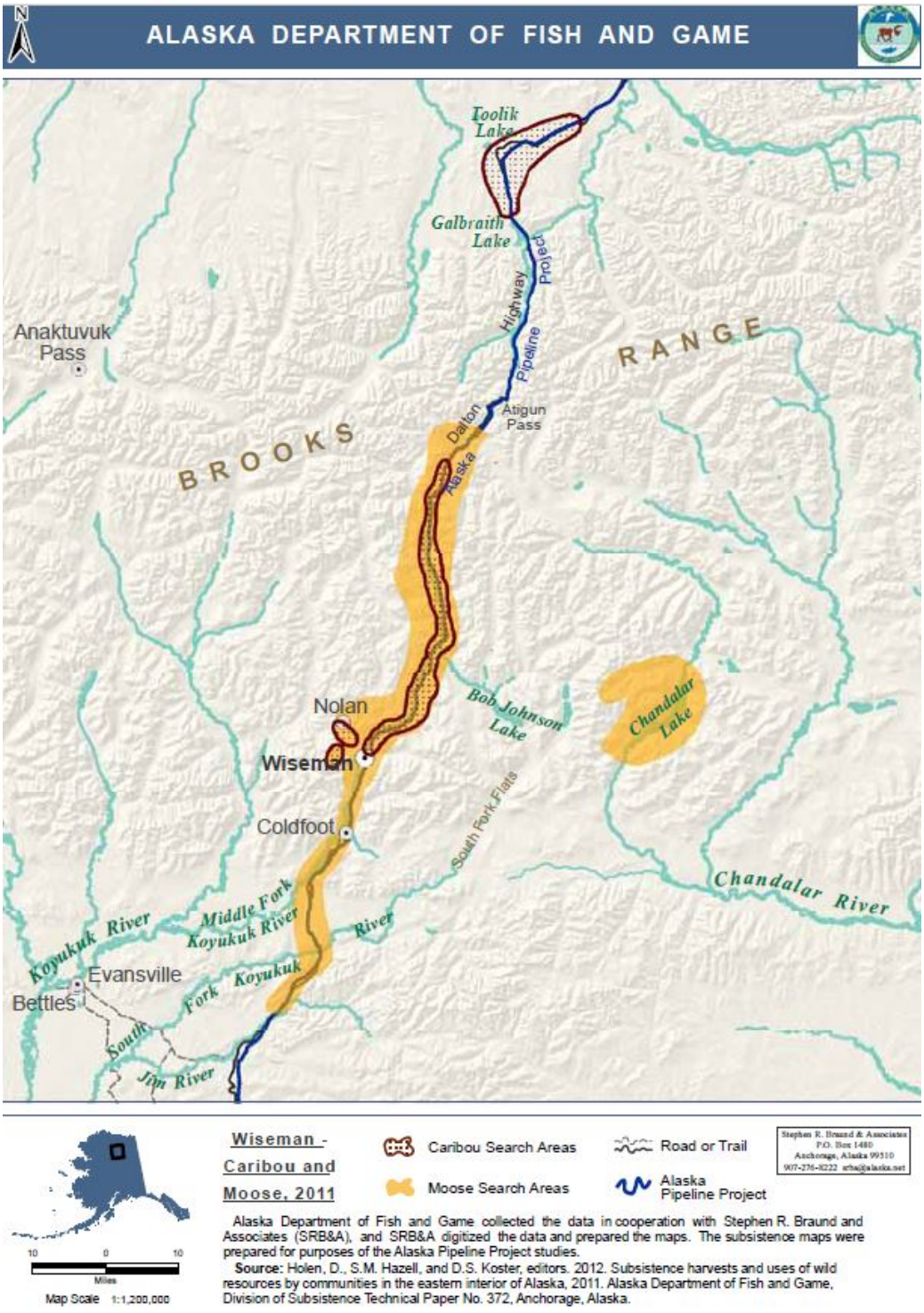
Recommendation: ADF&G **OPPOSES** this proposal at this time. Biological evidence indicates the decline has stabilized and the Teshekpuk caribou herd may be beginning to increase. Unit 26B does not need to be closed to non-federally qualified subsistence users because there is no biological concern regarding hunter harvest with the current regulations. There is no biological evidence that suggests the exclusion of NFQU from Unit 26A will benefit caribou populations. Additionally, the Board of Game recently changed caribou hunting regulations for the CAH, significantly reducing caribou hunting opportunity in Unit 26B. These modifications should be assessed before making additional changes.

ADF&G has documented the reports of migration deflection due to harvest of animals leading migrations, changes in migration patterns, and other user conflict issues. Although caribou may be temporarily affected by hunters, deflections of herd migration have not been detected to date (Fullman et.al., 2017). Further research on these issues would be needed to quantify their effects on caribou populations and subsistence opportunity.

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Appendix A



Map 11. Location of two small caribou hunting areas near Wiseman and Nolan

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Supplemental Materials

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Upper Tanana Fortymile Fish & Game Advisory Committee

Interior Region
Fish and Game Advisory Committees

Leif Wilson
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Tok, AK 99780

Central
Central Kuskokwim
Delta Junction
Eagle
Fairbanks
GASH
Koyukuk River
McGrath
Middle Nenana River
Middle Yukon River
Minto-Nenana
Ruby
Tanana-Rampart-Manley
Upper Tanana/Fortymile
Yukon Flats

February 28, 2018

To members of the Eastern Interior Regional Advisory Council and members of the Federal Subsistence Board;

At the Upper Tanana Fortymile Fish and Game Advisory Committee meeting that was held in Tok on February 27, 2018 the committee unanimously voted to respectfully request the Federal Subsistence Board withdraw WP18-54, a proposal we submitted.

Our committee feels that this regulation change will end up being too complicated and could possibly cause friction with the Copper River folks that also hunt the Nelchina herd.

Thank you,

Leif Wilson, Chair

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SOUTHEAST RAC ALTERNATIVE FOR PROPOSAL WP18-11

The proponent of WP18-11 (Cal Casipit) stated at the Southeast Alaska Regional Advisory Council (Council) meeting in February of 2018 that he would find it acceptable if the Council came up with a harvest sharing arrangement similar to the Federal drawing permit hunt near Cordova in Unit 6C. He was disappointed with the Council's recommendation to oppose WP18-11, which was developed during the Councils November 2017 meeting. The Council formed a working group to address this issue. The group met with Federal and State agency staff to discuss options and come up with ideas for possible alternative approaches to be presented to the Federal Subsistence Board (Board) during their April 2018 meeting.

Federal agency staff noted that the Berners Bay area is small, with 95% of it being Federal public lands, and that it is very difficult to access. Staff also stated that the moose population is very small, with about 140 animals as the latest number. Hunting opportunity for moose on these Federal public lands is currently only available under state regulations through a draw permit. Federally qualified subsistence users have made up about two or three percent of applicants for the state hunt between 1999 and 2016; however, the demand for Berners Bay moose from rural communities appears to be greater than the number of state permits available annually. By way of comparison, Federal staff mentioned the Unit 6C Federal draw hunt where 75% of available bulls are allocated to Federal draw permits and 25% are allocated to State draw permits. Staff noted that this was something that could work for Berners Bay moose as well.

After considering biological information, local knowledge and public testimony on the matter, the Council voted 11-0 for the following alternative to be presented to the Board at its April meeting:

- *In Berners Bay drainages, only one moose permit may be issued per household. A household receiving a State permit for Berners Bay drainages moose may not receive a Federal permit. The annual harvest quota will be announced by the U.S. Forest Service, Juneau Ranger District office, in consultation with ADF&G. The Federal harvest allocation will be 25% (rounded up to the next whole number) of moose permits.*

Council Justification: The Council recognizes this is a complex issue but feels like this alternative would provide for a priority for Federally qualified rural residents hunting moose in Berners Bay. The Council further notes this is an option for providing priority access to limited moose resources on Federal public lands in the area. The Council feels that a Federal drawing hunt would be beneficial in meeting subsistence needs but suggests delaying implementation of this alternative hunt structure until Fall of 2019 so as not to conflict with current State draw hunt.

The regulations under this proposed alternative would read as follows:

Proposed Federal Regulation

Unit 1C – Moose

Unit 1C — Berners Bay drainages ***— 1 bull by Federal drawing permit***	***Sept. 15-Oct. 15*** ~~*No Federal open season*~~

Only one moose permit may be issued per household. A household receiving a State permit for Berners Bay drainages moose may not receive a Federal permit. The annual harvest quota will be announced by the U.S. Forest Service, Juneau office, in consultation with ADF&G. The Federal harvest allocation will be 25% (rounded up to the next whole number) of bull moose permits.

THE STATE of ALASKA
GOVERNOR BILL WALKER

Alaska Board of Game

1255 West 8th Street
P.O. Box 115526
Juneau, Alaska 99811-5526
Main: 907.465.4110
Fax: 907.465.6094

February 28, 2018

Mr. Anthony Christianson, Chairman
Federal Subsistence Board
USF&WS Office of Subsistence Management
1011 East Tudor Road M/S 121
Anchorage, AK 99503-6199

Dear Chairman Christiansen and Members of the Federal Subsistence Board,

The Alaska Board of Game (Board) has been contacted by the Juneau-Douglas Fish and Game Advisory Committee (JDAC) regarding proposal WP18-11. That proposal seeks to create a rural preference for the Berners Bay moose hunt. Based on information provided to us by the JDAC, we believe it is inappropriate to create a federal subsistence priority for the Berners Bay moose hunt and urge the Federal Subsistence Board to reject proposal WP18-11, and any future proposals for the following reasons:

- Moose were transplanted to Berners Bay primarily for the benefit of Juneau hunters and with substantial support from Territorial Sportsmen Inc., a Juneau-based hunting and sport fishing organization.
- Historically, Juneau hunters have accounted for the overwhelming majority of hunter effort and harvest in Berners Bay including the moose hunt.
- Hunters from federally qualified communities in northern Southeast have virtually no record of hunting or harvesting game in Berners Bay.
- Adopting the proposals establishing federal priorities would disenfranchise Juneau hunters.
- The Department of Fish and Game currently devotes considerable effort to monitoring the Berners Bay moose population and determining sustainable harvest levels. That work is accomplished using funds from state license sales and Federal Aid in Wildlife Restoration grants. All Alaska hunters contribute to those funding sources and have a right to benefit from their expenditure.

We appreciate your consideration of this important matter.

Sincerely,

Ted N. Spraker

Ted Spraker, Chairman
Alaska Board of Game

cc: Deanna Perry, Subsistence Advisory Council Coordinator, Forest Service
Atlin Daugherty, Chairman, Juneau-Douglas Fish and Game Advisory Committee
Bruce Dale, Director, ADF&G, Division of Wildlife Conservation
Ryan Scott, Regional Supervisor, ADF&G, Division of Wildlife Conservation

Territorial Sportsmen INC.

Post Office Box 32712 • Juneau, Alaska 99803

Telephone: (907) 789-2399 • Fax: (907) 586-6020

March 7, 2018

Federal Subsistence Board
Office of Subsistence Management
Attn: Theo Matuskowitz
1011 E. Tudor Road, MS-121
Anchorage, AK 99503-6199

Dear Members of the Federal Subsistence Board:

The Territorial Sportsmen, Inc. (TSI), a longstanding outdoors-people's group based in Juneau, Alaska is writing to register our opposition to WP18-11, the proposal to implement a federal hunt for the Berners Bay moose population. At the Southeast RAC's February meeting, when offered a belated chance to give testimony after the members had already deliberated on this proposal, I gave the RAC credit for not shutting out Juneau hunters from the Berners Bay hunt entirely. However, TSI continues to believe that the Berners hunt, although largely on federal land, does not exhibit the characteristics of a subsistence hunt and should not be altered from its current configuration as a State drawing hunt.

Moose from Southcentral Alaska were introduced to the Berners Bay drainages in the early 1960s in a cooperative effort between the Alaska Department of Fish & Game, Territorial Sportsmen, and the U.S. military. The effort resulted in a moose population, and eventually a moose hunt, *that were not there previously*. Contrary to intimations made at the Southeast RAC meeting in February, TSI does not consider Berners Bay moose to be "ours," but we do have a deep and longstanding interest in the management of the herd and its use.

The Federal Subsistence Board's "Policy on Closures to Hunting, Trapping and Fishing on Federal Public Lands ands Water in Alaska," adopted in 2007, directs that the "Board will not restrict the taking of fish and wildlife by users on Federal public lands . . . unless **necessary for the conservation of healthy populations** of fish and wildlife resources, or to **continue subsistence uses of those populations** . . ."

Conservation of healthy populations: The Berners Bay moose population is healthy, but also small and isolated; the area was not naturally populated by moose due to the extreme geographic barriers surrounding the area, which prevent interchange with adjacent moose populations. The low allowable harvest for this population does not arise from any conservation concern, but is a reflection of the limited production of a small isolated herd. The current state harvest regime is

tailored to harvesting the number of moose the population can afford, and distributes permits to hunters in general proportion to their place of origin. This accommodates rural hunters who apply for a permit, at least to the extent that they have an equal chance among all other applicants. There is not a conservation problem that would require non-rural hunters from being excluded from this hunt.

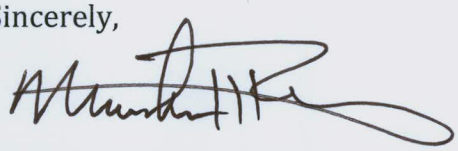
Continue subsistence uses of those populations: The Berners Bay moose hunt requires that a hunter go further and expend additional resources to obtain a moose; not usual characteristics of a subsistence hunt. Because of the difficulty in accessing the area, the associated hunt expenses, and the availability of easier, more efficient moose hunts in the region, the proportion of rural residents applying for State permits has historically been rather low. While a RAC member argued that very few rural users have been able to pursue Berners Bay moose in the past, perhaps a better way of looking at it is that few rural users chose to apply for this hunt due to the associated difficulties. On the face of it, there is little justification for implementing a federal hunt in an area where there has not been a strong tendency for federally qualified hunters to go in the past.

The Berners Bay moose hunt occurs in an area where moose were not customarily found, on a subspecies of moose not customarily present in Southeast Alaska, by a hunter population that does not customarily include a high proportion of rural hunters (as reflected by the applications for drawing permits in the past). In order to hunt for moose in Berners Bay, a hunter must: a) pass up several other regional moose hunting opportunities that are logistically easier and which offer higher allowable harvests; and b) be prepared to arrange for and hire non-standard transportation forms (e.g., airboats, aircraft) due to the difficult access to the area.

In summary, converting some or all of the Berners Bay moose hunt to a federal subsistence hunt is not a credible choice. The current State drawing hunt meters hunting effort to a level appropriate for the size and productivity of the isolated moose population and gives opportunity to all who wish to hunt it in proportion to the residency location of the applicant pool. Given the unique situation at Berners Bay and the parameters set out in the FSB's own policy on closure of public lands to hunting, the implementation of a federal drawing hunt per this proposal is not warranted or appropriate. Just because the hunt area is predominantly federal land is not sufficient reason in and of itself to exclude users; we urge the Board to refrain from establishing a federal hunt for Berners Bay moose.

Thank you for the opportunity to comment.

Sincerely,



Matthew H. Robus, President
Territorial Sportsmen, Inc.

Cc: Senator Lisa Murkowski
Senator Dan Sullivan
Representative Don Young
Governor Bill Walker
Secretary Ryan Zinke

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WP18–46/47 Executive Summary	
General Description	Proposal WP18-46 requests that Federal public lands in Unit 23 be closed to caribou hunting except by Federally qualified subsistence users. *Submitted by: Western Arctic Caribou Herd Working Group.* Proposal WP18-47 requests that Federal public lands in Unit 23 be closed to caribou hunting except by Federally qualified subsistence users from 2018/19 to 2019/20 only. *Submitted by: Enoch Mitchell of Noatak.*
Proposed Regulation	WP16-46 **Unit 23—Caribou** *Unit 23—that portion which includes all drainages north and west of, and including, the Singoalik River drainage* *5 caribou per day as follows:* *Calves may not be taken* *Bulls may be harvested* *July 1–Oct. 14* *Feb. 1–June 30* *Cows may be harvested. However, cows accompanied by calves may not be taken July 15–Oct. 14.* *July 15–Apr. 30* ***Federal public lands in Unit 23 are closed to caribou hunting except by Federally qualified subsistence users.*** *Unit 23, remainder* *5 caribou per day as follows:* *Calves may not be taken* *Bulls may be harvested* *July 1–Oct. 31* *Feb.1–June 30* *Cows may be harvested. However, cows accompanied by calves may not be taken July 31–Oct. 14.* *July 31–March 31*

WP18–46/47 Executive Summary			
	Federal public lands in Unit 23 are closed to caribou hunting except by Federally qualified subsistence users.		
	WP18-47		
	Unit 23—Caribou		
	Unit 23—that portion which includes all drainages north and west of, and including, the Singoalik River drainage	*5 caribou per day as follows:* *Calves may not be taken* *Bulls may be harvested*	 *July 1–Oct. 14* *Feb. 1–June 30*
		Cows may be harvested. However, cows accompanied by calves may not be taken July 15–Oct. 14.	*July 15–Apr. 30*
		Beginning July 1, 2018, Federal public lands in Unit 23 are closed to caribou hunting by non-Federally qualified subsistence users for two years. The closure shall end on June 30, 2020.	
	Unit 23, remainder	*5 caribou per day as follows:* *Calves may not be taken* *Bulls may be harvested*	 *July 1–Oct. 31* *Feb.1–June 30*
		Cows may be harvested. However, cows accompanied by calves may not be taken July 31–Oct. 14.	*July 31–March 31*
		Beginning July 1, 2018, Federal public lands in Unit 23 are closed to caribou hunting by non-Federally qualified subsistence users for two years. The closure shall end on June 30, 2020.	

WP18–46/47 Executive Summary	
OSM Conclusion	**Support** Proposal WP18-46 **with modification** to close all Federal public lands within a 10 mile wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; north of the Noatak River between, and including, the Kelly and Nimiuktuk River drainages; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage to caribou hunting except by Federally qualified subsistence users and **Take No Action** on Proposal WP18-47. The modified regulation should read: **Unit 23—Caribou** *Unit 23—that portion which includes all drainages north and west of, and including, the Singoalik River drainage* — *5 caribou per day as follows:* *Calves may not be taken* — *July 1–Oct. 14* *Bulls may be harvested* — *Feb. 1–June 30* *Cows may be harvested. However, cows accompanied by calves may not be taken July 15–Oct. 14.* — *July 15–Apr. 30* *Unit 23, remainder* — *5 caribou per day as follows:* *Calves may not be taken* — *July 1–Oct. 31* *Feb.1–June 30* *Cows may be harvested. However, cows accompanied by calves may not be taken July 31–Oct. 14.* — *July 31–March 31* ***Federal public lands within a 10 mile wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to***

WP18–46/47 Executive Summary	
	the confluence with the Cutler River; north of the Noatak River between, and including, the Kelly and Nimiuktuk River drainages; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage are closed to caribou hunting except by Federally qualified subsistence users hunting under these regulations.
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	**Support** WP18-46 **with modification** to close all Federal public lands: within a 10 mile wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage to caribou hunting except by Federally qualified subsistence users for the 2018/2019 and 2019/2020

WP18–46/47 Executive Summary	
	regulatory years. The closure would extend through September 21st of each calendar year only. **Take No Action** on WP18-47.
Seward Peninsula Subsistence Regional Advisory Council Recommendation	**Support** WP18-46 **with modification** to close all Federal public lands: within a 10 mile wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage to caribou hunting except by Federally qualified subsistence users. **Take No Action** on WP18-47.
Northwest Arctic Subsistence Regional Advisory Council Recommendation	**Support** WP18-46 **with modification** to close all Federal public lands: within a 10 mile wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage to caribou hunting except by Federally qualified subsistence users. **Take No Action** on WP18-47.
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	**Support** WP18-46. **Take No Action** on WP18-47.
Interagency Staff Committee Comments	The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient bases for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.
ADF&G Comments	**Oppose**

WP18–46/47 Executive Summary	
Written Public Comments	**None**

STAFF ANALYSIS
WP18-46/47

ISSUES

Proposal WP18-46, submitted by the Western Arctic Caribou Herd Working Group (WACH Working Group), and Proposal WP18-47, submitted by Enoch Mitchell of Noatak, request that Federal public lands in Unit 23 be closed to caribou hunting except by Federally qualified subsistence users. Proposal WP18-47 specifically requests that the closure extend from 2018/19 to 2019/20 only.

DISCUSSION

The proponent for WP18-46 is concerned about the decline of the WACH population. Working group members noted that the 2016/17 Federal public lands closure to caribou hunting by non-Federally qualified users (NFQU) in Unit 23 helped local hunters meet their subsistence needs by reducing user conflicts and hunting activity from nonlocal hunters. Members also commented that caribou migrated closer to villages (i.e. Noatak) and spoke to the cultural and nutritional importance of caribou to Unit 23 residents.

The proponent for WP18-47 states that the proposed closure will promote conservation of the WACH and food security for Federally qualified subsistence users (FQSU) and that it is consistent with Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA) and the WACH Working Group's management plan as the WACH population is on the brink of preservative management. The proponent emphasizes that caribou are a vital subsistence resource to FQSU in Unit 23 and that store-bought food and fuel prices in the unit are very high. The proponent also states that the proposed change will minimize user conflicts by improving the ability of FQSU to harvest caribou and meet their subsistence needs. He notes that FQSU have reported changes in caribou migration patterns whereby caribou are traveling further from villages, which burdens local communities by increasing the time and fuel costs of caribou hunting. He also states that FQSU have reported that noise from aircraft used by transporters and guides can disrupt caribou migration and that this issue has been a longstanding source of user conflict. Noatak residents reported positive effects from the 2016/17 closure, including improved hunter success and reduced user conflicts. The Native Village of Noatak, the Cape Krusenstern National Monument Subsistence Resource Commission, the Kobuk Valley National Park Subsistence Resource Commission, and the Noatak/Kivalina Fish and Game Advisory Committee are co-sponsors of this proposal and submitted letters of support.

The applicable statutory guidance is found in the Alaska National Interest Lands Conservation Act (ANLICA) Title VIII §815.3, which states that:

> *Nothing in this title shall be construed as . . . authorizing a restriction on the taking of fish and wildlife for nonsubsistence uses on the public lands (other than national parks and park monuments) unless necessary for the conservation of healthy populations of fish and wildlife, for the reasons set forth in §816, to continue subsistence uses of such populations, or pursuant to other applicable law;*

Existing Federal Regulations

Unit 23—Caribou

Unit 23—that portion which includes all drainages north and west of, and including, the Singoalik River drainage	*5 caribou per day as follows:* *Calves may not be taken* *Bulls may be harvested*	 *July 1–Oct. 14* *Feb. 1–June 30*
	Cows may be harvested. However, cows accompanied by calves may not be taken July 15–Oct. 14.	*July 15–Apr. 30*
Unit 23, remainder	*5 caribou per day as follows:* *Calves may not be taken* *Bulls may be harvested*	 *July 1–Oct. 31* *Feb.1–June 30*
	Cows may be harvested. However, cows accompanied by calves may not be taken July 31–Oct. 14.	*July 31–March 31*

Proposed Federal Regulations

WP18-46

Unit 23—Caribou

Unit 23—that portion which includes all drainages north and west of, and including, the Singoalik River drainage	*5 caribou per day as follows:* *Calves may not be taken* *Bulls may be harvested*	 *July 1–Oct. 14* *Feb. 1–June 30*
	Cows may be harvested. However, cows accompanied by calves may not be taken July 15–Oct. 14.	*July 15–Apr. 30*
	Federal public lands in Unit 23 are closed to caribou hunting except by Federally qualified subsistence users.	

Unit 23, remainder	*5 caribou per day as follows:* *Calves may not be taken* *Bulls may be harvested*	 *July 1–Oct. 31* *Feb.1–June 30*
	Cows may be harvested. However, cows accompanied by calves may not be taken July 31–Oct. 14.	*July 31–March 31*
	Federal public lands in Unit 23 are closed to caribou hunting except by Federally qualified subsistence users.	

WP18-47

Unit 23—Caribou

Unit 23—that portion which includes all drainages north and west of, and including, the Singoalik River drainage	*5 caribou per day as follows:* *Calves may not be taken* *Bulls may be harvested*	 *July 1–Oct. 14* *Feb. 1–June 30*
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	Beginning July 1, 2018, Federal public lands in Unit 23 are closed to caribou hunting by non-Federally qualified subsistence users for two years. The closure shall end on June 30, 2020.	
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	Cows may be harvested. However, cows accompanied by calves may not be taken July 31–Oct. 14.	*July 31–March 31*
	Beginning July 1, 2018, Federal public lands in Unit 23 are closed to caribou hunting by non-Federally qualified subsistence users for two years. The closure shall end on June 30, 2020.	

Existing State Regulations

Unit 23—Caribou

23, north of and including Singoalik River drainage	*Residents—Five caribou per day; however, calves may not be taken.*	*Bulls*	*RC907*	*July 1-Oct. 14* *Feb. 1-June 30*
		Cows	*RC907*	*Jul. 15-Apr. 30*
	Nonresidents—One bull; however, calves may not be taken		*HT*	*Aug. 1-Sept. 30*
23 remainder	*Residents—Five caribou per day; however, calves may not be taken.*	*Bulls*	*RC907*	*July 1-Oct. 14* *Feb. 1-June 30*
		Cows	*RC907*	*Sept. 1-Mar. 31*
	Nonresidents—One bull; however, calves may not be taken		*HT*	*Aug. 1-Sept. 30*

Extent of Federal Public Lands

Federal public lands comprise approximately 71% of Unit 23 and consist of 40% National Park Service (NPS) managed lands, 22% Bureau of Land Management (BLM) managed lands, and 9% U.S. Fish and Wildlife Service (USFWS) managed lands.

Customary and Traditional Use Determinations

Residents of Unit 21D west of the Koyukuk and Yukon Rivers, Galena, 22, 23, 24 including residents of Wiseman but not including other residents of the Dalton Highway Corridor Management Area, and 26A have a customary and traditional use determination for caribou in Unit 23 (**Map 1**).

Regulatory History

In 1990, the caribou hunting season in Unit 23 was open year round with a 5 caribou per day harvest limit and a restriction on the take of cows May 16-June 30.

In 1995, the Federal Subsistence Board (Board) adopted Proposal P95-51 to increase the caribou harvest limit from 5 to 15 caribou per day so that subsistence hunters could maximize their hunting efforts when caribou were available (FWS 1995a).

In 1997, the Board adopted Proposal P97-66 with modification to provide a customary and traditional use determination for caribou in Unit 23 for rural residents of Unit 21D west of the Koyukuk and Yukon rivers,

Galena, Units 22, 23, 24 including residents of Wiseman, but not other residents of the Dalton Highway Corridor Management Area and Unit 26A (**Map 1**, FWS 1995b, 1997).

In 2000, the Board adopted Proposal WP00-53 with modification, allowing the use of snowmachines to position a hunter to select individual caribou for harvest in Units 22 and 23. This was done to recognize a customary and traditional practice in the region (FWS 2000a).

In 2013, an aerial photocensus indicated significant declines in the Teshekpuk Caribou herd (TCH), WACH, and possibly the Central Arctic Caribou Herd (CACH) populations (Caribou Trails 2014). In response, the Alaska Board of Game (BOG) adopted modified Proposal 202 (RC76) in March 2015 to reduce harvest opportunities for both Alaska residents and nonresidents within the range of the WACH and the TCH. These regulation changes – which included lowering harvest limits for nonresidents from two caribou to one bull, reductions in bull and cow season lengths, the establishment of new hunt areas, and prohibiting calf harvest – were adopted to slow or reverse the population decline. The regulatory changes took effect on July 1, 2015.

In 2015, four temporary special actions, WSA15-03/04/05/06, requesting changes to caribou regulations in Units 23, 24, and 26, were submitted by the North Slope Subsistence Regional Advisory Council (North Slope Council) and approved with modification by the Board, effective July 1, 2015. Temporary Special Action WSA15-03 requested designation of a new hunt area for caribou in the northwest corner of Unit 23 where the harvest limit would be reduced from 15 to 5 caribou per day, the harvest season would be shortened for bulls and cows, and the take of calves would be prohibited. The Board did not establish a new hunt area, applying the restrictions to all of Unit 23 and also prohibited the take of cows with calves. These State and Federal regulatory changes were the first time that harvest restrictions had been implemented for the WACH in over 30 years.

Five proposals (WP16-37, WP16-48, WP16-49/52, and WP16-61) concerning caribou regulations in Unit 23 were submitted to the Board for the 2016-2018 wildlife regulatory cycle. The Board adopted WP16-48 with modification to allow the positioning of a caribou, wolf, or wolverine for harvest on BLM lands only. Proposal WP16-37 requested that Federal caribou regulations mirror the new State regulations across the ranges of the WACH and TCH (Units 21D, 22, 23, 24, 26A, and 26B). The Board adopted Proposal WP16-37 with modification to reduce the harvest limit to 5 caribou per day, restrict bull season during rut and cow season around calving, prohibit the harvest of calves and the harvest of cows with calves before weaning (mid-Oct.), and to create a new hunt area in the northwest corner of Unit 23. The Board took no action on the remaining proposals (WP16-49/52, and WP16-61) because of action taken on WP16-37.

In 2015, the Northwest Arctic Subsistence Regional Advisory Council (Northwest Arctic Council) submitted a temporary special action request (WSA16-01) to close caribou hunting on Federal public lands in Unit 23 to NFQU for the 2016/17 regulatory year. The Council stated that their request was necessary for conservation purposes but also needed because nonlocal hunting activities were negatively affecting subsistence harvests. In April 2016, the Board approved WSA16-01, basing its decision on the strong support of the Northwest Arctic and North Slope Councils, public testimony in favor of the request, as well as concerns over conservation and continuation of subsistence uses (FSB 2016).

In June 2016, the State submitted a special action request (WSA16-03) to reopen caribou hunting on Federal public lands in Unit 23 to NFQU, providing new biological information (e.g. calf recruitment, weight, body condition) on the WACH. The State specified that there was no biological reason for the closure and that it could increase user conflicts. In January 2017, the Board rejected WSA16-03 due to the position of all four affected Councils (Northwest Arctic, North Slope, Seward Peninsula, and Western Interior) as well as public testimony and Tribal consultation comments opposing the request. Additionally, the Board found the new information provided by the State to be insufficient to rescind the closure.

In November 2016, the Northwest Arctic Council voted to submit a special action request (WSA17-02) to close Federal public lands in Unit 23 to moose hunting by NFQU. The Council submitted the request due to a declining moose population in Unit 23 and because more local people are depending on moose to meet their subsistence needs in light of the current WACH population decline. In April 2017, the Board rejected WSA17-02 because moose harvest by FQSU has remained stable over the past decade, indicating these users' needs are still being met; NFQU harvest accounted for the minority of Unit 23 moose harvest, so eliminating them would have limited impact on the moose population; NFQU hunting activity could become concentrated on State lands, increasing user conflicts; and recent changes to State regulations (i.e. elimination of antlerless and nonresident hunts) already addressed the issue and time is needed to evaluate their effectiveness.

In January 2017, the BOG adopted Proposal 2, requiring registration permits for residents hunting caribou within the range of the Western Arctic and Teshekpuk herds in Units 23 and 26A (a similar proposal was passed for Unit 22 in 2016). The Alaska Department of Fish and Game (ADF&G) submitted the proposal in order to better monitor harvest and improve management flexibility. Also in January 2017, the BOG rejected Proposal 45, which proposed requiring big game hunting camps to be spaced at least three miles apart along the Noatak, Agashashok, Eli, and Squirrel Rivers. The Noatak/Kivalina & Kotzebue Fish and Game Advisory Committee (AC) submitted the proposal to allow caribou to migrate through those areas with less disruption and barriers. The proposal failed as it would be difficult to enforce.

In March 2017, the Northwest Arctic and North Slope Councils submitted temporary special action requests (WSA17-03 and -04, respectively) to close caribou hunting on Federal public lands in Unit 23 and in Units 26A and 26B, respectively to NFQU for the 2017/18 regulatory year. Both Councils stated that the intent of the proposed closures was to ensure subsistence use in the 2017/18 regulatory year, to protect declining caribou populations, and to reduce user conflicts. The Board approved WSA17-03 with modification to close all Federal public lands within a 10 mile wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage to caribou hunting except by FQSU for the 2017/18 regulatory year. The Board considered the modification a reasonable compromise for all users and that closure of the specified area was warranted in order to continue subsistence uses. The Board rejected WSA17-04 stating that recent changes to State regulations aimed at reducing caribou harvest should be given time to determine if they are effective before additional restrictions are enacted.

Controlled Use Areas

In 1988, the Traditional Council of Noatak submitted a proposal to the BOG to create the Noatak Controlled Use Area (CUA) in order to restrict the use of aircraft in any manner for big game hunting Aug. 15 - Sept. 20 due to user conflicts (Fall 1990:86). The proposed CUA extended five miles on either side of the Noatak River, from the mouth of the Eli River upstream to the mouth of the Nimiuktuk River, including the north side of Kivivik Creek (ADF&G 1988:47). The BOG adopted the proposal with modification to close a much smaller area extending from the Kugururok River to Sapun Creek from Aug. 20-Sept. 20.

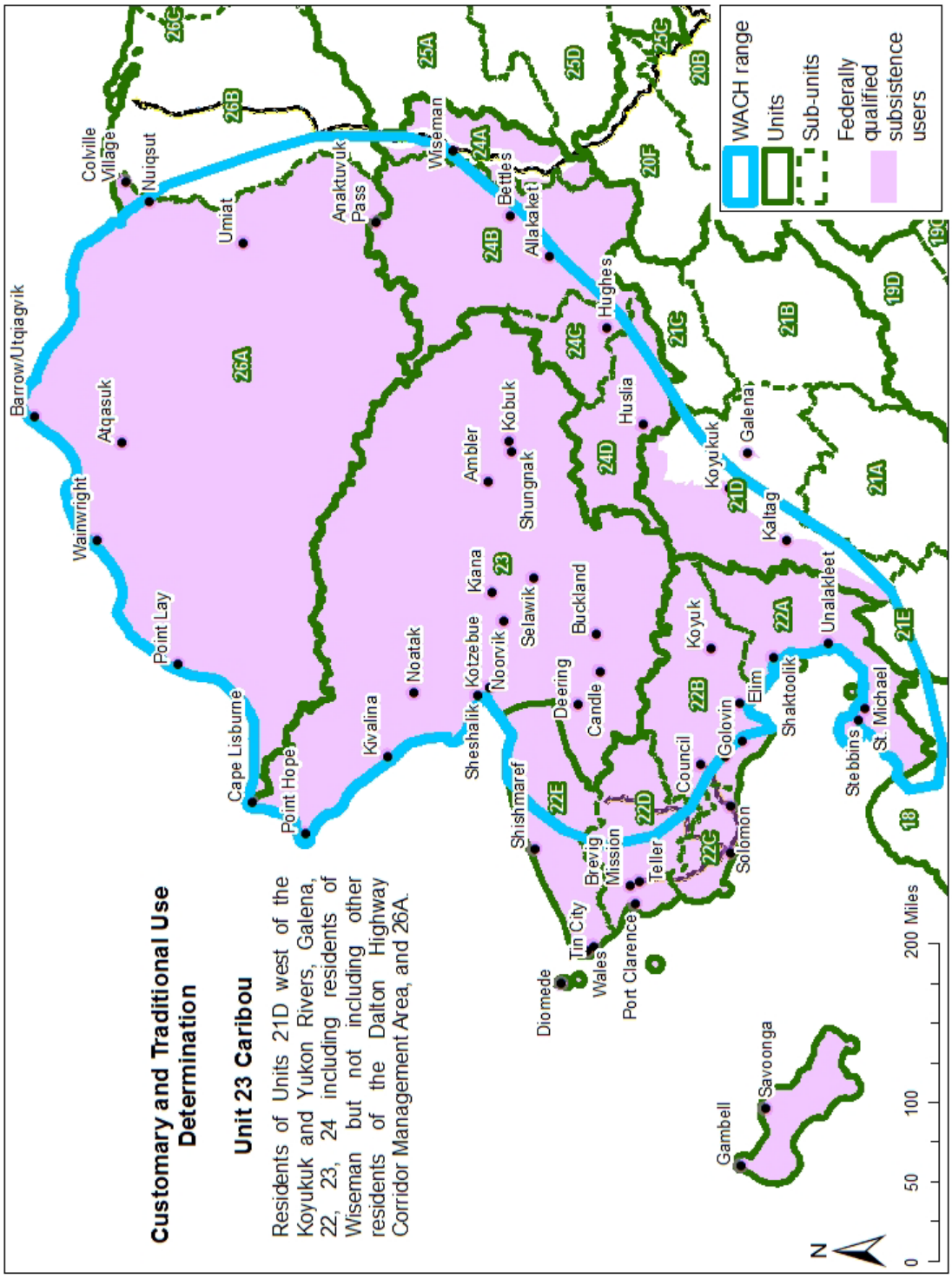
The CUA was expanded in 1994 and modified in 2017 (Betchkal 2015, Halas 2015, ADF&G 2017a). From 1994-2016, the Noatak CUA consisted of a 10-mile wide corridor (5 miles either side) along the Noatak River from its mouth to Sapun Creek with approximately 80 miles of the CUA within Noatak National Preserve (NP) (**Map 2**, Betchkal 2015). The closure dates from 1994-2009 were Aug. 25-Sept. 15. In 2009 (effective 2010), the BOG adopted Proposal 22 to expand the closure dates to Aug. 15-Sept. 30 in response to the timing of caribou migration becoming less predictable (ADF&G 2009). During the 2016/17 BOG regulatory cycle, the Noatak/Kivalina & Kotzebue AC proposed (Proposal 44) extending the upriver boundary of the Noatak CUA to the Cutler River, citing increased user conflicts as their rationale (ADF&G 2017b). In January 2017, the BOG approved amended Proposal 44 to shift the boundaries of the Noatak CUA to start at the mouth of the Agashashok River and end at the mouth of the Nimiuktuk River with approximately 105 miles within Noatak NP (**Map 2**, ADF&G 2017a).

In 1990, the Noatak CUA was adopted under Federal regulations. In 1995, the Board adopted Proposal P95-50 to expand the time period and area of the CUA to Aug. 25-Sept. 15 and the mouth of the Noatak River upstream to the mouth of Sapun Creek, respectively, which aligned with current State regulations. In 2008, Proposals WP08-50 and 51 requested modifications to the Noatak CUA dates. These proposals were submitted in response to caribou migration occurring later in the season, to improve caribou harvest for subsistence users, and to decrease conflicts between local and nonlocal hunters. The Board deferred these proposals to the next regulatory cycle. In 2010, Proposals WP10-82, 83, and 85 requested similar date changes. The Board adopted WP10-85 to expand the time period during which aircraft are restricted in the Noatak CUA to Aug. 15-Sept. 30, which aligned with the current State regulations.

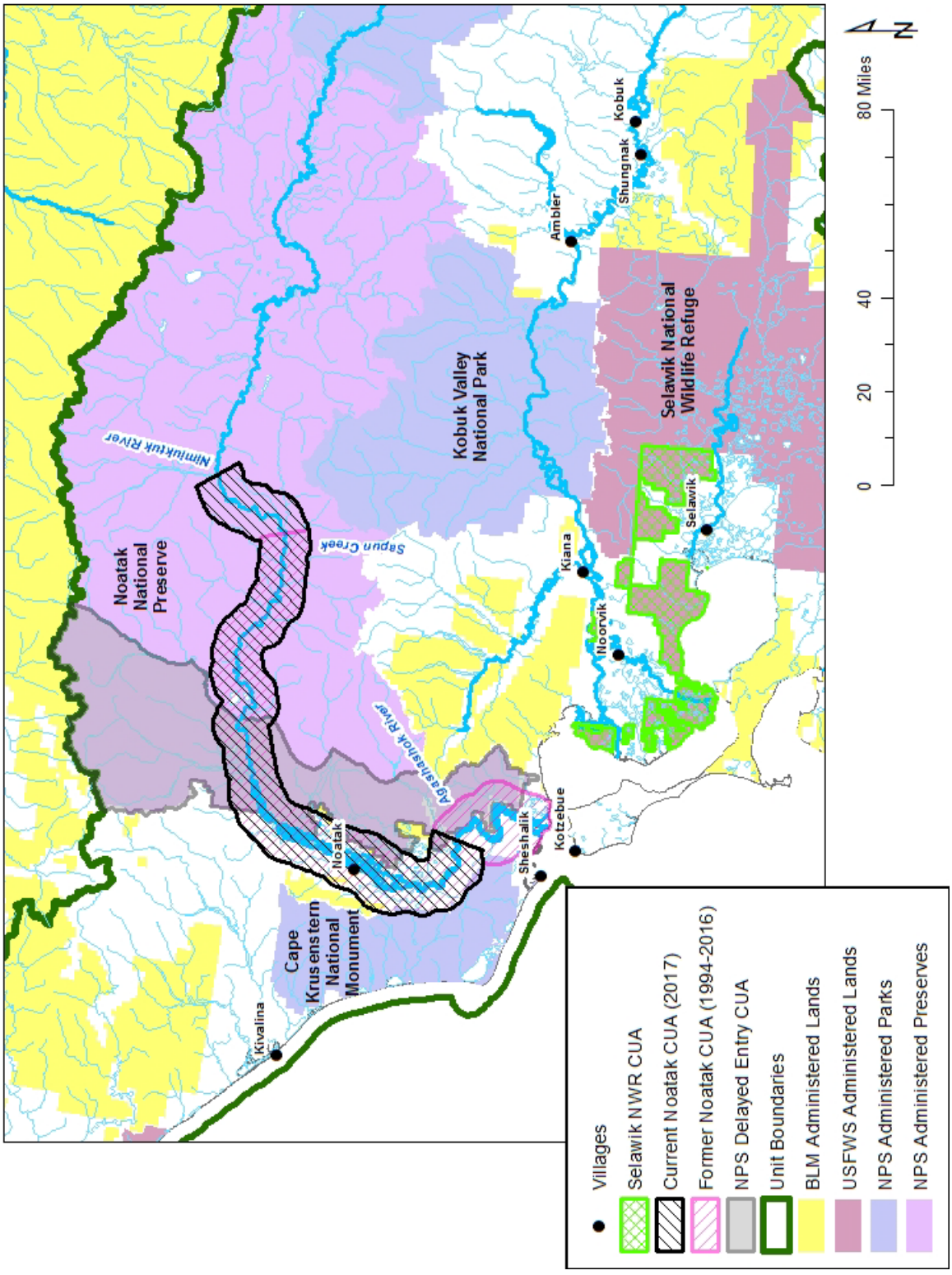
In 2011, Selawik National Wildlife Refuge (NWR) designated refuge lands in the northwest portion of the refuge as closed to big game hunting by commercial guides and transporters through their comprehensive conservation plan (FWS 2011, 2014). These refuge lands are intermingled with private lands near the villages of Noorvik and Selawik (**Map 2**). The purpose of this closure was to minimize trespass on private lands and to reduce user conflicts (FWS 2011).

In 2012, the NPS established a Special Commercial Use Area or “delayed entry zone” in the western portion of the Noatak NP (Halas 2015, Fix and Ackerman 2015). Within this zone, transporters can only transport nonlocal caribou hunters after September 15 unless otherwise specified by the Western Arctic Parklands superintendent in consultation with commercial operators, other agencies and local villages (Halas 2015). The purpose of this zone is to allow a sufficient number of caribou to cross the Noatak River and establish migration routes, to limit interactions between local and nonlocal hunters, and to allow local

hunters the first opportunity to harvest caribou in that area (**Map 2**, FWS 2014, Halas 2015). To date, the Superintendent has not used his/her authority to alter the closure dates in response to changes in caribou herd migration or to meet the needs of local hunters (Halas 2015). However, for the 2018/19 season, the superintendent is extending the delayed entry zone one week to September 22 (NWARAC 2017b).



Map 1. Customary and Traditional (C&T) Use Determination for caribou in Unit 23. C&T Determinations indicate which Alaska rural residents are Federally qualified subsistence users. The WACH range indicates which residents are considered local in State management reports.



Map 2. Federal and State Hunting Management Areas in Unit 23.

Current Events

In January 2017, the Board directed the Office of Subsistence Management (OSM) to form an interagency group to discuss possible solutions to user conflict issues in Unit 23 such as targeted closures (FSB 2017). This group, consisting of representatives from OSM, BLM, NPS, USFWS, and ADF&G, met for the first time in April 2017 to discuss user conflicts in Unit 23 and develop suggestions to mitigate them. The group suggested closing Federal public lands within a 10 mile wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; north of the Noatak River between, and including, the Kelly and Nimiuktuk River drainages; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage to caribou hunting except by FQSU.

Several other proposals concerning Federal caribou harvest regulations in Unit 23 and the WACH were submitted for the 2018-2020 wildlife regulatory cycle (WP18-32, 45, 48/49, and 57). At the WACH Working Group meeting in December 2016, the group voted to submit two wildlife proposals. The group voted to submit this proposal (WP18-46) as well as Proposal WP18-48 to require registration permits for caribou hunting in Units 22, 23, and 26A in order to align with State permitting requirements and better monitor harvest. Louis Cusack also submitted Proposal WP18-49 to require registration permits in these units.

At the Western Interior Council meeting in February 2017, the Council voted to submit Proposal WP18-32 to align Federal caribou seasons across the ranges of the WACH, TCH, and CACH. The intent of this proposal is to protect cows during migration. The Council expressed its intentions to submit a similar proposal to the BOG so that State and Federal seasons could be aligned.

At the Northwest Arctic Council meeting in March 2017, the Council voted to submit Proposal WP18-45 to decrease the harvest limit for caribou in Unit 23 from 5/day to 3/day. The Council also considered submitting a proposal to close Federal public lands to caribou hunting to NFQU (same as the WACH working group proposal), but the motion failed due to concerns about making the closure permanent and for family and tribal members currently living in urban areas who would be restricted by the closure.

At the North Slope Council meeting in March 2017, the Council voted to submit Proposal WP18-57 to close Federal public lands to caribou hunting by NFQU in Units 26A and 26B (similar to WSA17-04). This is in response to declines in the WACH, TCH, and CACH, which are seasonally present in the area.

Biological Background

Caribou abundance naturally fluctuates over decades (Gunn 2001, WACH Working Group 2011). Gunn (2001) reports the mean doubling rate for Alaskan caribou as 10 ± 2.3 years. Although the underlying mechanisms causing these fluctuations are uncertain, climatic oscillations (i.e. Arctic and Pacific Decadal Oscillations) may play an important role (Gunn 2001, Joly et al. 2011). Climatic oscillations can influence factors such as snow depth, icing, forage quality and growth, wildfire occurrence, insect levels, and predation, which all contribute to caribou population dynamics (Joly et al. 2011). Density-dependent

reduction in forage availability, resulting in poorer body condition may exacerbate caribou population fluctuations (Gunn 2001).

Caribou calving generally occurs from late May to mid-June (Dau 2013). Weaning generally occurs in late October and early November before the breeding season (Taillon et al. 2011). Calves stay with their mothers through their first winter, which improves calves' access to food and body condition (Holand et al. 2012). Calves orphaned after weaning (October) have greater chances of survival than calves orphaned before weaning (Holand et al. 2012, Joly 2000, Russell et al. 1991, Rughetti and Fest-Bianchet 2014).

The TCH, WACH, and CACH have ranges that overlap in Unit 26A (**Map 3**), and there can be considerable mixing of herds during the fall and winter. During the 1970s, there was little overlap between these herds, but the degree of mixing seems to be increasing. Currently, the WACH, TCH, and CACH populations are all declining (Dau 2011, 2015a, Lenart 2011, Parrett 2011, 2015c, 2015d).

The WACH has historically been the largest caribou herd in Alaska and has a home range of approximately 157,000 square miles in northwestern Alaska. In the spring, most mature cows move north to calving grounds in the Utukok Hills, while bulls and immature cows lag behind and move toward summer range in the Wulik Peaks and Lisburne Hills (**Map 4**, Dau 2011, WACH Working Group 2011).

Dau (2013) determined the calving dates for the WACH to be June 9–13. This is based upon long-term movement and distribution data obtained from radio-collared caribou (these are the dates cows ceased movements). After the calving period, cows and calves move west toward the Lisburne Hills where they mix with the bulls and non-maternal cows. During the summer, the herd moves rapidly to the Brooks Range.

In the fall, the herd moves south toward wintering grounds in the northern portion of the Nulato Hills. Rut occurs during fall migration (Dau 2011, WACH Working Group 2011). Dau (2013) determined the WACH rut dates to be October 22–26. This is based on back-calculations from calving dates using a 230 day gestation period. Since about 2000, the timing of fall migration has been less predictable, often occurring later than in previous decades (Dau 2015a). From 2010-2015, the average date that GPS collared caribou crossed the Noatak River ranged from Sep. 30 – Oct. 23 (Joly and Cameron 2017). The proportion of caribou using certain migration paths varies each year (**Figure 1**, Joly and Cameron 2017). Changes in migration paths are likely influenced by multiple factors including food availability, snow depth, rugged terrain, and dense vegetation (Fullman et al. 2017, Nicholson et al. 2016). If caribou travelled the same migration routes every year, their food resources would likely be depleted (NWARAC 2016). In recent years (2012-2014), the path of fall migration has shifted east (Dau 2015a).

The WACH Working Group developed a WACH Cooperative Management Plan in 2003, and revised it in 2011 (WACH Working Group 2011). The plan identifies seven plan elements: cooperation, population management, habitat, regulations, reindeer, knowledge, and education as well as associated goals, strategies, and management actions. As part of the population management element, the WACH Working Group developed a guide to herd management determined by population size, population trend, and harvest rate. Population sizes guiding management level determinations were based on recent (since 1970) historical data for the WACH (WACH Working Group 2011). Revisions to recommended harvest levels

under liberal and conservative management (+/- 100 to 2,850 caribou) were made in December 2015 (WACH Working Group 2015, **Table 1**). The State of Alaska manages the WACH to protect the population and its habitat, provide for subsistence and other hunting opportunities on a sustained yield basis, and provide for viewing and other uses of caribou (Dau 2011). State management objectives for the WACH are the same as the goals specified in the WACH Management Plan (Dau 2011, WACH Working Group 2011) and include:

- Encourage cooperative management of the WACH among State, Federal, local entities, and all users of the herd.
- Manage for healthy populations using management strategies adapted to fluctuating population levels and trends.
- Assess and protect important habitats.
- Promote consistent and effective State and Federal regulations for the conservation of the WACH.
- Seek to minimize conflict between reindeer herders and the WACH.
- Integrate scientific information, traditional ecological knowledge of Alaska Native users, and knowledge of all users into management of the herd.
- Increase understanding and appreciation of the WACH through the use of scientific information, traditional ecological knowledge of the Alaska Native users, and knowledge of all other users.

The WACH population declined rapidly in the early 1970s, bottoming out at about 75,000 animals in 1976. Aerial photocensuses have been used since 1986 to estimate population size. The WACH population increased throughout the 1980s and 1990s, peaking at 490,000 animals in 2003 (**Figure 2**). Since 2003, the herd has declined at an average annual rate of 7.1% from approximately 490,000 caribou to 200,928 caribou in 2016 (Caribou Trails 2014; Dau 2011, 2014, Parrett 2016a). In 2017, the herd increased to an estimated 259,000 caribou (Parrett 2017a).

Between 1982 and 2011, the WACH population was within the liberal management level prescribed by the WACH Working Group (**Figure 2, Table 1**). In 2013, the herd population estimate fell below the population threshold for liberal management of a decreasing population (265,000), slipping into the conservative management level. In July 2015, ADF&G attempted an aerial photocensus of the herd. However, the photos taken could not be used due to poor light conditions that obscured unknown portions of the herd (Dau 2015b). ADF&G conducted a successful photocensus of the WACH on July 1, 2016. This census resulted in a minimum count of 194,863 caribou with a point estimate of 200,928 (Standard Error = 4,295), suggesting the WACH is still within the conservative management level, although close to the threshold for preservative management (**Figure 2, Table 1**). Results of this census indicate an average annual decline of 5% per year since 2013, a much lower rate than the 15% annual decline between 2011 and 2013. The large cohorts of 2015 and 2016 (calves born in these years), which currently comprise a substantial proportion of the herd, contributed to the recent decreased rate of decline, but remain vulnerable to difficult winter conditions due to their young age (Parrett 2016a).

ADF&G conducted another photocensus in the summer of 2017 and also transitioned from film to digital cameras, which enhanced their ability to complete a successful and timely census (Parrett 2017a). The 2017 photocensus yielded a minimum count of 239,055 caribou with a point estimate of 259,000 caribou

(Standard Error = 29,000) (Parrett 2017a). However, the use of new technology (digital cameras) may have influenced the counts, complicating comparisons between 2017 and past years. At their 2017 meeting, the WACH Working Group voted on the status of the herd, agreeing upon the conservative stable level (WACH WG 2017, **Table 1**). While population numbers alone indicate liberal management, the Working Group supported maintaining conservative management due to the use of new technology and because a large proportion of the herd is currently young caribou that are still vulnerable to harsh winters (WACH WG 2017).

Between 1970 and 2017, the bull:cow ratio exceeded critical management levels (40 bulls:100 cows) in all years except 1975, 2001, and 2014 (**Figure 3**). Reduced sampling intensity in 2001 likely biased the 2001 bull:cow ratio low (Dau 2013). Since 1992, the bull:cow ratios has trended downward (Dau 2015a). The average annual number of bulls:100 cows was greater during the period of population growth (54:100 between 1976–2001) than during the recent period of decline (44:100 between 2004–2016). Additionally, Dau (2015a) states that while trends in bull:cow ratios are accurate, actual values should be interpreted with caution due to sexual segregation during sampling and the inability to sample the entire population, which likely account for more annual variability than actual changes in composition.

Although factors contributing to the population decline are not known with certainty, fall and winter icing events likely initiated the decline (Dau 2015a). Increased adult cow mortality, and decreased calf recruitment and survival played a role (Dau 2011). Since the mid-1980s, adult mortality has slowly increased while recruitment has slowly decreased (Dau 2013, **Figure 4**). In a population model developed specifically for the WACH, Prichard (2009) found adult survival to have the largest impact on population size.

Calf production has likely had little influence on the population trajectory (Dau 2013, 2015a). Between 1990 and 2003, the June calf:cow ratio averaged 66 calves:100 cows/year. Between 2004 and 2016, the June calf:cow ratio averaged 71 calves:100 cows/year (**Figure 5**). In June 2016, 85 calves:100 cows were observed, which approximates the highest parturition level ever recorded for the herd (86 calves:100 cows in 1992) (Dau 2016a).

Decreased calf survival through summer and fall and recruitment into the herd are likely contributing to the current population decline (Dau 2013, 2015a). Fall calf:cow ratios indicate calf survival over summer. Between 1976 and 2017, the fall calf:cow ratio ranged from 35 to 59 calves:100 cows/year, averaging 47 calves:100 cows/year (**Figure 5**). Fall calf:cow ratios declined from an average of 46 calves:100 cows/year between 1990-2003 to an average of 42 calves:100 cows/year between 2004-2016 (Dau 2015a, **Figure 5**). Since 2008, ADF&G has recorded calf weights at Onion Portage as an index of herd nutritional status. In September 2015, calf weights averaged 100 lbs., the highest average ever recorded (Parrett 2015b).

Similarly, the ratio of short yearlings (SY, 10-11 months old caribou) to adults provides a measure of overwintering calf survival and recruitment. Between 1990 and 2003, SY:adult ratios averaged 20 SY:100 adults/year. Since the decline began in 2003, SY:adult ratios have averaged 16 SY:100 adults/year (2004-2016, **Figure 5**). However, 23 SY:100 adults were observed during spring 2016 surveys, the

highest ratio recorded since 2007 (Dau 2016b). The overwinter calf survival for the 2015 cohort (Oct. 2015-Jun. 2016) was 84% (Parrett 2016b). While 2016 indices suggest improvements in recruitment, the overall trend since the early 1980s has been downward (Dau 2015a, 2016b).

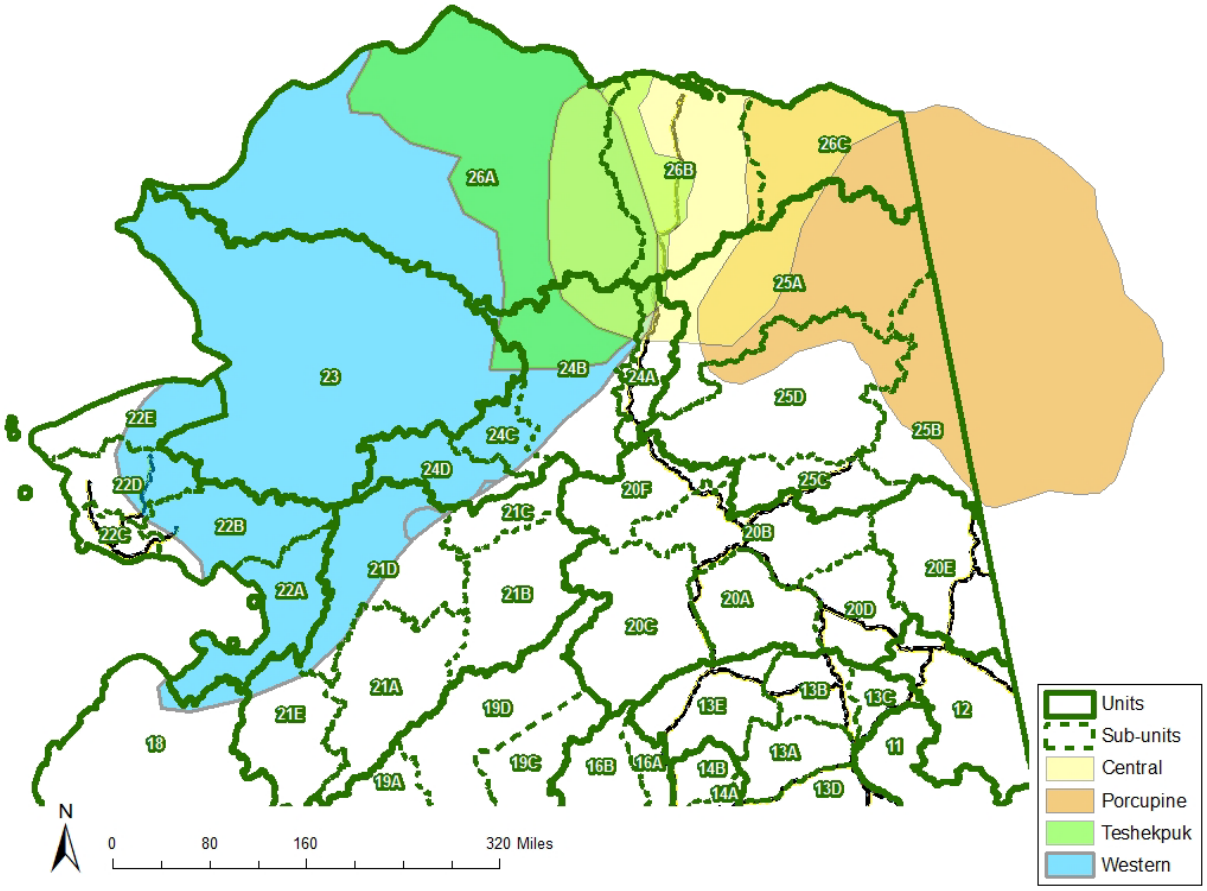
Increased cow mortality is likely affecting the trajectory of the herd as well (Dau 2011, 2013). The annual mortality rate of radio-collared adult cows increased from an average of 15% between 1987 and 2003 to 23% from 2004–2014 (Dau 2011, 2013, 2014, 2015a, **Figure 4**). Estimated mortality includes all causes of death including hunting (Dau 2011). Dau (2015a) states that cow mortality estimates are conservative due to exclusion of unhealthy (i.e. diseased) and yearling cows. Dau (2013) attributed the high mortality rate for 2011–2012 (33%, **Figure 4**) to a winter with deep snows, which weakened caribou and enabled wolves to prey on them more easily. Prior to 2004, estimated adult cow mortality only exceeded 20% twice, but has exceeded 20% in 7 out of 9 regulatory years between 2004 and 2012 (**Figure 4**). The annual mortality rate was 8% as of April 2016 (Dau 2016b). This may fluctuate substantially throughout the year based on changing local conditions and harvest levels. Dau (2015a) indicates that mortality rates may also change in subsequent management reports as the fate of collared animals is determined, and that these inconsistencies are most pronounced for the previous 1–3 years.

Far more caribou died from natural causes than from hunting between 1992 and 2012 (Dau 2013). Cow mortality remained constant throughout the year, but natural and harvest mortality for bulls spiked during the fall. Predation, particularly by wolves, accounted for the majority of natural mortality (Dau 2013). However as the WACH has declined and estimated harvest has remained relatively stable, the percentage of mortality due to hunting has increased relative to natural mortality. For example, during the period October 1, 2013 to September 30, 2014, estimated hunting mortality was approximately 42% and estimated natural mortality about 56% (Dau 2014). In previous years (1983–2013), the estimated hunting mortality exceeded 30% only once in 1997-1998 (Dau 2013). Additionally, Prichard (2009) and Dau (2015a) suggest that harvest levels and rates of cows can greatly impact population trajectory. If bull:cow ratios continue to decline, harvest of cows may increase, exacerbating the current population decline.

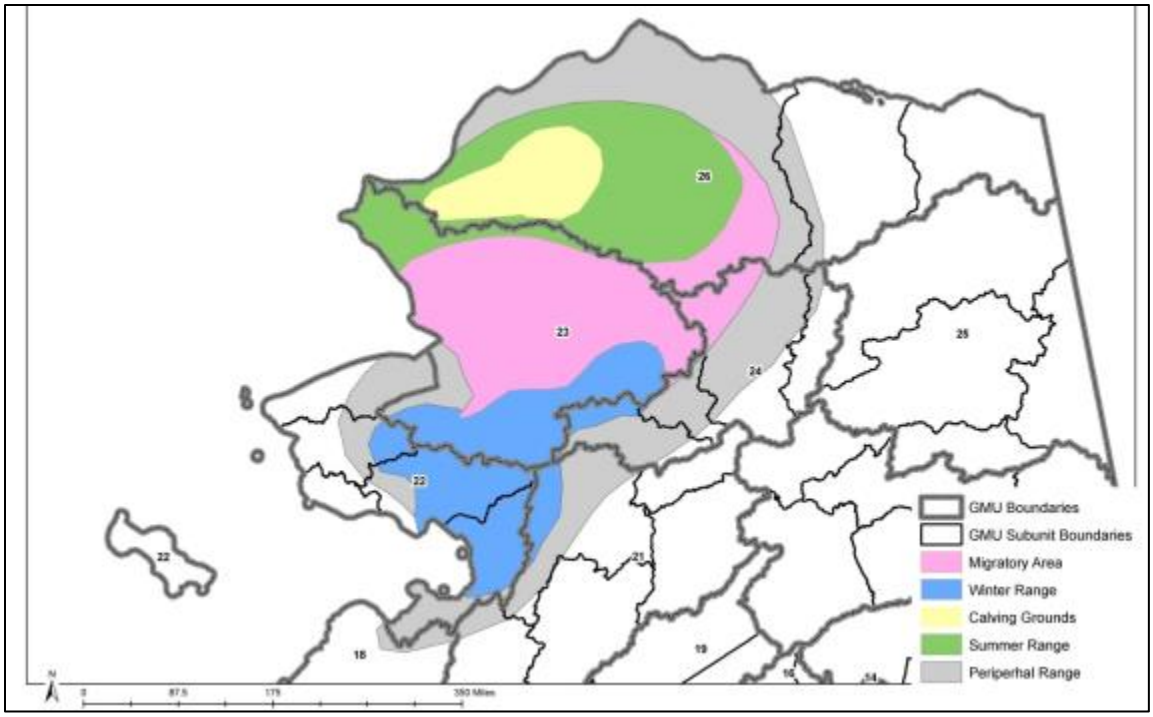
Although icing events likely precipitated the population decline, increased predation, hunting pressure, deteriorating range condition (including habitat loss and fragmentation), climate change, and disease may also be contributing factors (Dau 2015a, 2014). Joly et al. (2007) documented a decline in lichen cover in portions of the wintering areas of the WACH. Dau (2011, 2014) reported that degradation in range condition is not thought to be a primary factor in the decline of the herd because animals have generally maintained good body condition since the decline began. Body condition is assessed on a subjective scale from 1-5. The fall body condition of adult females in 2015 was characterized as “fat” (mean=3.9/5) with no caribou being rated as skinny or very skinny (Parrett 2015b). However, the body condition of the WACH in the spring may be a better indicator of the effects of range condition versus the fall when the body condition of the herd is routinely assessed and when caribou are in prime condition (Joly 2015, pers. comm.).

Habitat

Caribou feed on a wide variety of plants including lichens, fungi, sedges, grasses, forbs, and twigs of woody plants. Arctic caribou depend primarily on lichens during the fall and winter, but during summer they feed on leaves, grasses and sedges (Miller 2003).



Map 3. Herd overlap and ranges of the WACH, TCH, CACH, and PCH.



Map 4. Range of the WACH.

Table 1. Western Arctic Caribou Herd management levels using herd size, population trend, and harvest rate (WACH Working Group 2011, 2015).

Management and Harvest Level	Population Trend			Harvest Recommendations May Include:
	Declining Low: 6%	**Stable Med: 7%**	**Increasing High: 8%**	
Liberal	Pop: 265,000+	Pop: 230,000+	Pop: 200,000+	• Reduce harvest of bulls by nonresidents to maintain at least 40 bulls: 100 cows • No restriction of bull harvest by resident hunters unless bull:cow ratios fall below 40 bulls:100 cows
	Harvest: 16,000-22,000	Harvest: 16,000-22,000	Harvest: 16,000-22,000	
Conservative	Pop: 200,000-265,000	Pop: 170,000-230,000	Pop: 150,000-200,000	• No harvest of calves • No cow harvest by nonresidents • Restriction of bull harvest by nonresidents • Limit the subsistence harvest of bulls only when necessary to maintain a minimum 40:100 bull:cow ratio
	Harvest: 12,000-16,000	Harvest: 12,000-16,000	Harvest: 12,000-16,000	
Preservative	Pop: 130,000-200,000	Pop: 115,000-170,000	Pop: 100,000-150,000	• No harvest of calves • Limit harvest of cows by resident hunters through permit hunts and/or village quotas • Limit the subsistence harvest of bulls to maintain at least 40 bulls:100 cows • Harvest restricted to residents only, according to state and federal law. Closure of some federal public lands to nonqualified users may be necessary
	Harvest: 8,000-12,000	Harvest: 8,000-12,000	Harvest: 8,000-12,000	
Critical Keep Bull:Cow ratio ≥ 40 Bulls:100 Cows	Pop: < 130,000	Pop: < 115,000	Pop: < 100,000	• No harvest of calves • Highly restrict the harvest of cows through permit hunts and/or village quotas • Limit the subsistence harvest of bulls to maintain at least 40 bulls:100 cows • Harvest restricted to residents only, according to state and federal law. Closure of some federal public lands to nonqualified users may be necessary
	Harvest: 6,000-8,000	Harvest: 6,000-8,000	Harvest: 6,000-8,000	

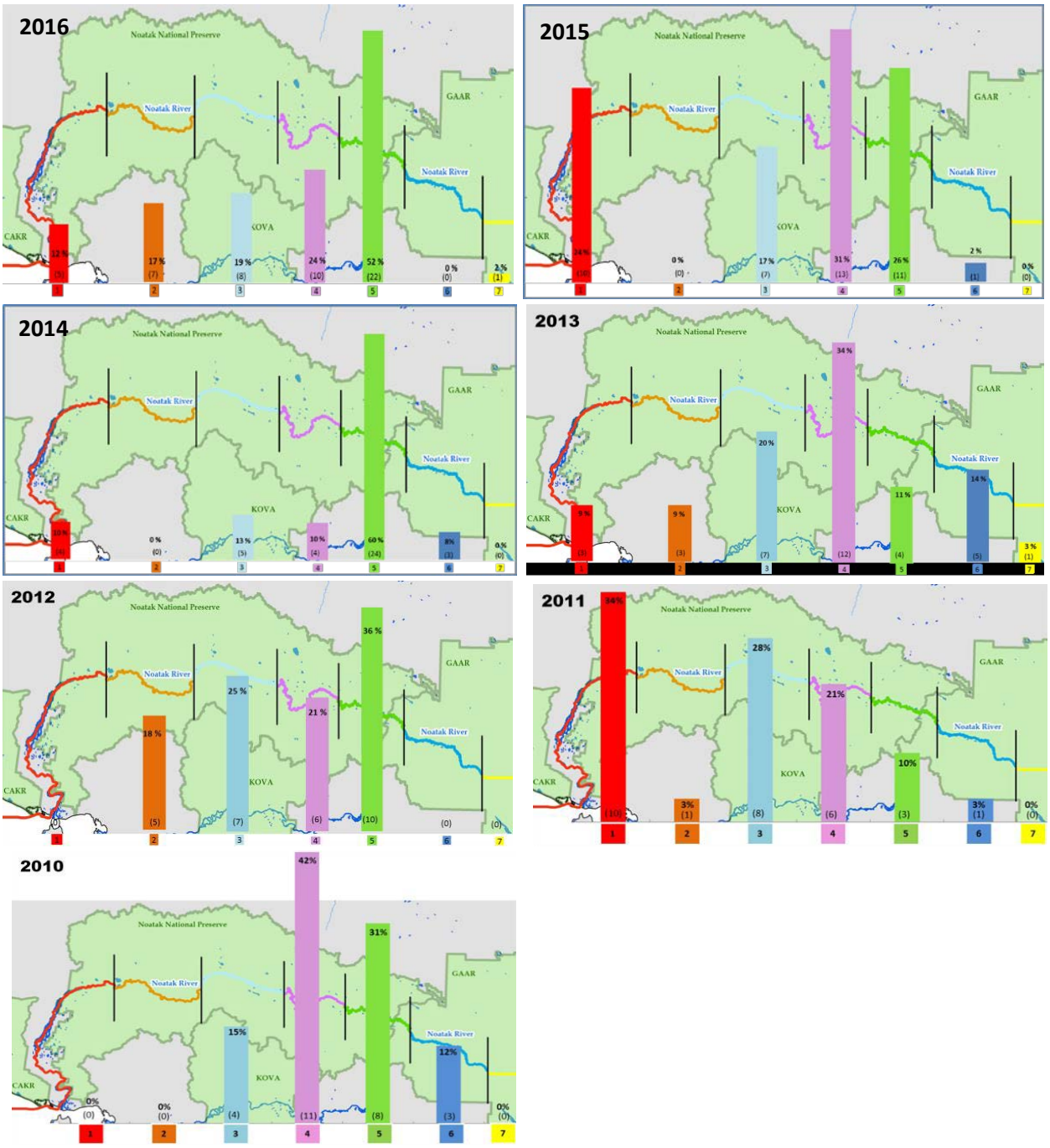


Figure 1. Distribution of caribou crossing the Noatak River during fall. Histograms depict where collared female caribou crossed the Noatak River, generally from north to south, on their fall migration. Relative percentages (top number) and the absolute number (middle number) of caribou are provided. The river is divided into seven (lowest number) color-coded segments which are displayed in the background. The middle five segments are 100 river kilometers long, while the westernmost segment (red) is 200 km (before extending into the Chukchi Sea) and the easternmost (yellow) runs as far east as WACH caribou are known to migrate. The number of caribou with GPS collars ranged from 39-79 caribou/year with later years having more collared caribou than earlier years (Joly and Cameron 2017).

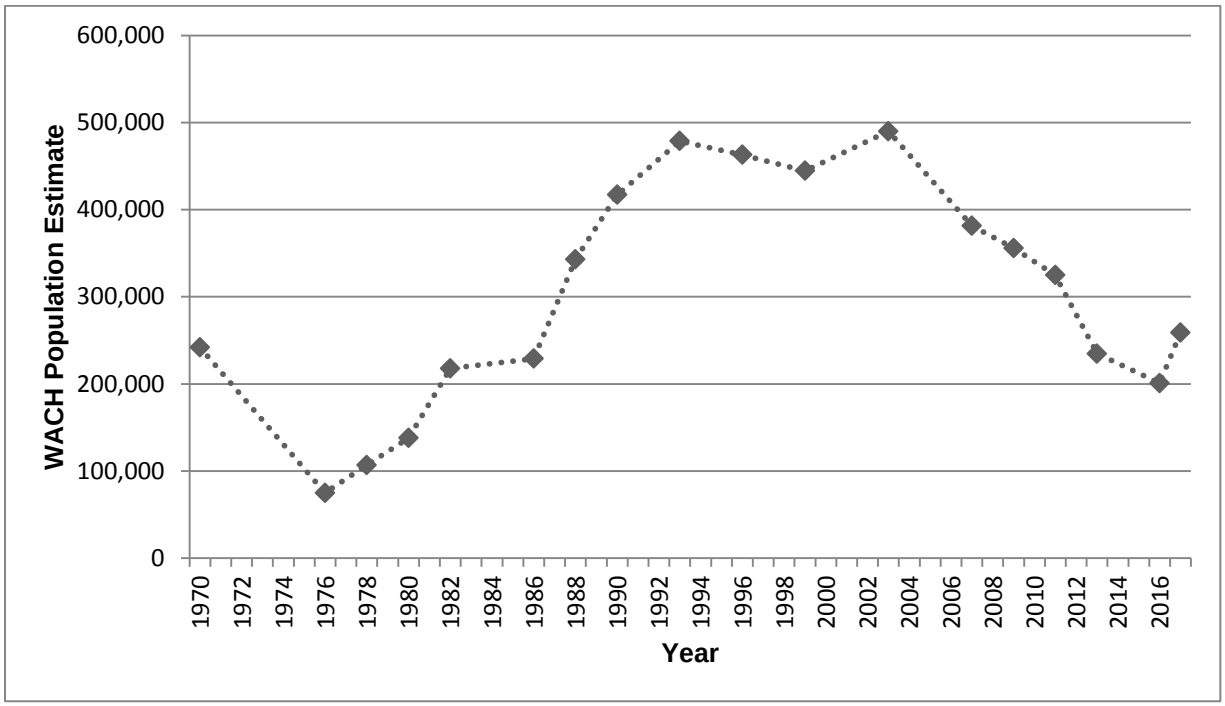


Figure 2. The WACH population estimates from 1970–2015. Population estimates from 1986–2017 are based on aerial photographs of groups of caribou that contained radio-collared animals (Dau 2011, 2013, 2014, Parrett 2016a, Parrett 2017a)**.**

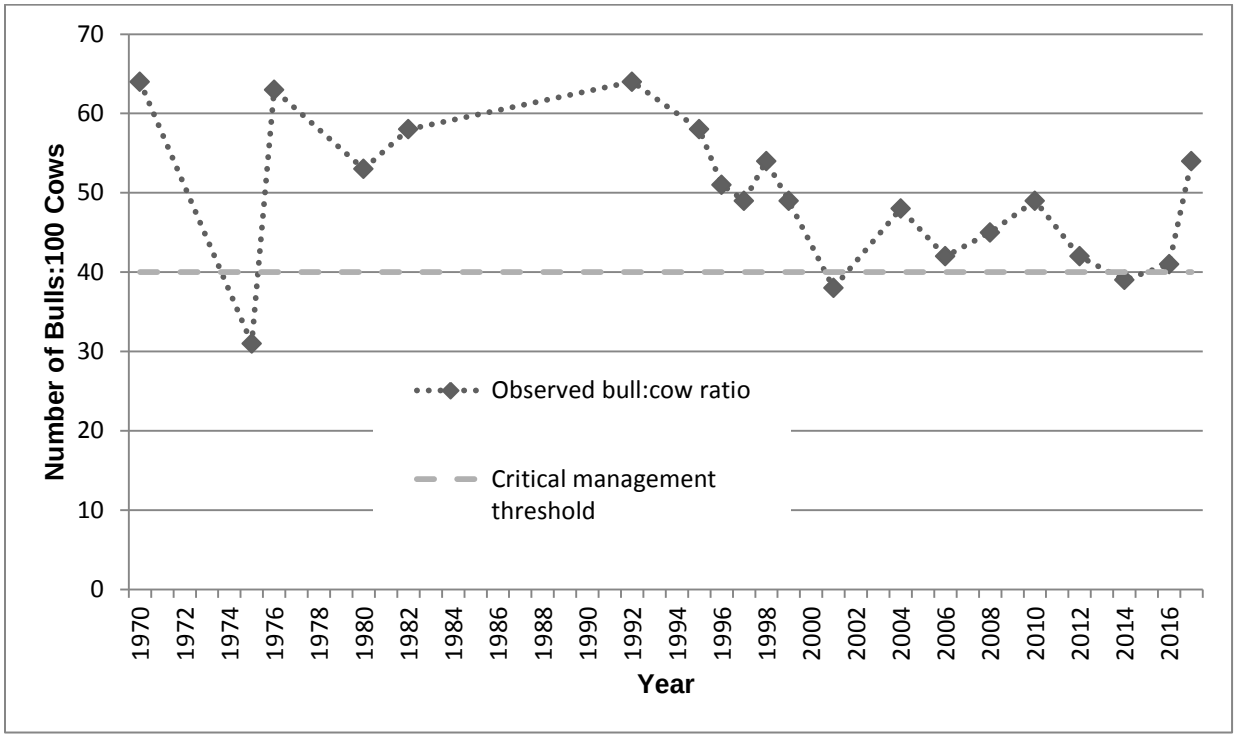


Figure 3. Bull:Cow ratios for the WACH (Dau 2015a, ADF&G 2017c, Parrett 2017a).

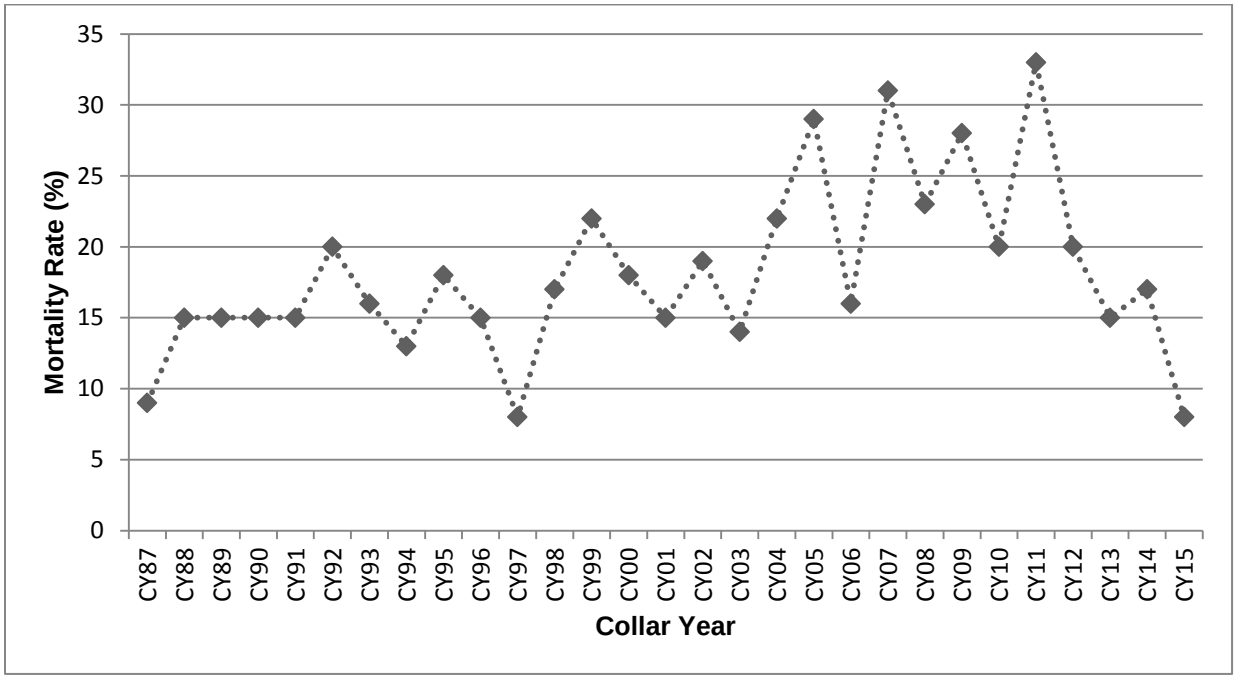


Figure 4. Mortality rate of radio-collared caribou in the Western Arctic caribou herd (Dau 2013, 2015a, 2016b). Collar Year (CY)= Oct. 1-Sept. 30. CY15 is Oct. 2015-Apr. 2016.

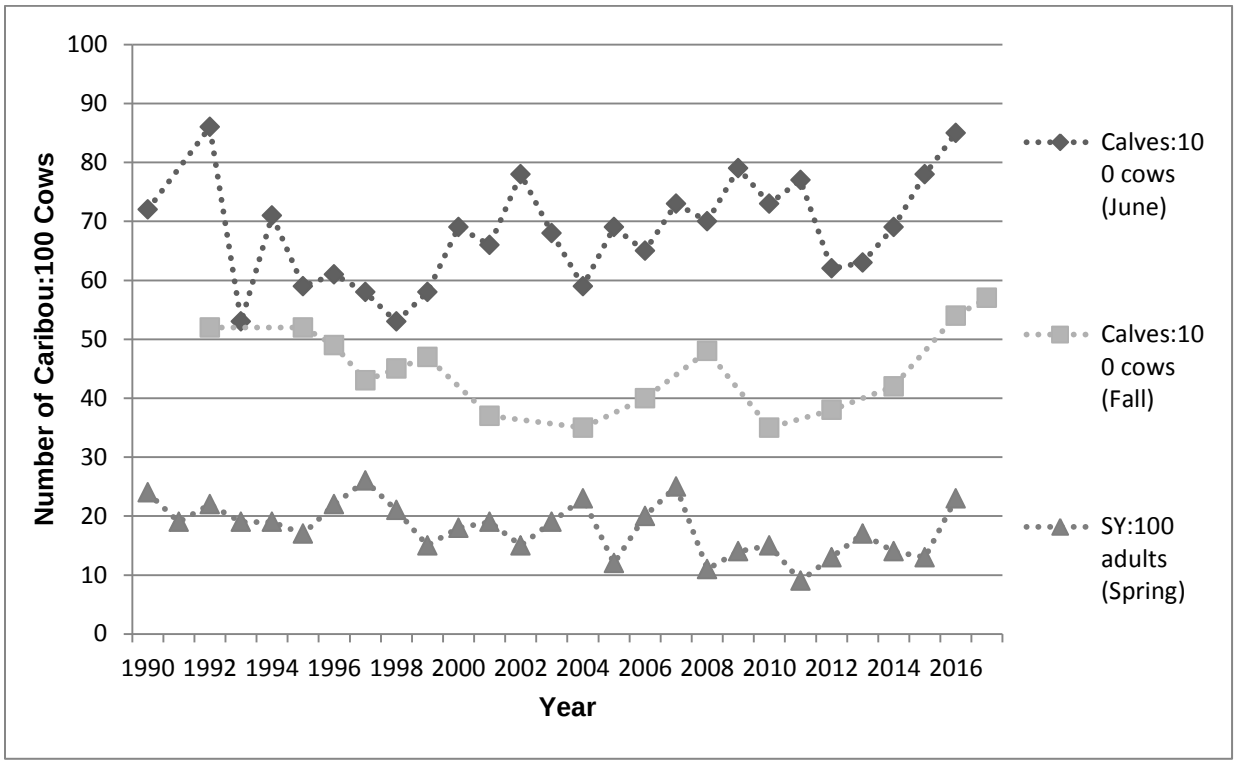


Figure 5. Calf:cow and short yearling (SY):adult ratios for the WACH (Dau 2013, 2015a, 2016a, ADF&G 2017c, Parrett 2017a). Short yearlings are 10-11 months old caribou.

Cultural Knowledge and Traditional Practices

Meeting the nutritional and caloric needs of Arctic communities is vitally important and is the foundation of subsistence activities. Still, the meaning of subsistence extends far beyond human nutrition for Alaska's native peoples. Holthaus (2012) describes subsistence as the basis on which Alaska Native culture establishes its identity though "philosophy, ethics, religious belief and practice, art, ritual, ceremony, and celebration." Fienup-Riordan (1990) also describes subsistence in terms of the cultural cycles of birth and death representing the close human relationship and reciprocity between humans and the natural world. Concerning caribou specifically, Ms. Esther Hugo – a lifelong resident of Anaktuvuk Pass - describes the human-caribou relationship as a "way of life."

Caribou have been a primary resource for the Inupiat of the Northwest Arctic Region for thousands of years. Caribou bones dating from 8,000 to 10,000 years ago have been excavated from archeological sites on the Kobuk River (ADF&G 1992, Anderson 1988). Foote (1959, 1961) wrote about caribou hunting in the Noatak region forty years ago, noting that life would not be possible in Noatak without this source of meat. Caribou were traditionally a major source of both food and clothing and continues today to be the most important land animal consumed in this region (Burch 1984, 1994, 1998, ADF&G 1992). Uhl and Uhl (1979) documented the importance of caribou as a main source of red meat for Noatak residents as well as other communities in the region. Betcher (2016) also documents the critical contemporary importance of caribou to people residing throughout the Northwest Arctic.

Historically, during fall and spring caribou migrations, people built "drive fences" out of cairns, bundles of shrubs, or upright logs. These fences were sometimes several miles long and two to three miles wide. Ideally, the closed end of the fence crossed a river, and caribou were harvested while crossing the river and retrieved later; or the fence would end in a corral where caribou were snared and killed with spears (Burch 2012). Burch (2012:40) notes, "The landscape of Northwest Arctic, especially in hills and mountains, is littered with the remains of drive fences that were in every stage of construction when they were abandoned."

The WACH population declined rapidly in the Northwest Arctic beginning in the late 1800s. At its low point, its range had shrunk to less than half its former size. Famine ensued, primarily due to the absence of caribou. In the early 1900s, reindeer were introduced to fill the need for food and hides. The WACH began to rebound in the 1940s. Currently, among large terrestrial mammals, caribou are among the most abundant; however, the population in any specific area is subject to wide fluctuations from year to year as caribou migration routes change (Burch 2012).

Caribou were traditionally harvested any month of the year they were available in the Northwest Arctic Region. The objective of the summer hunt was to obtain the hides of adult caribou with their new summer coats. They provided the best clothing material available to the Inupiat. The fall hunt was to acquire large quantities of meat to freeze for winter (Burch 1994). The timing and routing of migration determined caribou hunting. Hunting seasons change from year to year according to the availability of caribou (ADF&G 1991). The numbers of animals and the duration of their stays varies from one year to the next (Burch 1994) and harvest varies from community to community depending on the availability of caribou.

Generally, communities in the southern portion of Unit 23 (Buckland, Deering) take caribou in the winter and spring, while the other communities in the unit take caribou in the fall, winter, and spring. Kivalina and Point Hope also take caribou in the summer in July (ADF&G 1992) and Selawik residents regularly hunt in the fall (Georgette 2016, pers. comm.).

Currently, caribou hunting by FQSU in Unit 23 is most intensive from September through November. Caribou can be harvested in large numbers, when available, and can be transported back to villages by boat before freeze-up. Hunters search for caribou and attempt to intercept them at known river crossings. Ideally, caribou harvesting occurs when the weather is cool enough to prevent spoilage of meat. If not, meat is frozen for later use. Prior to freeze-up, bulls are preferred because they are fatter than cows (Braem et al. 2015, Georgette and Loon 1993).

Small groups of caribou that have over-wintered may be harvested by hunters in areas that are accessible by snowmachine. Braem et al. (2015:141) explain, "Hunters harvest cows during the winter because they are fatter than bulls . . . . Caribou harvested during the winter can be aged completely without removing the skin or viscera . . . . Then in the spring, the caribou is thawed. Community members cut it into strips to make dried meat, or they package and freeze it." In spring, caribou start their northward migration. The caribou that are harvested are "lean and good for making dried meat (*paniqtuq*) during the warm, sunny days of late spring" (Georgette and Loon 1993:80).

Today, the human population in Unit 23 is comprised primarily of 11 regional Inupiaq groups (Burch 1998). Kotzebue is the regional hub of transportation and commerce and is home to the majority of non-Natives in the region. The population of Unit 23 was approximately 7,500 in 2010, according to the U.S. Census (ADOLWD 2016). Caribou dominate the subsistence harvest of the region. In household harvest surveys conducted between 1964 and 2012, caribou were often the most harvested species, more than any other wild resource, in pounds of edible weight (**Appendix A**, ADF&G 2016a). Based on these surveys, in a typical study year, the harvest of caribou was, on average, between 100 and 200 lbs. per person in northwest Alaska (**Appendix A**, ADF&G 2016a).

User Conflicts

Throughout most of this analysis, local and nonlocal hunters are defined as those residing within and outside the range of the WACH, respectively. However, some authors cited in this section use the terms "local" and "nonlocal" without defining them. When definitions were provided they were included in this section. Otherwise, the terms are used in quotations.

User conflicts are likely to intensify when resources are scarce and when food security is threatened (Homer-Dixon 1994, Cohen and Pinstrup-Andersen 1999, Pomeroy et al. 2016). Such conflicts between local and nonlocal hunters have been well documented in Unit 23, specifically in the Noatak NP, the Squirrel River area, and along the upper Kobuk River (Georgette and Loon 1988, Jacobson 2008, Harrington and Fix 2009 *in* Fix and Ackerman 2015, Halas 2015, NWARAC 2015, Braem et al. 2015), even during times of high caribou abundance. Local hunters have expressed concerns over aircraft and "non-local" hunters disrupting caribou migration by "scaring" caribou away from river crossings, landing and

camping along migration routes, and shooting lead caribou (Halas 2015, Fix and Ackerman 2015, NWARAC 2015).

Halas (2015; **Map 5**), in a case study of Noatak caribou hunters and their interactions with transported hunters, examined the links between caribou behavior and migration, user group interactions, and changes to subsistence caribou hunting. In describing observations by Noatak hunters in 2012 and 2014 Halas (2015:81) explained,

> Observations of caribou behavior ("spooked" caribou, deflected caribou groups from river crossings) due to aircraft are likely witnessed as a dramatic event not easily forgotten by a waiting Noatak hunter. Whether the aircraft intentionally or unintentionally may be "influencing" caribou movement, observing "scared" caribou can be a powerful experience for hunters.

In 1988 a proposal was submitted to the BOG to create the Noatak CUA (see regulatory history). Included within the proposal was the following justification from the Traditional Council of Noatak (Fall 1990:86, ADF&G 1988:47):

> In the Noatak valley, aircraft supported hunters are directly competing with, and displacing subsistence hunters from traditional hunting sites along the Noatak River. The village most affected is Noatak, although families from Kotzebue are also affected. These families are having a great deal of difficulty obtaining their fall meat supply due to heavy aircraft traffic, rude aircraft operators, and displacement from traditional camping and hunting sites.
>
> Aircraft operators have the opportunity to use many other areas than the main Noatak valley, in the vicinity of traditional hunting areas. Good management practices indicate that the two groups of users should be separated.
>
> Experienced hunters from the village of Noatak point out that heavy aircraft traffic in the Noatak valley causes disruption of the fall caribou migration. The caribou are particularly sensitive near river crossings, which is stressful for the animals. Experience and good judgment is required to avoid disruption of the caribou migration. The village hunters' experience with aircraft supported hunters has been poor. The aircraft supported hunter; lack of experience and commercial interests has led to abuse of the resource. Noatak hunters point out that the normal migration routes of caribou through the Noatak valley in the fall have changed over the last several years of heavy aircraft use. Village hunters have noticed increased levels of waste of caribou and moose by aircraft supported hunters.

In response to the proposal, the State Division of Subsistence interviewed 21 caribou hunting households in Noatak, 22 private pilots from Kotzebue, 10 Kotzebue-based air taxi services, two hunting guides, and the Federal Aviation Administration in Kotzebue (Fall 1990:86). This study found that fall caribou hunting in the proposed area was a traditional and meaningful activity for Noatak residents, that the major source of air

traffic in 1987 was from commercial air taxi operators, and that respondents tended to agree that air traffic significantly increased in the 1980s (Fall 1990, Georgette and Loon 1988).

BOG members indicated that they were not convinced that aircraft were disrupting subsistence caribou hunting but acknowledged an increase in outfitter operations along the Noatak River (Fall 1990:87). Fall (1990:87) suggests that because the BOG failed to support two similar proposals from Noatak previously, and because the current proposal had the support of both the Kotzebue Fish and Game Advisory Committee and the Arctic Fish and Game Regional Council (now Committee), there was pressure on the BOG to be responsive to the issue. The BOG unanimously adopted the proposal with modification to include approximately one third of the proposed land area (Fall 1990:87). The adopted boundaries of the CUA extended from Kugururok River to Sapun Creek and reflected the areas of greatest caribou hunting intensity and treeless habitats where caribou are most susceptible to noise (Wolfe 1988). Since 1988, the BOG has modified the dates and extent of the Noatak CUA several times in response to local concerns and user conflicts (see regulatory history, **Map 2**).

The BOG actions in 1988 and 1994 did not fully alleviate user conflicts along the Noatak River as local users continued to report similar observations in subsequent decades. In a 2014 survey of 19 Noatak hunters, 78% and 92% of respondents perceived "nonlocals" and planes to impact caribou migration, respectively. Similarly, 63% and 81% of respondents reported that "nonlocal" hunters and planes reduced hunting success, respectively (Halas 2015). Noatak respondents did differentiate between commercial transporter operators and "nonlocal" hunters, attributing a decrease in harvest success primarily to aircraft associated with commercial transporters (Halas 2015). Negative encounters between local and nonlocal hunters identified by respondents primarily focused on river crossings of migrating caribou (**Map 5**, Halas 2015).

A survey of 372 hunters identified as transporter clients in Noatak NP hunting between 2010 and 2013 indicated perceptions of conflict among this group differed from those expressed by "local" hunters (Fix and Ackerman 2015). Less than half of the transporter clients surveyed reported receiving information about issues of concern to "local" hunters. They did indicate that wilderness characteristics were important to them and that the quality of their experience was sensitive to encounters with others. Among encounter types in which the frequency exceeded hunter expectations were propeller planes (30% of respondents), other nonlocal hunters (27%), and hunting camps visible while hunting (25%, Fix and Ackerman 2015). Sixty percent of the groups who encountered caribou reported observing low flying aircraft near caribou.

Concerns regarding the lack of recent caribou population data (due to the failure of the 2015 photocensus), ongoing user conflicts and potential herd deflection by aircraft were discussed at length during the Northwest Arctic Council meeting in October 2015. While some Council members reported caribou harvest success for the year, many also reported ongoing concerns for herd deflection near the Squirrel and Agashashok Rivers in Unit 23, as well as concern for residents of Anaktuvuk Pass in Unit 24 who have been reporting an absence of animals from both the WACH and the TCH.

Repeated observations of airplanes affecting individual or group caribou behavior have been documented, and cumulative observations of this over time could lead an observer to conclusions about herd deflection (Halas 2015). Some studies and local observations of WACH caribou response to aircraft have suggested that animal response is limited in temporal and spatial scale (Fullman et al. 2017, BHA Alaska 2017) and that many factors contribute to larger scale shifts in migration. Fullman et al. (2017) studied the effects of environmental features and sport hunting on caribou migration in northwestern Alaska. These authors found that caribou tended to avoid rugged terrain and that the migration of caribou through Noatak NP does not appear to be hindered by sport hunting activity. They indicated that their results do not preclude the possibility of short-term effects (< 8 hours) altering the availability of caribou for individual hunters, and that the lack of observed influence of hunting activity could be related to limitations in the telemetry and sport hunter datasets used in the study (i.e. caribou locations were only recorded every 8 hours, not every sport hunter camp was included, and only landings events from transporter aircraft were considered).

Several studies have documented negative caribou responses and avoidance behavior toward aircraft, motorized equipment, and development (e.g., Valkenburg and Davis 1985, Wolfe et al. 2000, Vistnes and Nelleman 2008, Calef et al. 1976, Maier et al. 1998). Calef et al. (1976) observed panic reactions and strong escape responses in a high percentage of caribou, particularly when aircraft flew at altitudes of less than 60 meters (197 feet). Calef et al. (1976) also found that caribou response to small fixed-wing and helicopter overflights was strongest during early calving (late May to early June), post-calving (early June to late June), and winter.

Valkenburg and Davis (1983) specifically studied the reaction of the WACH to aircraft and compared this with their observations of the Delta Caribou Herd (DCH). They observed that WACH caribou ran from 82% of aircraft passes (compared to 35% of passes for DCH animals), and that escaping WACH caribou were more likely to continue running after the aircraft had passed as compared to DCH animals. They speculated that the higher intensity of WACH response to aircraft was due to insufficient exposure to non-detrimental aircraft activity (those not resulting in immediate hunting activities), the perception of aircraft as a threat, and the association of snowmachine noise with pursuit and a lack of differentiation with the noise of aircraft (Valkenburg and Davis 1983). These authors hypothesized that a greater number of benign or nonthreatening overflights may be necessary to habituate WACH animals and that same-day airborne hunting had exacerbated the situation (Valkenburg and Davis 1983). In comparison, DCH caribou occurred in areas where much of the aircraft and ground vehicle activity was nonthreatening (Valkenburg and Davis 1983). However, as these data are over 30 years old and same-day airborne is no longer permitted, WACH caribou may have become more habituated to aircraft traffic (i.e. Fullman et al. 2017). While empirical documentation is sparse, local observations (e.g. by residents, biologists, law enforcement officers) of caribou responses to aircraft have been variable. Variability in caribou responses is likely due to multiple factors such as past experiences of individual caribou, season, weather, type of plane and altitude, etc.

Incomplete camp location information has prevented a quantitative assessment of caribou deflection or displacement associated with commercial operators and their hunting clients (Dau 2015a). However, substantial transporter traffic in the Anisak drainage, which is within the Noatak NP, has not diverted migrating WACH caribou (Dau 2015a). A long-held cultural practice in the region requires that lead adult

female caribou be allowed to establish migratory paths unhindered by human activity. Dau (2015a) suggests that once lead caribou establish migration routes, the caribou behind them will follow regardless of hunting or other disturbances such as aircraft. In response to complaints from Anaktuvuk Pass residents about caribou migration being affected by non-subsistence hunter activity, ADF&G attempted to document such effects from 1991-93, but none were found (OSM 1995).

Avoidance behavior of caribou to human activity and development has also been documented to have other behavioral and physiological impacts. Some studies have shown that energy costs associated with repeated disturbance (including overflights) may decrease caribou reproduction rates (Luick et al. 1996, Bradshaw et al. 1997, Maier et al. 1998) and calf survival rates (Harrington and Veitch 1991). Studies have also reported reduction in the use of areas within 5 km from infrastructure and human activity (including aircraft) by 50–95% for weeks, months, or years (Vistnes and Nelleman 2008, Flydal et al. 2002).

Since the early 1980s, perceptions surrounding guides and transporters placing large numbers of nonlocal hunters (living outside of the range of the WACH) in fall caribou migration corridors and deflecting the herds from traditional hunting areas has been an issue of concern for local hunters (living within the range of the WACH) (Braem et al. 2015, Dau 2015a:34, Unit 23 Working Group 2016). In addition, the timing of hunting has caused conflicts between user groups because 85–95% of all caribou taken by nonlocal hunters are harvested between August 25 and October 7, the same period as intense subsistence hunting (Dau 2015a:31). While hunt timing often aligns among these user groups, methods of access do not. Most local hunters harvest caribou with snowmachines, boats, and 4-wheelers, and few use aircraft. In contrast, 76% of nonlocal hunters accessed hunt areas by plane in regulatory years 2012 and 2013 (Dau 2015a:31). This mode of access can provide nonlocal users with a greater range of access and speed in reaching ideal hunting locations, and also place them in front of a migrating herd.

Local hunters have stated that aircraft noise affects hunting success and migrating caribou. During the 2014 hunting season, average propeller aircraft noise events along the Noatak River ranged from 3.7 events per day at Kugururok River to 7.8 events per day at Sapun Creek. It is unknown whether the difference in propeller aircraft noise events is due to management areas (i.e. the NPS delayed entry zone and ADF&G controlled use area) or the recent easterly trend of primary caribou migration routes (Betchkal 2015). However, the recent propeller aircraft noise levels appear comparable to aircraft noise levels documented in Noatak NP in 1987 (Georgette and Loon 1988) and 1995-1996 (NPS) (Fix and Ackerman 2015). However, comparisons should be interpreted with caution due to different methodologies (i.e. human observations vs. continuous acoustic recordings and the establishment of the ‘delayed entry zone’ in 2012 (Fix and Ackerman 2015).

In 2008, the Unit 23 Working Group was established to address fall hunting related issues and to develop solutions to cooperatively solve hunting conflicts and to preserve traditional Inupiaq values, while also allowing for reasonable opportunities for non-local hunters (ADF&G 2016b). It is made up of 20 members, including representatives of regional and tribal governments and organizations, land and wildlife management agencies, the Big Game Commercial Services Boards, the Alaska Professional Hunters Association (including representatives from hunting guide and transport industries), Fish and Game

Advisory Committees, the Northwest Arctic Council, the BOG, and the Federal Subsistence Board (ADF&G 2016b). In 2010, the group proposed a mandatory orientation session for all pilots transporting big game in Unit 23. ADF&G implemented this, developed and distributed outreach materials, and established conflict planning processes (**Map 2**, Dau 2015a). The orientation suggests maintaining a minimum altitude of 2000 feet in the vicinity of camps (Betchkal 2015). Flight restrictions were also implemented by both State and Federal agencies (see Regulatory History).

The NPS Special Commercial Use Area in Noatak NP may have limited effect on the number and distribution of transported hunters because fewer caribou have been migrating through the affected area since 2011 and transporters generally already dropped clients east of the delayed entry zone (Dau 2015a). Additionally, the rule applies only to transporters with caribou hunting clients and not to those transporting other hunters, fishers, and recreational users. The rule also does not apply to personal aircraft that are commonly used for transportation by NFQU to and from the region. Furthermore, the timing of the delayed entry zone has not shifted in response to annual fluctuation in caribou migration, which has been less predictable in recent years.

Another area of intense user conflict was identified in the eastern portion of Unit 23 along a 25-mile long Kobuk River corridor located upstream of Kobuk, Ambler, and Shungnak, from the Mauneluk River to the Selby River (Braem et al. 2015). Much of this area is managed by the State and is relatively accessible for nonlocal hunters (**Map 6**; Braem et al. 2015). In 2001 and 2002, proposals were submitted to the BOG to create a controlled use corridor in this area, but they were not adopted (Braem et al. 2015). This area may be of particular importance in considering potential shifts in the distribution and density of nonlocal caribou hunters due to the 2016/17 closure of Federal public lands to caribou hunting by NFQU.

Shifts in caribou migration paths have created difficulty for Noatak, Kivalina, and Kotzebue hunters (Dau 2015a). Local WACH harvest has been relatively stable in Unit 23 since the 1990s, but residents of some communities have had to "greatly increase their expenditure of money and effort to maintain these harvest levels" (Dau 2015a:14-30). This is due in part to having to travel farther, more frequently, and for longer durations to find caribou (Halas 2015). Some communities such as Unalakleet and Noatak have "not met their subsistence needs in many recent years" (Dau 2015a:14-30). This was also expressed by Northwest Arctic Council members during meetings in October 2015 and March 2016 (NWARAC 2015, NWARAC and NSRAC 2016).

Northwest Arctic Council members reported ongoing concerns about extensive user conflicts in Unit 23 prior to the closure of Federal public lands (NWARAC 2015). Council members have testified that these conflicts have confounded their ability to successfully harvest caribou for subsistence purposes in some areas, and that these conflicts have caused degradation to their subsistence lifestyle through landscape modifications (e.g. abandoned structures and trash; landing strips; ATV trails), herd diversion and positioning (e.g. pushing or scaring caribou with low-flying aircraft for hunting, sightseeing, photography and other purposes; creating camp structures along migratory paths), and hunting of lead caribou. Aircraft activity was of particular concern and includes operations by transporters, guides, "nonlocal" hunters utilizing personal aircraft, and recreational users. Specifically, aircraft in the vicinity of the Squirrel River was cited as particularly problematic (NWARAC 2015).

Concerning nonlocal hunting and herd diversion near the Squirrel River, one Northwest Arctic Council member described the situation as follows (NWARAC 2015:217):

> We're getting more and more sport hunters. There's 80 percent of sport hunters—pretty much close to 80 percent of all sport hunters goes into Noatak and Squirrel Rivers. That Squirrel River is like a corridor connected to Aggie [Agashashok River] and there's Kiana and the caribou come right through there. Come through the flats, then through the Noatak River. That's when we get in close to the village. We don't have to buy two, three drums of gas, which is worth 10 gallons, 15 gallons gas. That really helps us.
>
> That's what we've been doing for decades, years, centuries. This problem is not natural. Natural probably we can do nothing about, like the weather, climate change, but this problem is manmade. It's on our land. We're hurting. Our subsistence is in jeopardy. Well, I want to depend on these caribou very much. Very much. Too high a density of non-local hunters. That's the problem. That's not natural problem. That's manmade that can be fixed and that's what we're trying to fix. It seems to go right through from ear to ear. What I say here is going to go right out the door again? No. We want something done. We ask that down from the Aggie River and the Eli River to protect our subsistence, to protect our traditional culture.

Another Council member indicated that the Squirrel River area experiences high user conflict and requested that the BLM take additional action to address the issue. The Squirrel River Management Plan Scoping Report issued in September of 2011 includes public commentary specifically in reference to "the impacts of transporters, transported hunters, and commercially-guided hunters on subsistence and general hunting." (BLM 2011:18). Meetings held in urban areas (Anchorage and Fairbanks) elicited mixed responses to this question while meetings held in rural areas elicited primarily negative views of "nonlocal" hunter influence on caribou. Commentary between subsistence users and commercial operators were largely conflicting, whereby the former group tended to prefer greater regulatory restrictions on the latter group (BLM 2011). The efforts to develop the management plan were stopped when institutional boundaries shifted staff assignments from Fairbanks to Anchorage in 2013 (NWARAC 2017a). Due to a multitude of ecological, sociological, and regulatory changes since plan development was initiated, BLM will likely reinitiate the planning process from the beginning (NWARAC 2017a).

While commercial aircraft may contribute to the perceived modifications in herd movement, private planes are also thought to exacerbate the problem. According to Chairman Shiedt of the Northwest Arctic Council (NWARAC 2015:210):

> I think the majority of the problem now is happening these smaller planes, private-owned planes, are coming to Buckland and Noatak and Kiana and we're all blaming the transporters and outfitters. I'm not favoring them, but the other year too when I was at Kelly they were there from Interior. There were four planes when I was there. So maybe that's the problem we're having here.

Concerns were expressed by residents of Ambler, Shungnak, Noatak and Kobuk, as well as by members of the Northwest Arctic Council, that many nonlocal hunter practices clash with local hunting traditions such as shooting caribou for trophies or sport instead of food and wasting meat by letting it spoil in the field (Braem et al. 2015, NWARAC 2015, Halas 2015).

Concerns by residents of communities within Unit 23 were also recorded in the recent documentary "Counting on Caribou: Inupiaq Way of Life in Northwest Alaska" (Betcher 2016). Respondents from several communities expressed concern regarding food security as it pertains to caribou herd diversion and changes in migration routes. Several indicated that both small and large scale changes to migration routes are linked to "nonlocal" hunting activities, particularly low-flying aircraft. According to Lucy Nordlum of Kotzebue (Betcher 2016):

> We have many influences that play into us not getting certain subsistence foods. Hunters from outside to get their trophy caribou or whatever, that has impacted our area of hunting a lot. I would say in the past ten years we don't have the big migrations that we used to have. They are chased further back into the backcountry. That makes it hard for those of us that don't have airplanes or can't afford the gas. The costs are a lot for fuel now and that influences a lot of people getting out there and doing their hunting. A lot of the people go up to Onion Portage from Kotzebue to get their caribou. That's 500 miles or so away. It is hard with the caribou because that is about the only staple I really have besides fish.

Some of these concerns were somewhat substantiated by a mailed survey of 372 "nonlocal" hunters that were transporter clients on the Noatak National Preserve (Fix and Ackerman 2015). Eighteen percent of respondents reported that someone in their group shot at the first caribou they saw and less than half reported receiving information regarding "traditional local subsistence use," "subsistence areas to avoid," and "local traditional hunting." Most nonresidents reported that hunting for trophies was more important than hunting for meat while most Alaska residents reported hunting for meat as more important than hunting for trophies. Additionally, 58% of respondents reported they were not sure if they salvaged all edible meat. Similar to local hunters, nonlocal hunters reported encounters with other nonlocal hunters and airplanes as the two biggest factors detracting from their trip (Fix and Ackerman 2015).

Noatak hunters suggested allowing 1,000 caribou to pass before shooting, closing the Agashashok River corridor to nonlocal hunters, and appropriately spacing nonlocal camps (Halas 2015). Many of these suggestions cannot be enacted through the Board given the limits of its authority. However, more can be done by other Federal agencies and the State (i.e. establish a CUA along the Agashashok River, flexible caribou season opening date in response to annual migration timing) to address user conflicts and local concerns.

The Northwest Arctic Council considered submitting WSA16-01 as a first step in protecting the WACH. The Council indicated that they would revisit the success of the closure after one year and, if new population numbers continue to indicate declines, a request for closures on State lands would be a potential next step.

At the Northwest Arctic Council meeting in October 2016, many Council members and attendees expressed their perceptions of improved hunting conditions and success, although some expressed concern about the ability of urban-dwelling family members to hunt in the area (NWARAC 2016). One member of the Council shared his observations of the perceived effects of the closure (NWARAC 2016:70):

> But to hear a lot of these villages start to be success [sic] and that the time of peace has arrived and hopefully has stayed. You know, I've seen so many people, local people, who harvested caribou are so much at ease, comfort, to be able to fill their freezers, especially in Noatak, Kivalina. Kiana's now starting to harvest a bunch of them, Noorvik, you know, people from Kotzebue. It's the time of peace.

At the Board meeting in January 2017, several members of the Northwest Arctic Council expressed their gratitude for the closure and observations pertaining to it (FSB 2017). They perceived the closure as effective, indicating that people were happy – it saved them money on gas, it put food on the table, and it eased the user conflicts. The Council Chair explained that there would likely be a new closure request for the following regulatory year and asked the Board to support the Council's efforts, adding that "if we don't do something today or tomorrow, this herd will be gone." Another Council member expressed his concerns for food security in the region, noting "Our Dall Sheep dropped off the radar … Now our moose is on the decline, our caribou is on the decline, once those are gone, I don't know what else we're going to have." (FSB 2017:293).

At the Northwest Arctic Council meeting in March 2017, Council members continued to express contentment with the closure, increased hunting success for some communities, and decreased user conflict (NWARAC 2017a). Two Council members expressed concern for communities in the Kobuk River area that seemingly experienced decreased harvest success due to caribou migration routes during the 2016/17 season. Another Council member expressed his concern that law enforcement was believed to only patrol Federal public lands and enforce the caribou closure during the fall migration but not during the winter.

There was also discussion on targeted closures or only closing portions of Unit 23 to caribou hunting by NFQU. One Council member stated that the closure was instituted to deal with conflicts in one drainage: "90 percent of the conflicts are on the Noatak River" (NWARAC 2017a:105). Although not supported by the entire Northwest Arctic Council, the Council chair suggested only closing portions of Noatak NP, stating (NWARAC 2017a:123):

> That way our relatives that live in Anchorage could go hunt toward Kiana or towards Selawik in the State and Federal lands. That way they won't be against the regulation that's out there. What I'm trying to say is only do that Noatak. That way we won't have any problems because the main problem is Noatak and Kivalina, is where the conflict is at.

There is a long history of documented discussion on several important transmontane river corridors that are said to be crucial to supporting caribou migration along the western corridors of Unit 23. These drainages include the Noatak River, the Agashashok River, the Eli River, and the Squirrel River (NWARAC 2017a). At the winter 2017 Northwest Arctic Council meeting, a motion was made to specifically close the passages through Agashashok, Eli, and Squirrel River drainages to NFQU since the current closure did not fully

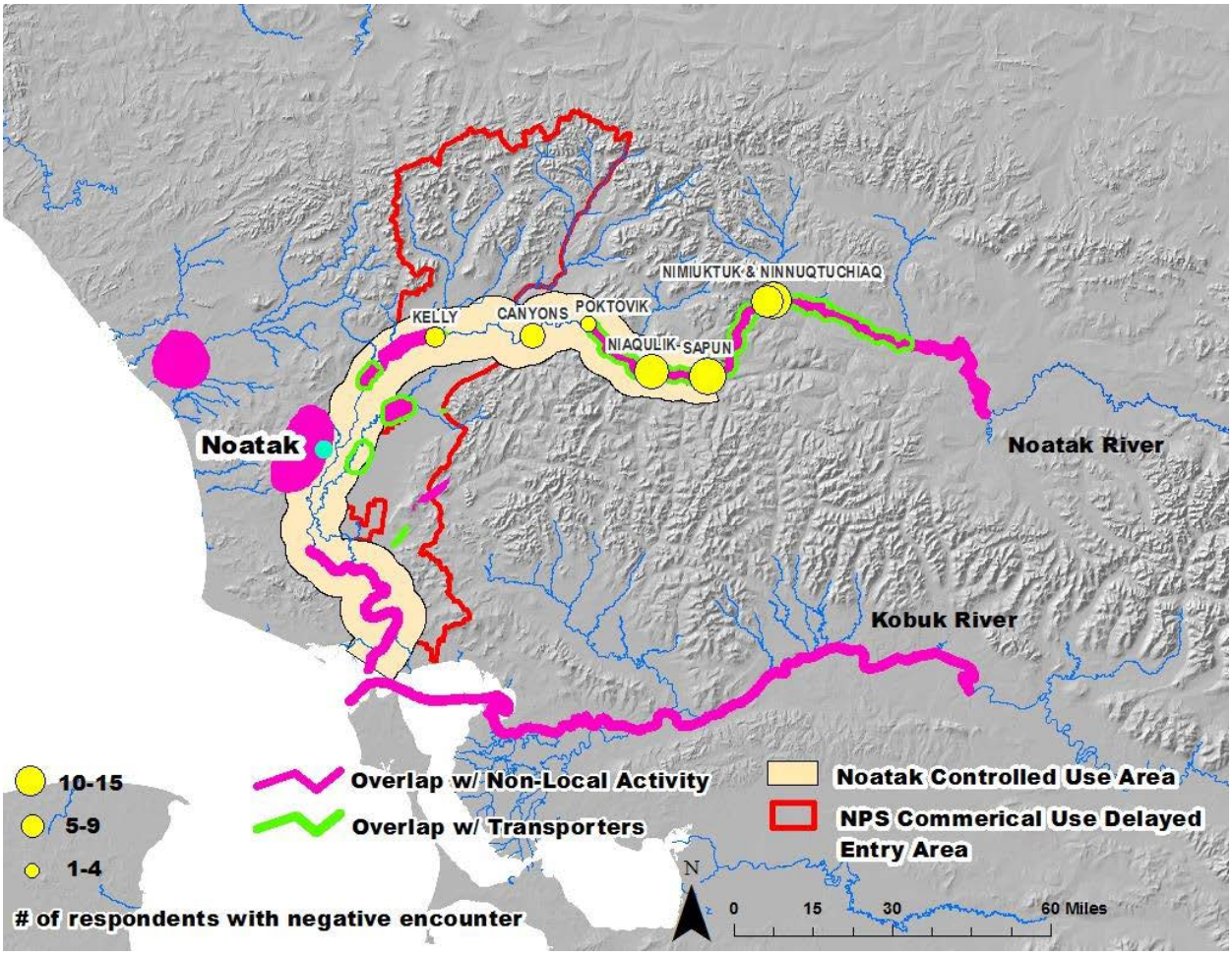
close these drainages because of the checkerboard land status in these areas (**Map 6,** NWARAC 2017a). The motion was later retracted because Federal public lands in these areas would be closed anyway under a unit-wide closure, and because the Board does not have authority to close hunting on State lands (NWARAC 2017a). After retracting the motion, a Council member urged the Council to work with the BLM, NANA Regional Corporation, and the State to find a way to close these corridors to NFQU to ensure the successful migration of caribou (NWARAC 2017a).

In response to WSA16-01, the Backcountry Hunters of Alaska created a video about nonlocal caribou hunting in Unit 23. In the video, Larry Bartlett (Chair of the Alaska Chapter) states that 90% of the caribou he has harvested in Unit 23 have been on gravel bars below the mean high water mark. The Federal lands closure does not apply to these areas, which are considered State lands. Bartlett observes several propeller planes fly near caribou and states that he is convinced airplanes do not disturb caribou. He also demonstrated the extreme amount of time and effort necessary to preserve harvested meat in a remote area for several days in warm weather (BHA Alaska 2017). Because some hunters may not have the skills necessary to preserve meat for extended periods in remote areas, this may have led to local resident observations of meat spoilage among some NFQU. The observations, hunting practices, and experiences contained within the video are those of a single user and do not represent all NFQU.

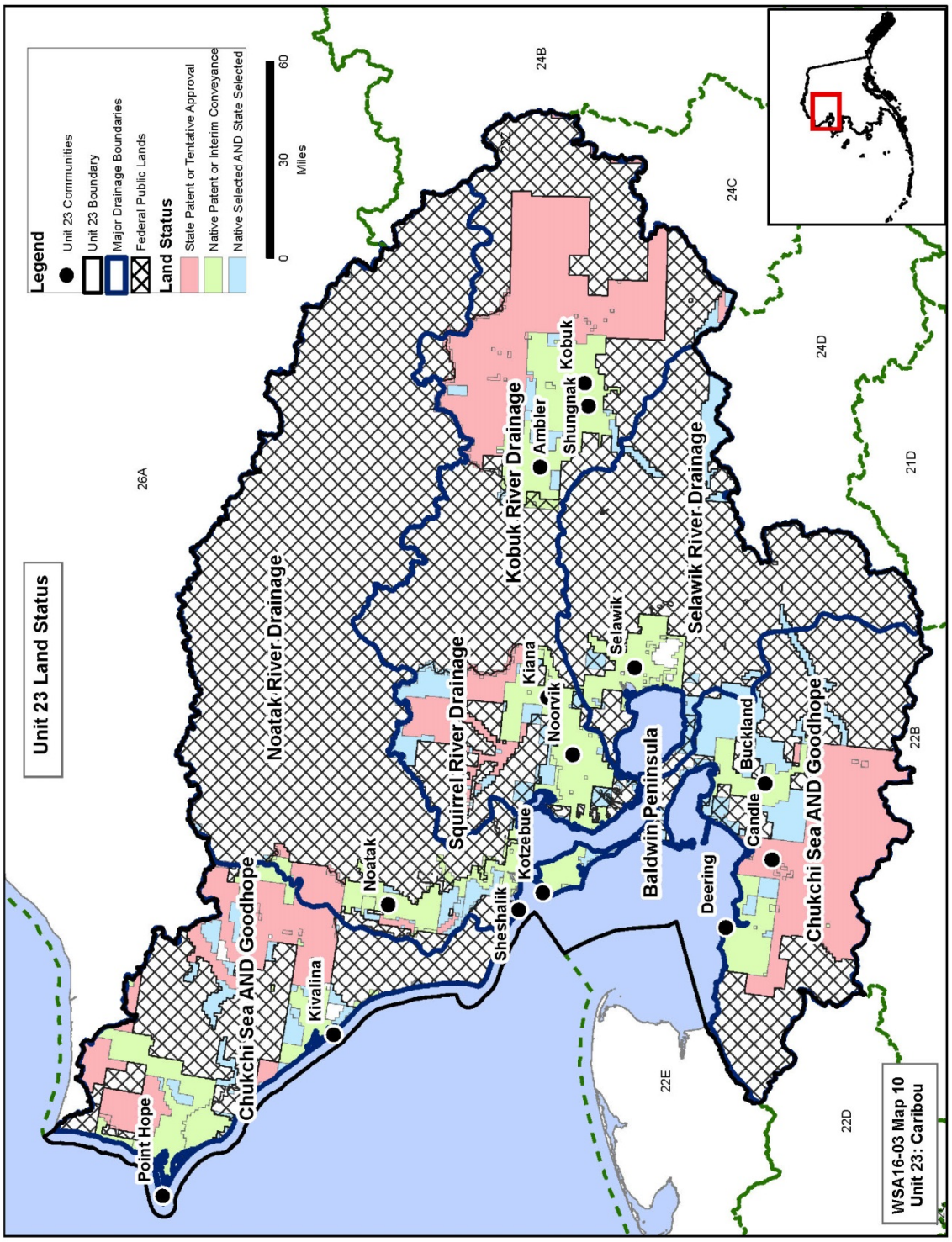
In response to WSA17-03, members of the public offered several observations, comments and concerns regarding the proposed closure at the public meetings held in Nome, Kotzebue, and Barrow (OSM 2017). Many Unit 23 residents testified in support of the closure while many people residing outside of the unit testified in opposition. Many comments in support of the request emphasized how vital caribou is for people's survival in the Northwest Arctic and how people cannot afford the extreme cost of store bought meat and fuel. Comments in opposition emphasized a lack of biological reason for closing to NFQU and that special actions are not the appropriate process for closures.

While the Board's endorsement of the WACH Management Plan is not legally binding, the Plan provides guidelines and recommendations for herd management that were developed and supported by a wide variety of stakeholders. Two of the WACH Management Plan's recommendations under preservative management are restricting harvest to Alaska residents only and possible closure of some Federal public lands to NFQU. While the WACH bordered the line between conservative and preservative management in 2016, the WACH Working Group currently considers the herd to be at the conservative, stable level based on the 2017 population estimates, which indicate a population increase (**Table 1**). Currently, nonresidents may harvest caribou under State regulations. As the Board does not have authority to restrict only NFQU residing outside Alaska, any restrictions to only nonresident caribou hunting must be enacted by the BOG.

Additionally, the Plan suggests closure of some Federal public lands, not all of them. While the WACH Working Group voted to submit WP18-46 in 2016, which seemed to contradict its own plan, the group voted to support WP18-46 with modification at their 2017 meeting. The modification was to close the same area closed in 2017/18 via WSA17-03 for two years only. The group supported the 2017/18 closure area as it was limited to federal lands where user conflicts have been greatest in past years while maintaining access for non-federally qualified users to other federal public lands in Unit 23.



Map 5. Areas of overlap use between 19 Noatak interview respondents and "nonlocal users." Green lines and polygons delineate overlap areas with observed transporters. Notes: Pink lines and polygons are "nonlocal" users observed in the area that overlapped with local hunters. Yellow circles represent the number of respondents who had a negative encounter with ""nonlocals" in specified locations. Respondents could identify more than one location. Respondents were asked to report encounters over the last five years (Halas 2015).



Map 6. Land status within Unit 23 as per data obtained from the Bureau of Land Management on July 27, 2016.

Harvest History

The State manages the WACH on a sustained yield basis (i.e. managing current harvests to ensure future harvests). The harvestable surplus when the WACH population is declining is calculated as 6% of the estimated population (WACH working group 2011, Parrett 2017b, pers. comm.). In recent years, as the WACH population has declined, the total harvestable surplus for the WACH has also declined (Dau 2011, Parrett 2015a). In 2016, the WACH harvestable surplus was 12,056 caribou (6% of 200,928 caribou). This is down from a harvestable surplus 14,085 caribou in 2013 when the WACH numbered approximately 234,757 caribou. While there is substantial uncertainty in harvestable surplus estimates, it is likely that sustainable harvest will soon be exceeded (Parrett 2015a, Dau 2015a). Of particular concern is the overharvest of cows, which has probably occurred since 2010/11 (Dau 2015a). Dau (2015a:14-29) states, "even modest increases in the cow harvest above sustainable levels could have a significant effect on the population trajectory of the WACH."

Harvest from the WACH, which has remained fairly consistent since 1990, now represents a larger proportion of the annual mortality. This is one of the factors that prompted the BOG and the Board to enact restrictions on WACH harvest in March 2015 and April 2016, respectively. These regulatory restrictions addressed recommendations in the WACH working group's management plan under conservative management (i.e. prohibiting the take of calves, shortening seasons, decreasing harvest limits) (**Table 1**). The recommendation most germane to this analysis is under preservative management and is to restrict harvest "to residents only, according to state and federal law. Closure of some federal lands to nonqualified users may be necessary," which is under preservative and critical management levels (WACH Working Group 2011: 46-47).

Caribou harvest by local hunters is estimated from community harvest surveys, if available, and from models developed by A. Craig with ADF&G's Division of Wildlife Conservation Region V. These models incorporate factors such as community size, availability of caribou, and per capita harvests for each community (Dau 2015a). In 2015, Craig's models replaced models developed by Sutherland (2005), resulting in changes to local caribou harvest estimates from past years. While Craig's models accurately reflect harvest trends, they do not accurately reflect actual harvest numbers (Dau 2015a). (Note: no model accurately reflects harvest numbers). This analysis only considers the updated harvest estimates using Craig's new model as cited in Dau (2015a). Caribou harvest by nonlocal residents and nonresidents are based on harvest ticket reports (Dau 2015a).

Local and nonlocal hunters are defined in ADF&G management reports as living within and outside the range of the WACH, respectively. FQSU and NFQU are close, but not identical, to local and nonlocal hunters, respectively. Residents of Galena, Wiseman, and several communities on the western Seward Peninsula are FQSU, but are not considered local hunters by ADF&G as they are outside the range of the WACH by definition (**Map 1**).

From 2000–2014, the average estimated total harvest from the WACH was 11,984 caribou/year, ranging from 10,666-13,537 caribou/year (Dau 2015a, **Figure 6**). These harvest levels are within or below the

conservative harvest level specified in the WACH Management Plan (**Table 1**). However, harvest estimates do not include wounding loss, which may be hundreds of caribou (Dau 2015a).

Local hunters account for approximately 95% of the total WACH harvest and residents of Unit 23 account for approximately 58% on average (**Figure 7**, ADF&G 2017c). Comparison of caribou harvest by community from household survey data (**Appendix A)** with **Figure 1** demonstrates that local community harvests parallel WACH availability rather than population trends. For example, Ambler only harvested 325 caribou when the WACH population peaked in 2003, but harvested 685 caribou in 2012 when most of the WACH migrated through eastern Unit 23. Similarly, Noatak only harvested 66 caribou in 2010 when no GPS-collared caribou migrated through western Unit 23. Harvest increased substantially (360 caribou) the following year when 37% of the GPS-collared caribou (and thus, a greater proportion of the WACH) migrated through western Unit 23.

On average, 76% of WACH caribou harvested by nonlocals are taken in Unit 23. From 2001-2013, total and Unit 23 nonlocal WACH harvest averaged 598 caribou/year and 456 caribou/year, respectively (**Figure 8**). In recent regulatory years (2012/13–2013/14), numbers of nonlocal hunters are slightly lower, partially because transporters have had to travel further to find caribou and thus, could not book as many clients (Dau 2015a).

Between 1998 and 2014, the number of NFQU hunting caribou and the number of caribou harvested by NFQU in Unit 23 averaged 487 hunters (range: 404-662) and 511 caribou (range: 248-669), respectively (**Figure 9,** ADF&G 2016c, FWS 2016). In 2015, after the BOG enacted restrictions, the number of NFQU and caribou harvested by NFQU decreased appreciably (340 hunters and 230 caribou). In 2016, during the closure of Federal lands to NFQU, the number of NFQU and caribou harvested by NFQU decreased even further (230 hunters and 139 caribou) (**Figure 9**, Parrett 2017a). The number of and harvest by nonlocal caribou hunters in Unit 23 during 2016/17 were reduced 50% as a result of the closure (Parrett 2017a). Preliminary numbers for 2017/18 suggest the number of NFQUs were 65% of 2013-2015 (Parrett 2017a).

The major river drainages in which NFQU people hunt and harvest caribou are included in most (~90%) harvest reports (WINFONET 2017). This data can be used to compare caribou harvest and hunting intensity (measured as the number of hunters) by NFQU across Unit 23 at coarse (major river drainage) scales. At the coarse scale, cumulative caribou harvest and hunting intensity by NFQU from 2005-2014 was highest in the Noatak River drainage (**Maps 7, 8**). While the total number of nonlocal hunters and harvest decreased in 2016 due to the Federal lands closure, the Noatak River Drainage still experienced the highest relative hunting intensity (WINFONET 2017, **Map 9**).

From 1999-2013, 72% of nonlocal hunters on average accessed hunting locations for the WACH by plane (~435 hunters/year). Most nonlocal harvest (85-90%) occurs between Aug. 25 and Oct. 7. In contrast, most local, subsistence hunters harvest WACH caribou whenever they are available using boats, 4-wheelers, and snowmachines (Dau 2015a, Fix and Ackerman 2015). In Unit 23, caribou are generally available during fall migration. The temporal concentration of nonlocal hunters during times of intensive subsistence hunting is responsible for user conflicts in Unit 23 (Dau 2015a).

In 2015, approximately 60% of nonlocal hunters in Unit 23 used a transporter service, 10% used a guide, and 30% used no commercial services (Unit 23 Working Group 2016). In the Noatak NP, nonlocal transporter clients primarily consist of nonresidents and Alaska residents from urban areas such as Anchorage, Fairbanks, and communities on the Kenai Peninsula (Fix and Ackerman 2015, ADF&G 2016c).

The number of transported hunters within Selawik NWR has decreased since 2000 (**Figure 10,** FWS 2017). Since 1993 the highest harvests of caribou by transported hunters occurred from 1997-2000 when an average of 118 caribou were taken each year. In the past 10 years (2007-2016), the number of caribou harvested by transported hunters has decreased to an average of 12 caribou per year (**Figure 11,** FWS 2017). According to the Refuge Manager, the decline in caribou harvest is "mainly the result of caribou no longer being reliably available on the Refuge in September due to delayed migration" (Georgette 2016, pers. comm.).

Conversely, the number of transported hunters in the Noatak NP increased from about 70 in 2004 to over 400 in 2014 (**Figure 12**, Ackerman 2015, Fix and Ackerman 2015). In 2015, approximately 319 hunters were transported into Noatak NP (Braem 2017, pers. comm.). From 2010-2015, the number of hunting groups commerically transported into Noatak NP averaged 124 groups. During the 2016/17 closure, only 11 hunting groups were transported into the preserve (Lee and Robison 2017, **Figure 13**). From 2004-2014, transported hunters comprised 68% of all air arrivals in Noatak NP on average. If private planes are included, hunters comprise 78% of the Preserve's annual visitors on average. Additionally, hunters generally access the Preserve over a 70 day period (Aug 1-Oct. 10), compressing peak visitation to a few months (Ackerman 2015). In a survey of 372 sport hunters in the Noatak NP from 2010-2013, 62% of groups harvested caribou with the average harvest being 1.8 caribou per group member (Fix and Ackerman 2015). In 2017, five transporters and two guides operated within Noatak NP (NWARAC 2017b). Each guide is limited to 12 clients per year (NWARAC 2017b).

In 2016, five guides and four transporters were permitted to operate on BLM lands in Unit 23 (Seppi 2017, pers. comm.) One guide transported moose and brown bear clients only. Two of the transporters did not operate in Unit 23 during 2016, and the remaining permit holders did not report any 2016 operations, likely because they did not operate on BLM lands in 2016 (Seppi 2017, pers. comm.). In 2015, eight guides and four transporters received permits. For the Squirrel River area, six guides and five transporters were permitted. Only five post-use reports were received and harvest totals included a single caribou (Seppi 2016, pers. comm.). In 2014, guides and outfitters brought in 22 clients and none harvested caribou; transporters brought in five clients who harvested 13 caribou (NWARAC 2015:207).

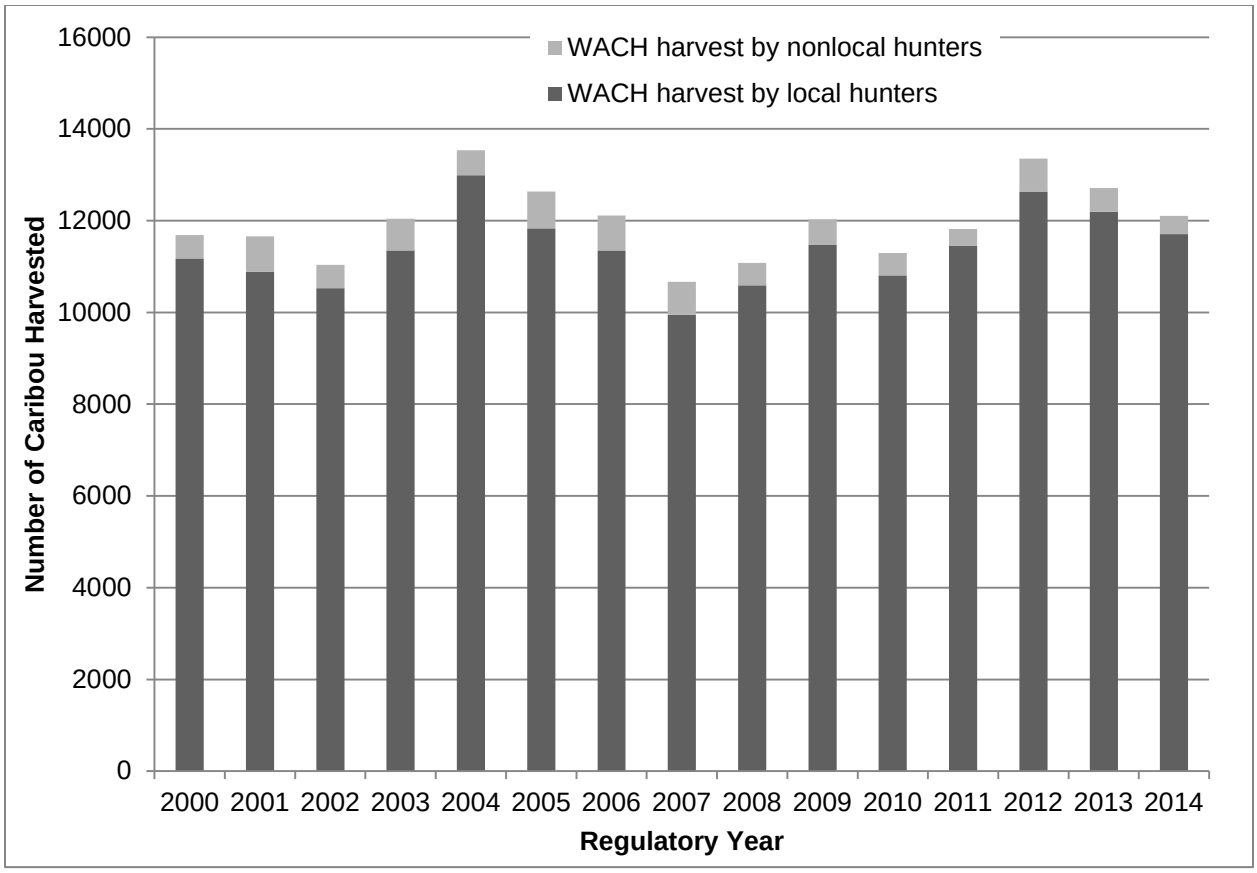


Figure 6. Estimated number of caribou harvested from the WACH by residency (Dau 2015a).

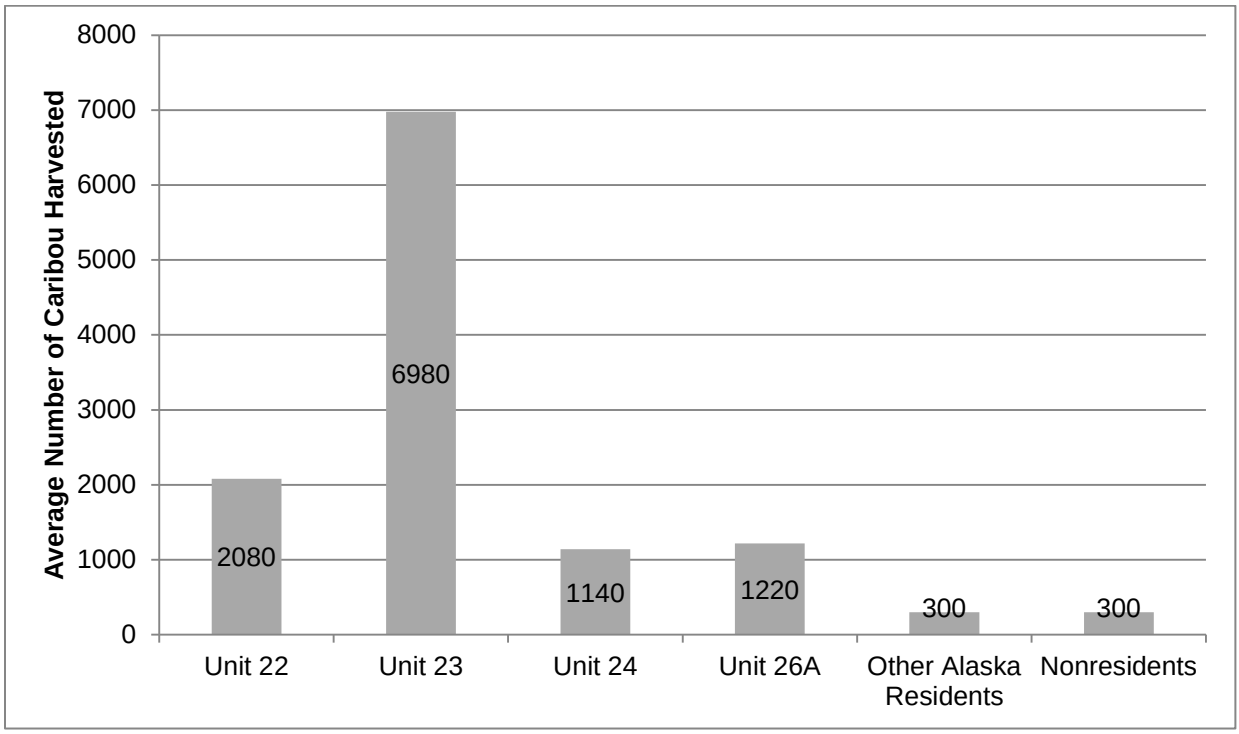


Figure 7. Average number of caribou harvested by unit and residency from 1998-2015 (ADF&G 2017c).

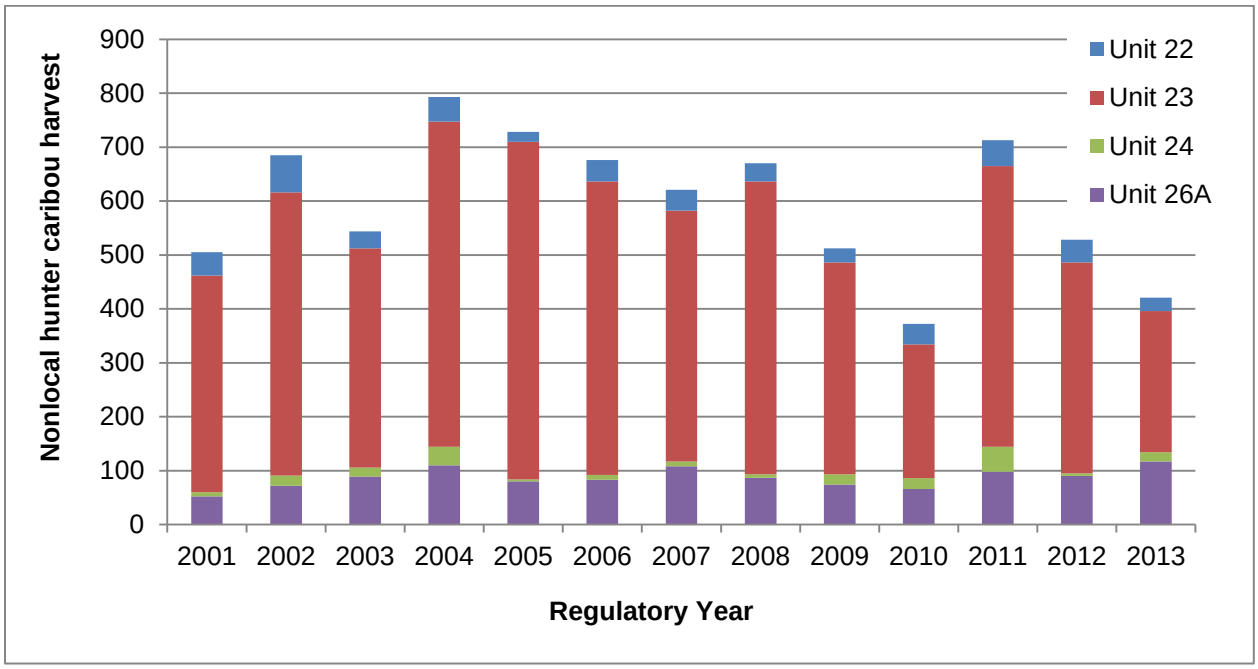


Figure 8. Nonlocal WACH harvest by unit (Dau 2015a, Dau 2013). Unit 21D was not included as only 0-2 caribou have been harvested from this unit each year.

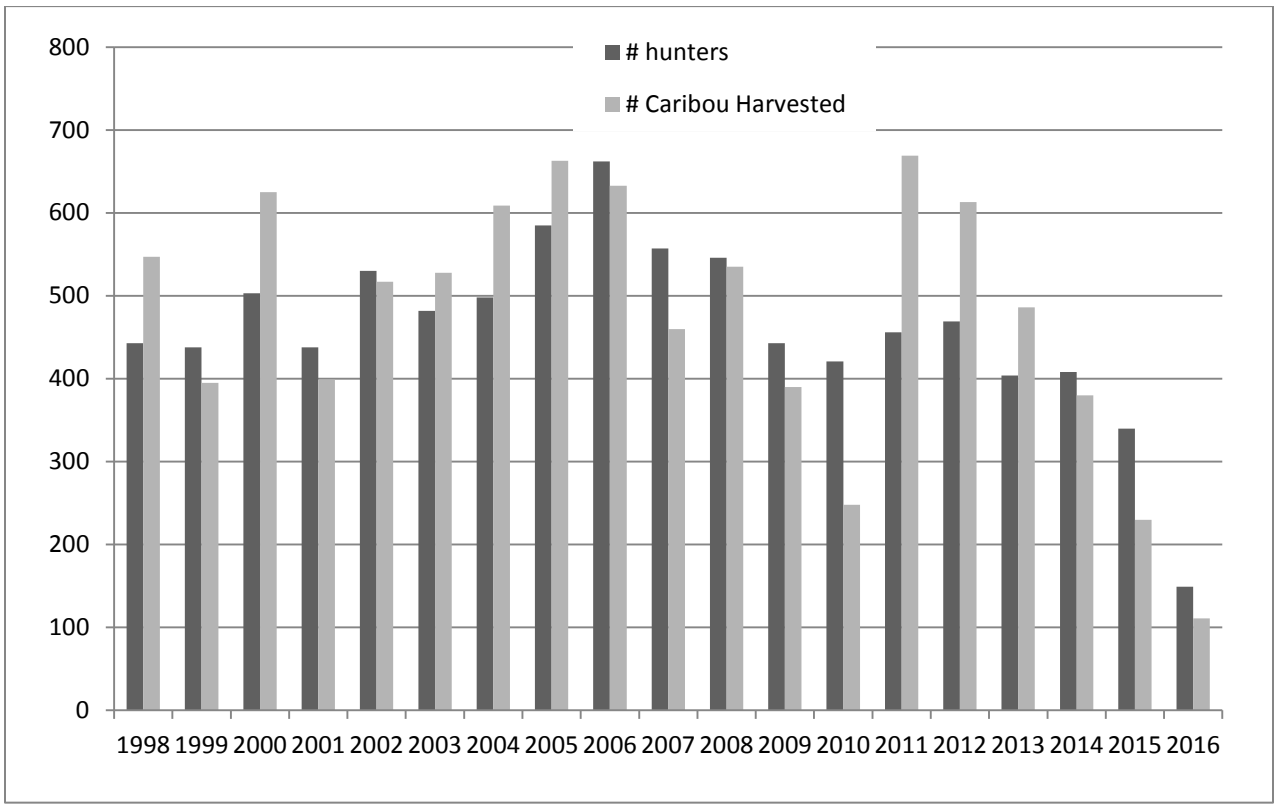


Figure 9. Number of non-Federally qualified users (NFQU) and number of caribou harvested by NFQU in Unit 23 (ADF&G 2016c, FWS 2016, WINFONET 2017).

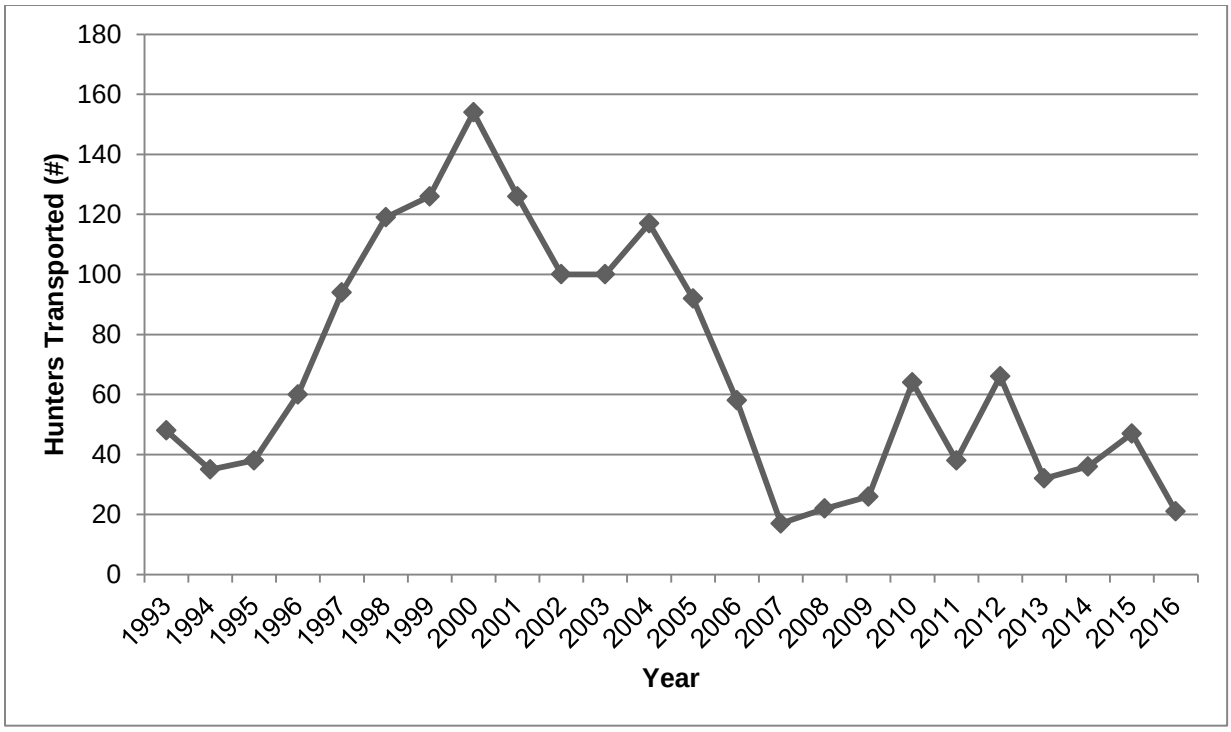


Figure 10. Number of hunters transported by aircraft transporters on Selawik National Wildlife Refuge (FWS 2017)

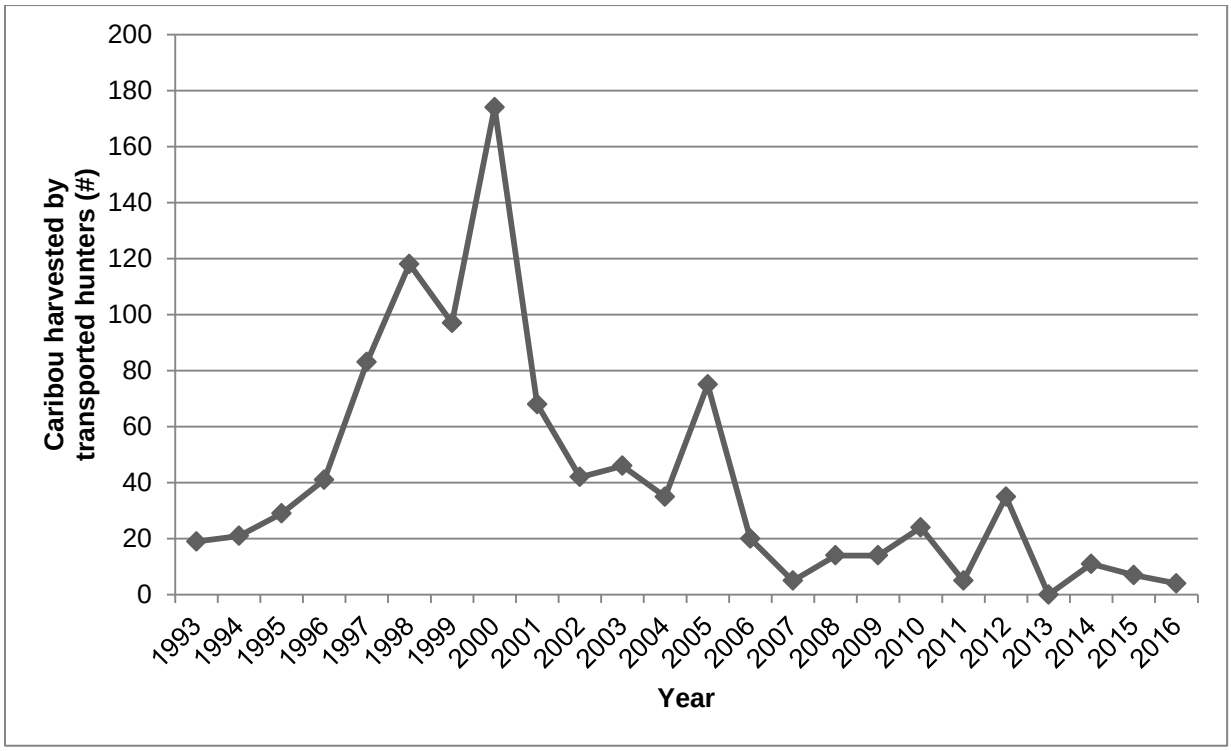


Figure 11. Number of caribou harvested by hunters transported by aircraft transporters on the Selawik National Wildlife Refuge (FWS 2017).

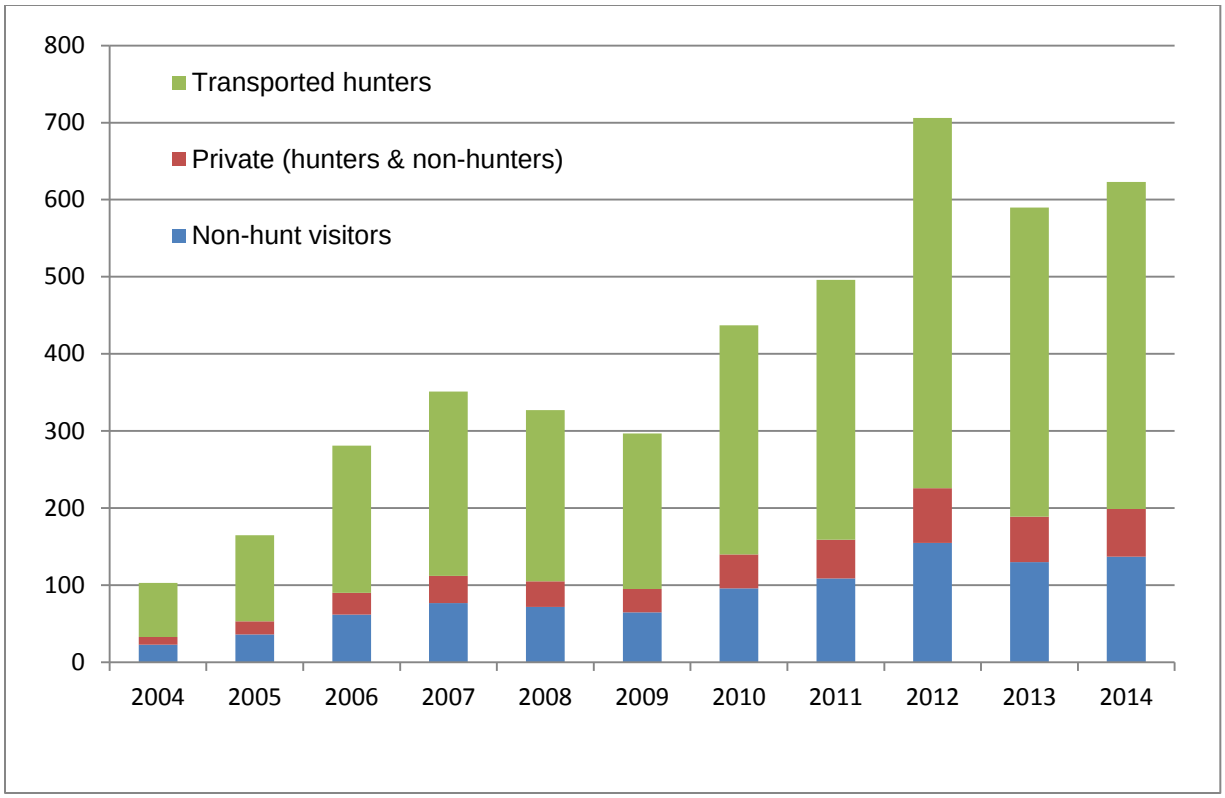


Figure 12. Noatak National Preserve recreation visitors arriving by air (Ackerman 2015). The number of visitors accessing Noatak NP by private planes is extrapolated.

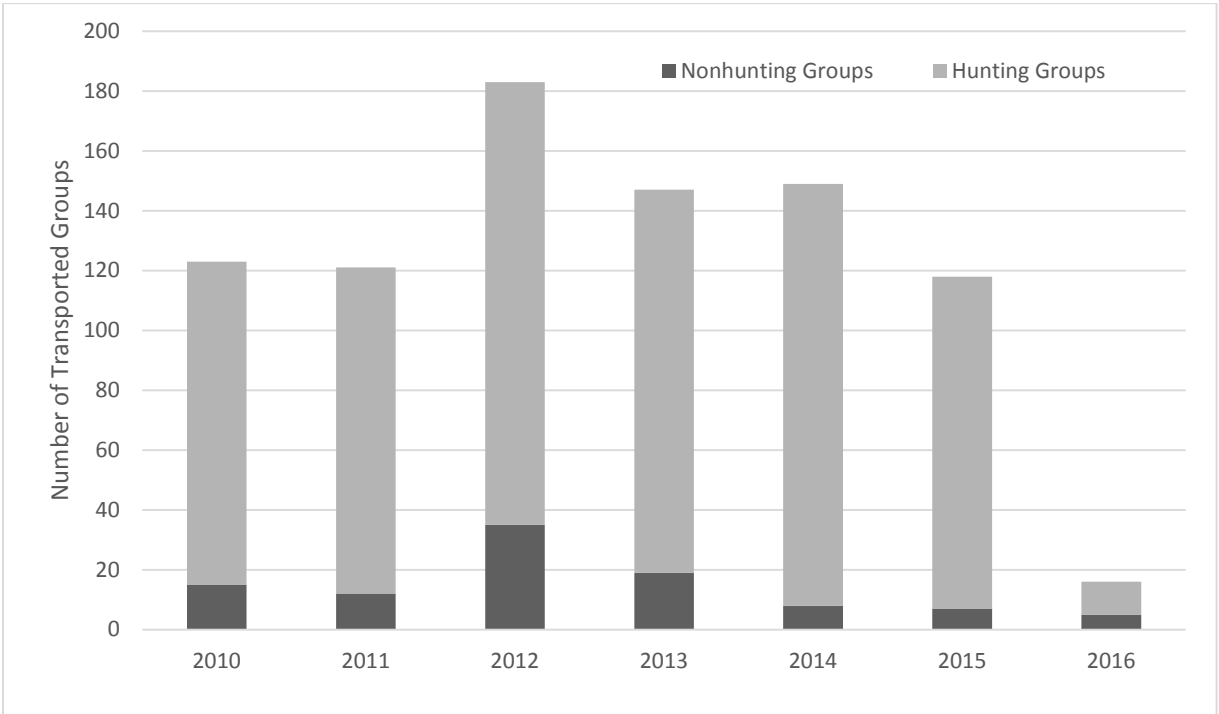
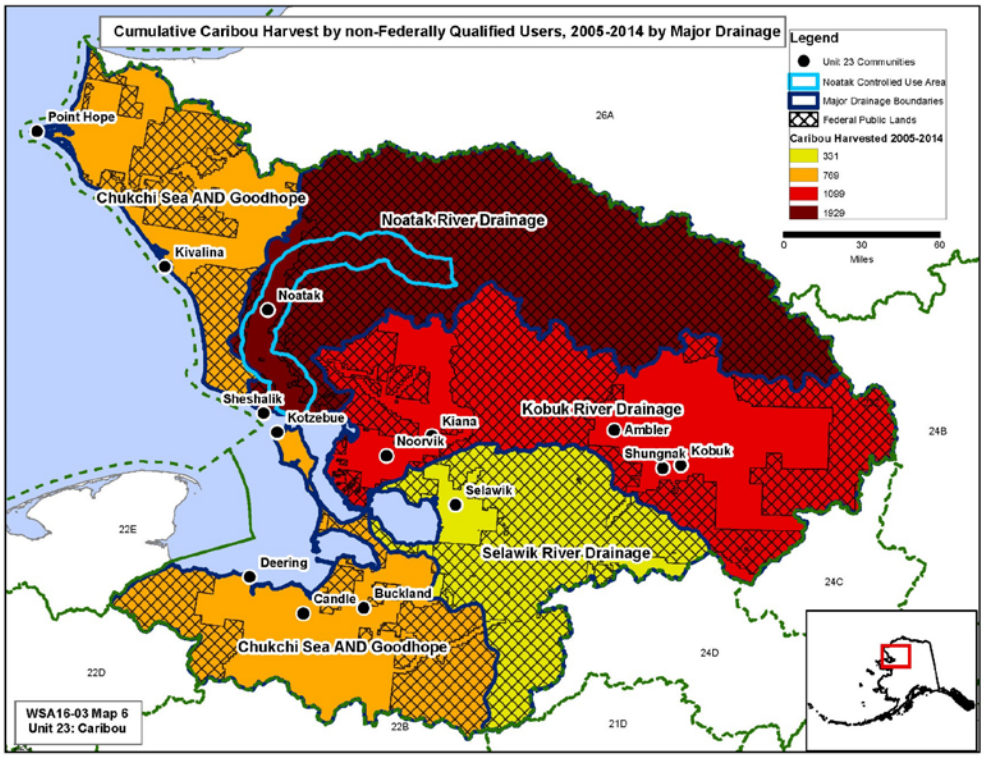
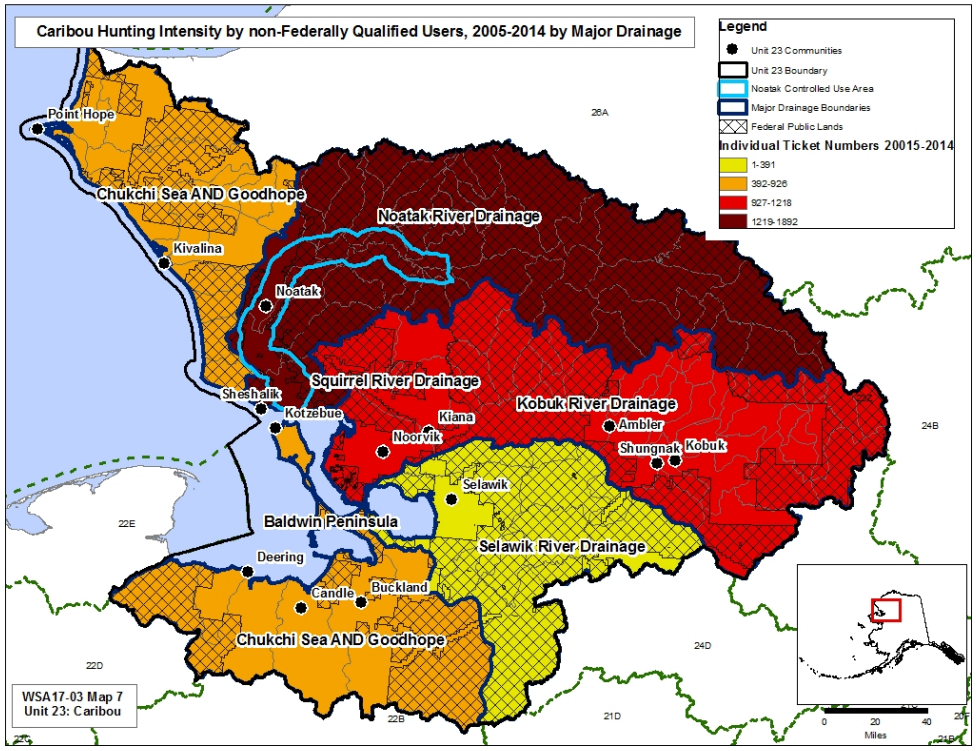


Figure 13. Number of groups commercially transported into Noatak National Preserve (Lee and Robison 2017).



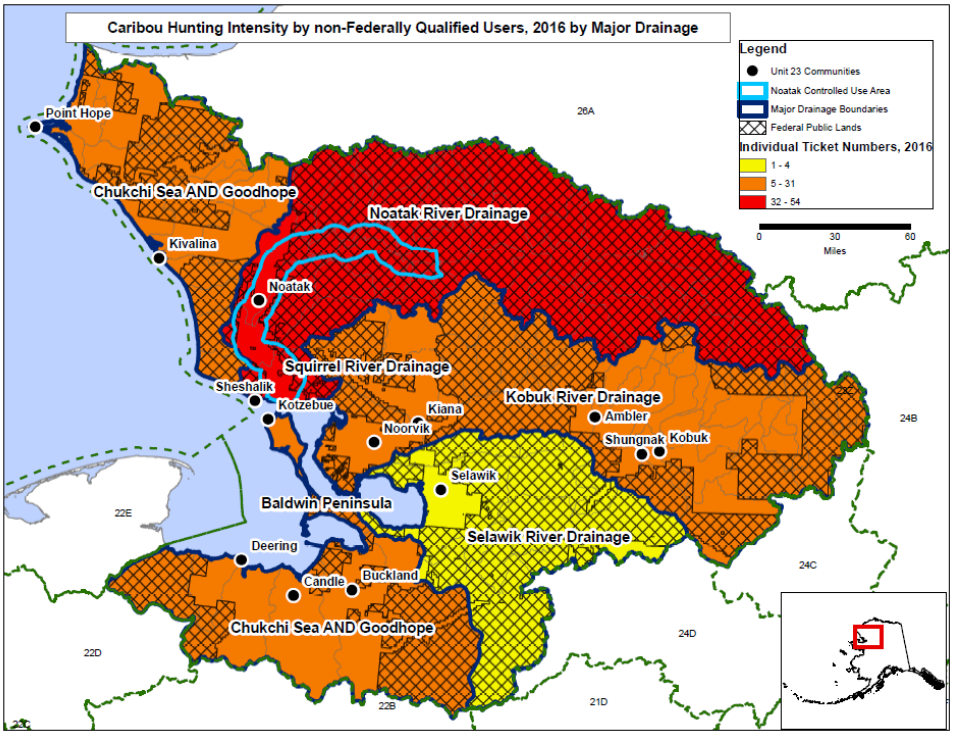
a.

Map 7. Cumulative caribou harvest by non-Federally qualified users in Unit 23 by major (n=4,128) river drainage from 2005-2014 (WINFONET 2017).



a.

Map 8. Cumulative caribou hunting intensity (number of hunters) of non-Federally qualified users by major (n=4,427) river drainage from 2005-2014 (WINFONET 2017).



a.

Map 9. 2016 cumulative caribou hunting intensity (number of hunters) of non-Federally qualified users by major (n=117)) river drainage (WINFONET 2017).

Other Alternatives Considered

User conflicts and related concerns over possible effects of NFQU hunting activity on caribou migration in Unit 23 occur more frequently in some areas than in others. The Noatak River corridor upstream from Noatak to the confluence of the Cutler River has repeatedly been identified as a high user conflict zone (**Map 5**, ADF&G 2017b, Halas 2015, Fix and Ackerman 2015, NWARAC 2015, 2016, 2017, FSB 2017). Other areas within Unit 23 such as the Squirrel River drainage, along the Upper Kobuk River, and other areas within Noatak NP such as the Eli and Agashashok (Aggie) Rivers have also been identified as areas experiencing user conflicts (Fix and Ackerman 2015, NWARAC 2015, 2017). Conversely, user conflicts are rarely identified on Selawik NWR, Gates of the Arctic National Preserve, Bering Land Bridge National Preserve, and BLM lands outside of the Squirrel River Drainage. Due to this discrepancy in user conflict, a partial Federal public lands closure may be more appropriate and more effective than a unit-wide Federal lands closure. The areas discussed below are the same ones recommended for closure by the Unit 23 Interagency Group.

One alternative considered is to close Federal public lands within a 10-mile corridor along the Noatak River from the western boundary of Noatak NP upstream to its confluence with the Cutler River (**Maps 10, 11**). A ten mile corridor (5 miles either side) was selected since that is the width of the Noatak CUA. The Cutler River was selected because that is the extent of overlap between local and nonlocal hunters identified by Halas (2015, **Map 5**) as well as the upstream boundary of the Noatak CUA extension proposed by the Noatak/Kivalina and Kotzebue AC's in Proposal 44 (ADF&G 2017b). Additionally, the possibility of

only closing Federal public lands along the Noatak River downstream from its confluence with Sapun Creek was suggested by the Northwest Arctic Council Chair in order to provide urban-dwelling relatives greater hunting opportunity and because the main user conflict issues surround Noatak and Kivalina (NWARAC 2017a:123-124). Furthermore, the Northwest Arctic Council stated in its 2016 annual report that the 2016 Federal lands closure to caribou hunting by NFQU reduced user conflicts and improved caribou harvest by FQSU in the vicinity of Noatak. Public testimony at the WSA17-03 public hearings also indicated that the majority of user conflicts occur in the Noatak area.

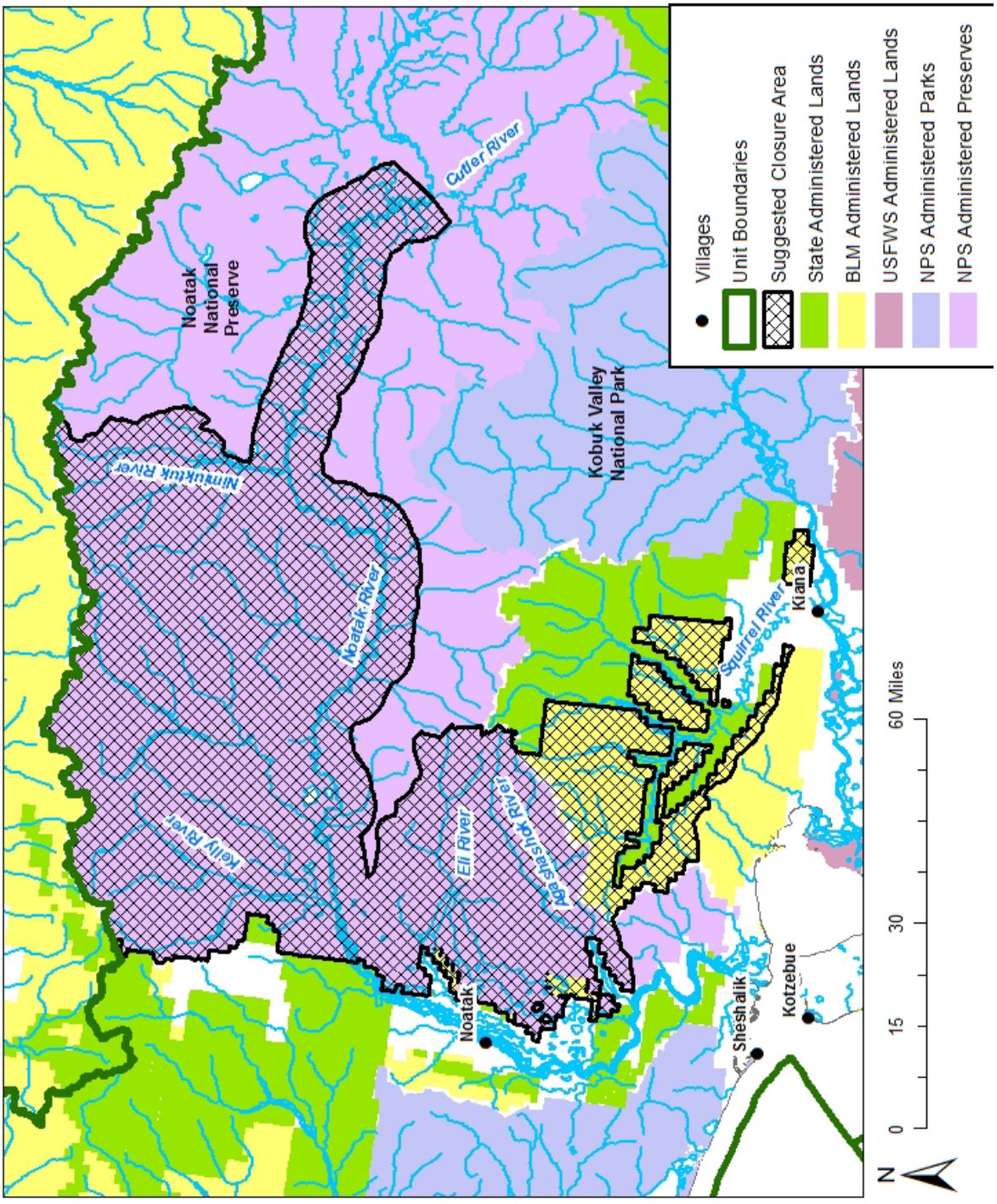
Closing Federal public lands along the Aggie and Eli rivers was also considered (**Maps 10, 11**). The retracted motion at the winter 2017 Northwest Arctic Council meeting which specifically requested closing the mountain passages in these areas to facilitate caribou migration and reduce user conflicts, highlights the importance of this area to local hunters.

Closing Federal public lands within the Squirrel River drainage was also considered (**Maps 10, 11**). As there are no Federal public lands along the lower Squirrel River near Kiana, only the middle and upper reaches of the Squirrel River were considered. Along these sections, the vast majority of lands immediately along the Squirrel River (~0.5-1 mile either side) are State lands (**Map 6**). Therefore, it is uncertain whether closure of Federal lands in this area would discourage nonlocal hunters or just concentrate them in the narrow State-owned corridor, adding to user conflicts. The Northwest Arctic Council discussed making a motion to close only the Squirrel River area at its fall 2015 meeting, indicating the severity of the user conflicts in this area (NWARAC 2015). Closure of Federal public lands in the Squirrel River drainage would demonstrate the Board's responsiveness to FQSU concerns and may provoke action by other agencies (i.e. State).

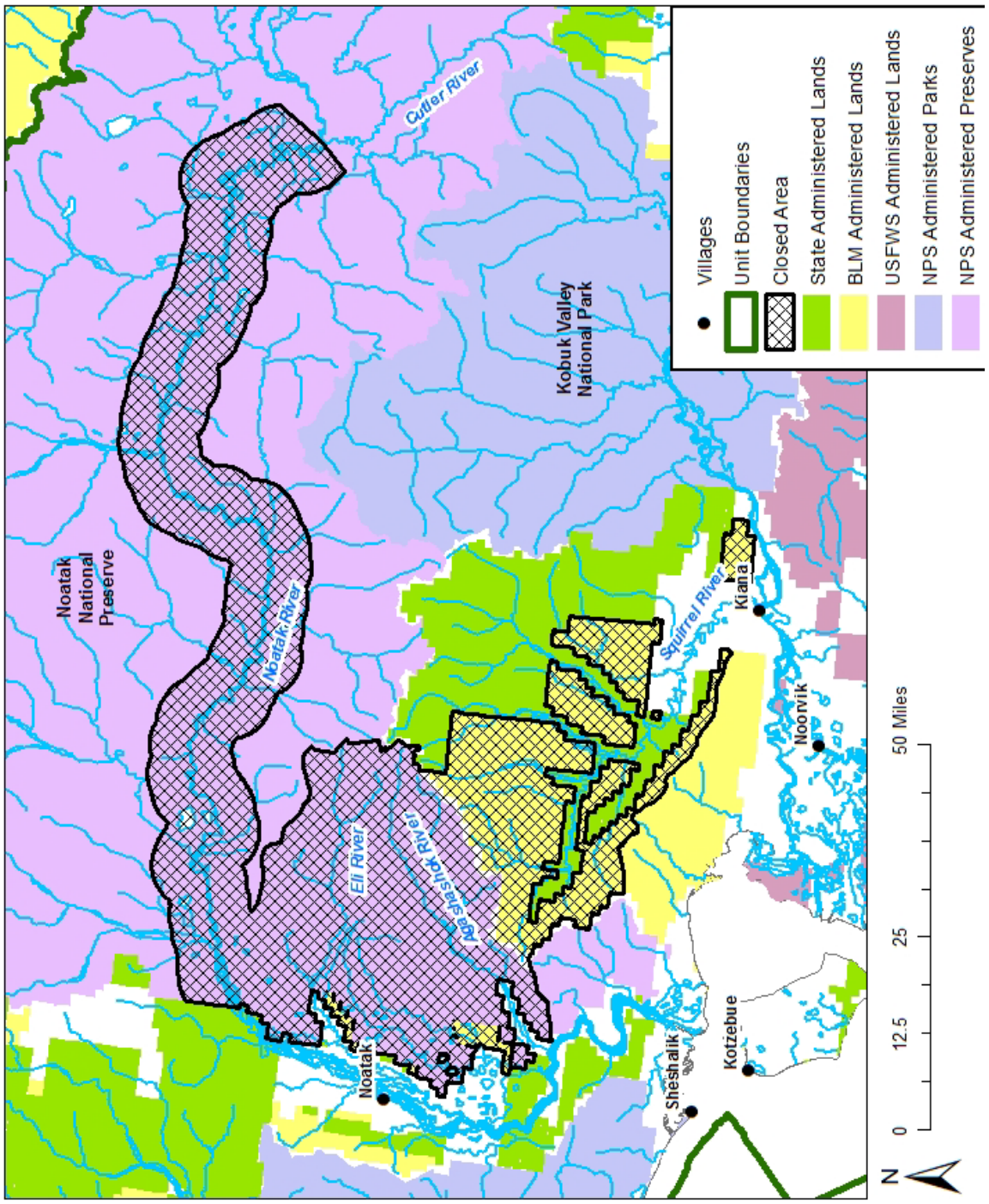
Closing Federal public lands north of the Noatak River between (and including) the Kelly and Nimiuktuk River drainages was also considered as most user conflicts occur near Noatak (**Map 10**). These drainages provide migratory corridors that funnel caribou to the Noatak River where they are intercepted by local hunters. A concern commonly repeated by local hunters, particularly from Noatak (i.e. Halas 2015) is the effect of airplanes and nonlocal hunters on caribou migration. The long-held Inupiaq tradition of letting lead caribou pass unmolested in order to establish migration routes also suggests that once migration routes are established, other caribou will follow regardless of hunting or other disturbances such as airplanes (Dau 2015a). Perhaps a more appropriate response in this area would be to establish another CUA or delayed entry zone where NFQU would not be able to hunt until migration routes are clearly established. As caribou migration has become less predictable in recent years, often occurring later in the season (Dau 2015a), dates for the new CUA would need to be flexible. However, temporal closures are beyond the scope of this request and may be more effectively implemented by NPS. Therefore, complete closure of this area may be warranted. However, closing the western portion of Noatak NP may have the unintended consequence of concentrating nonlocal caribou hunters in the eastern portion of the preserve.

Members of the Cape Krusenstern SRC expressed support of closing this area while members of the Kobuk Valley SRC expressed concerns over increased hunter numbers and crowding along the upper Kobuk if this area was closed to NFQUs, supporting the 2017/18 targeted closure area (**Map 11**, NWARAC 2017b). At their December 2017 meeting, the WACH Working Group voted to support the 2017/18 targeted closure

area for two years only (**Map 11**). The group discussed the positive demographic signs in the WACH (i.e. population, bull:cow ratios, calf:cow ratios) and that the 2017/18 targeted closure area identified the areas of highest user conflict, addressing that issue (WACH WG 2017).



Map 10. Suggested targeted closure of Federal public lands to caribou hunting by NFQU. The Unit 23 Interagency Group suggested this area.



Map 11. Suggested targeted closure of Federal public lands to caribou hunting by NFQU. WSA17-03 closed this area during 2017/18.

Effects of the Proposal

If WP18-46 or WP18-47 is adopted, caribou hunting on Federal public lands in Unit 23 would be closed to NFQU under Federal regulations indefinitely or for two regulatory years, respectively. Regulatory year 2018/19 would be the third consecutive year of a closure. In 2016/17, all Federal lands were closed by WSA16-01 while in 2017/18, only lands along the Noatak, Agashakok, Eli, and Squirrel Rivers were closed via WSA17-03.

In 2015, the State shortened bull and cow seasons for residents, prohibited the take of calves, and reduced the nonresident harvest limit. These recent regulation restrictions were enacted to reduce the impact of both resident and nonresident hunters on the WACH. In 2015, both the number of NFQU and number of caribou harvest by these users decreased appreciably, suggesting the regulatory changes were effective (**Figure 9**). However, the 2016/17 Federal closure to NFQU confounded further evaluation of these changes. Considering the substantial reduction in NFQU density and harvest in 2016/17, adoption of these proposals is expected to result in similar numbers of NFQU and harvest that are well below long-term averages (**Figure 9**). Data from harvest reports in 2016 indicate that the 2016/17 closure reduced nonlocal caribou harvest by 50% (Parrett 2017a). While the overall number of nonlocal hunters and caribou harvest decreased in 2016/17, the relative distribution remained similar with the highest use in the Noatak (**Maps 7-9**).

While the sustainable harvest of WACH caribou may soon be (or has already been) exceeded, the overharvest of cows is of particular concern (Dau 2015a). As nonresidents may only harvest one bull, their impact on the herd's population trajectory is negligible. Total nonlocal harvest from Unit 23 accounts for only about 4% of the total WACH estimated harvest (456 caribou out of an estimated total harvest of 11,984 caribou on average) or 0.2% of the 2016 population estimate (200,928 caribou). From a biological perspective, reducing harvest by <4% (nonlocal harvest will still occur on State lands within Unit 23) will not have a meaningful impact on WACH conservation or population recovery. Indeed, wounding loss may account for more caribou mortalities than nonlocal harvest.

Concerns over the impact of sport hunting activities on caribou migration have also been expressed. Aircraft can affect caribou behavior in the short-term (< 8 hours), which can impact hunting success. However, aircraft are unlikely to have long-term impacts on caribou migration through the Noatak NP (Fullman et al. 2017, Halas 2015, Dau 2015a). The WACH have migrated through Unit 23 for thousands of years, although specific migration routes change annually (**Figure 1**). The long-held Inupiaq tradition of letting lead caribou pass unmolested in order to establish migration routes also suggests that once migration routes are established, other caribou will follow regardless of hunting or other disturbances such as airplanes (Dau 2015a). Adoption of these proposals would reduce airplane traffic within Noatak NP and may allow lead caribou to establish migration routes unmolested, precluding any potential migratory diversions.

Adoption of these proposals may also concentrate nonlocal hunters onto State lands, which only comprise 19% of Unit 23 (**Map 6**). Consequently, user conflicts may increase on State lands, particularly along the

Squirrel and upper Kobuk Rivers. However, there were no reports of concentrated nonlocal hunting activity on State lands affecting local harvest during the 2016/17 closure (ADF&G 2017d). Additionally, NFQU would need to distinguish between State and Federal lands. Due to the checkerboard pattern of land ownership in some areas of Unit 23 (i.e. Squirrel River area, **Map 6**), distinguishing land status is difficult and may increase law enforcement concerns. NFQU may also be displaced onto Federal public lands in adjacent units (i.e. Unit 26A), which could impact hunting and harvest in those units. During the 2016/17 Federal lands closure in Unit 23, nonlocal caribou harvest in Unit 26A increased 40%, although the average number of nonlocal hunters in Unit 23 is five times greater than in Unit 26A (ADF&G 2017d). However, NANA shareholders residing in urban areas would still be able to hunt on NANA lands under State regulations.

While the number of people and planes on Federal public lands would likely decrease substantially, user conflicts would not be fully eliminated since other users (i.e. moose hunters, photographers, recreational boaters, private planes) would still be able to fly over and access Federal public lands. Additionally, NFQU would still be able to access and harvest caribou on gravel bars below the mean high water mark within Federal public lands as these areas are considered State land. Reports from law enforcement and nonlocal hunters indicate caribou are commonly harvested on such gravel bars, which may suggest limited impacts of the closure as river crossings are where conflicts most often occur (**Map 5**, Stevenson 2017, pers. comm., BHA Alaska 2017). Attempts to mitigate user conflicts in Unit 23 have already been implemented by the NPS (delayed entry zone in Noatak NP), ADF&G (Noatak CUA), and Selawik NWR (closure of certain areas to commercial use). However, more can be done by individual agencies to further address user conflict (e.g. establishing new CUAs in high conflict areas, modifying the dates and extent of the NPS delayed entry zone, further restricting the number and activities of permitted transporters and guides, additional education and outreach, etc.).

Adopting these proposals may result in increased subsistence opportunity for FQSU. Reducing competition with and potential disturbance from nonlocal hunters may increase their hunting success and efficiency. Local residents recognized positive effects from the 2016/17 closure to caribou hunting by NFQU in Unit 23. The Noatak Native Village Council as well as students at the Noatak school submitted letters to the Board expressing their appreciation of the closure, citing higher harvest success. Public testimony from local residents in support of the closure was received during public meetings for WSA16-03 and WSA17-03 as well as the Board's deliberation on WSA16-03 (FSB 2017). Reports from regional law enforcement indicated that during the fall 2016 hunting season, nonlocal hunter density decreased along the Noatak River, but increased along the Wulik and Kivalina Rivers, suggesting nonlocal hunters shifted their activities in response to the Federal closure (Stevenson 2017, pers. comm., ADF&G 2017d). The favorable reports from Noatak residents likely reflected this shift in nonlocal hunter activity. However, it is possible that increases in nonlocal hunter activity in the vicinity of Kivalina could increase user conflicts in that area.

OSM CONCLUSION

Support Proposal WP18-46 **with modification** to close all Federal public lands within a 10 mile wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; north of the Noatak River between, and including, the Kelly and Nimiuktuk River drainages; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage to caribou hunting except by Federally qualified subsistence users and **Take No Action** on Proposal WP18-47.

The modified regulation should read:

Unit 23—Caribou

Unit 23—that portion which includes all drainages north and west of, and including, the Singoalik River drainage	*5 caribou per day as follows:* *Calves may not be taken* *Bulls may be harvested*	 *July 1–Oct. 14* *Feb. 1–June 30*
	Cows may be harvested. However, cows accompanied by calves may not be taken July 15–Oct. 14.	*July 15–Apr. 30*
Unit 23, remainder	*5 caribou per day as follows:* *Calves may not be taken*	 *July 1–Oct. 31* *Feb.1–June 30*
	Cows may be harvested. However, cows accompanied by calves may not be taken July 31–Oct. 14.	*July 31–March 31*
	Federal public lands within a 10 mile wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; north of the Noatak River between, and including, the Kelly and Nimiuktuk River drainages; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage are closed to caribou hunting except by Federally qualified subsistence users hunting under these regulations.	

Justification

Closure of all Federal public lands in Unit 23 to NFQU is not warranted at this time. The Unit 23 Interagency Group recommended this targeted closure at its April 2017 meeting. Additionally, the WACH working group's management plan recommends closure of some, not all, Federal public lands if the WACH population drops below 200,000. While the WACH neared this threshold in 2016, the 2017 population estimate indicates a population increase, and the WACH Working Group considers the population to be stable. While user conflicts have been well documented in some portions of Unit 23 (i.e. along the Noatak and Squirrel Rivers), they have not been documented in other areas of Unit 23 (i.e. Bering Land Bridge National Preserve). Furthermore, while the 2016/17 closure seemed to have reduced nonlocal hunting activity and user conflicts in some areas, it increased the number of nonlocal hunters in other areas, which may lead to increased user conflicts in those areas.

Two criteria for a closure under ANILCA §815.3 and the Board's closure policy are conservation of healthy wildlife populations and continuation of subsistence uses of wildlife populations. Closure of Federal public lands for conservation of the WACH is not warranted. The number of caribou harvested by NFQU is not biologically meaningful. Additionally, caribou harvest by NFQU is already somewhat reduced due to the 2015 changes to State regulations (e.g. reduction in nonresident harvest limit, **Figure 9**). While NFQU activities may affect caribou behavior in the short-term, they likely do not affect long-term migration patterns through Noatak NP.

Closure of some Federal public lands for the continuation of subsistence uses, however, is warranted. Continued complaints about conflicts surrounding the Noatak and Squirrel River drainage and the apparent benefit of the 2016/17 Federal closure to Noatak residents evidenced by letters and public testimony support the closure of Federal public lands along the Noatak, Eli, Agashashok and Squirrel Rivers. Additionally, the short-term effects of aircraft on caribou behavior can negatively affect hunting success and harvest.

While NFQU will still be able to hunt caribou on gravel bars below the mean high water mark and on State lands in the Squirrel River drainage, these issues are beyond the Board's authority. Federal and State land managers could also be more proactive in enacting management strategies that respond to changing caribou migration and nonlocal use patterns over time.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Western Interior Alaska Subsistence Regional Advisory Council

Support WP18-46 **with modification** to close all Federal public lands: within a 10 mile wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage to caribou hunting except by Federally qualified subsistence users for the 2018/2019 and 2019/2020 regulatory years. The closure would extend through September 21st of each calendar year only. The Council indicated that a closure through September 21st would allow ample time for lead cow caribou to establish migration routes through Unit 23 while providing some hunting opportunity for non-Federally qualified users. **Take No Action** on WP18-47.

Seward Peninsula Subsistence Regional Advisory Council

Support WP18-46 **with modification** to close all Federal public lands: within a 10 mile wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage to caribou hunting except by Federally qualified subsistence users. The Council noted support for the Northwest Arctic Council and their recommendation. **Take No Action** on WP18-47.

Northwest Arctic Subsistence Regional Advisory Council

Support WP18-46 **with modification** to close all Federal public lands: within a 10 mile wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage to caribou hunting except by Federally qualified subsistence users. The Council indicated that recent closures seem to have alleviated many of the user conflicts in the region and that as a result of the closures, caribou appear to be establishing migration routes unimpeded by non-Federally qualified users. They recognized that hunting opportunities and experiences have improved for residents of Noatak as a result of the closures and that targeted closures, rather than a full closure of Unit 23, help to avoid the concentration and displacement of hunters to state managed lands, particularly along the Kobuk River and into Unit 26 and Unit 22. The Council noted that the targeted closure coupled with the National Park Service's Special Commercial Use Area in Noatak National Preserve would help to further alleviate threats to the continuation of subsistence uses in the region. Additionally, the Council recognized recent positive biological indices for the herd but noted concern regarding population trajectories given a recent change in herd census technology. **Take No Action** on WP18-47.

North Slope Subsistence Regional Advisory Council

Support WP18-46**. Take No Action** on WP18-47. As with comments on Proposal WP18-57, it was noted that the impact from aircraft used to bring in non-local hunters affects the migration and ability of locals to hunt. The Council feels aircraft operators desire to place paying clients in the path of caribou are diverting caribou and preventing local communities from being able to get caribou. The Council stressed that even though closure may deflect non-federally qualified subsistence users to state lands, it is important to take steps to provide for opportunity for subsistence users on Federal lands. The Council noted that this conflict has been ongoing in this area for many years but it seems up until this point, transporters and guides have not shown any inclination to self-regulate, to work with local users to resolve the conflict. It was noted that the Western Arctic Caribou Herd Working Group represents a broad variety of communities and user groups, and that this proposal is the voice of the people from the region. As such, the Council supports this request.

The Council recognized the work that went into evaluating the most areas of most importance to local communities for harvest of caribou and are the site of the most intense user conflicts in this area but did not support the OSM modification because the full closure is the more dramatic effort needed in order to maximize subsistence opportunity. The Council feels that that the local harvest is already consuming the harvestable surplus, communities are growing, and that it perhaps is time to go into preservation mode. It was noted however, that it appeared that the OSM modification reflected that those areas were the real "problem area" for user conflicts. The Council commended the work that went into identifying the area that is most critical for subsistence hunters in the area and that has been at the heart of the user conflicts in the region for so many years. He recognized the effort to find a solution that could be supported by all.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient bases for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Wildlife Proposals WP18-46 and WP18-47: These proposals, submitted by the Western Arctic Caribou Herd Working Group (WP18-46) and Enoch Mitchell, the Native Village of Noatak, the Cape Krusenstern Subsistence Resource Commission, the Kobuk Valley Subsistence Resource Commission, and the Noatak and Kivalina Fish and Game Advisory Committee (WP18-47) would close federal public lands in Unit 23 to caribou hunting by non-federally qualified users.

Introduction: On July 1, 2016 the FSB closed federal public lands for caribou hunting by people who do not qualify to hunt caribou under federal regulation. At the January 2017 Alaska Board of Game (BOG)

meeting the BOG changed the state's regulations for hunting caribou in Units 22, 23 and 26A by requiring all hunters to obtain either an RC800 permit to hunt in Unit 22 or a RC907 permit to hunt in Units 23 and 26A. This change was discussed with the Western Arctic Herd working group on several occasions and supported by the working group.

Impact on Subsistence Uses: If federal lands are closed, then user conflicts reported in the local area may be reduced.

Impact on Other Uses: This proposal reduces hunting opportunity for non-federally qualified users to hunt caribou under federal regulations in Unit 23.

Opportunity Provided by State:

State customary and traditional use findings: The Alaska Board of Game has made positive customary and traditional use findings for the Western Arctic and Teshekpuk Lake caribou herds in Units 21, 22, 23, 24, and 26.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the Board of Game to determine the amount of the harvestable portion of a game population that is reasonably necessary for customary and traditional uses. This is an ANS. The board does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

Contrary to its name, ANS does not indicate subsistence "need". Instead, ANS provides the board with guidelines on typical numbers of animals harvested for customary and traditional uses under normal conditions. Hunting regulations can be re-examined if harvests for customary and traditional uses consistently fall below ANS. This may be for many reasons: hunting regulations, changes in animal abundance or distribution, or changes in human use patterns, just to name a few.

The ANS for Western Arctic and Teshekpuk Lake caribou is 8,000-12,000 animals.

Open Season (Permit/Hunt #)			
Unit/Area	Bag Limit	Resident	Nonresident
22A, that portion north of the Golsovia River drainage	Residents—5 caribou per day, by registra-		

	tion permit only, up to 20 caribou total; as follows:		
	Up to 5 bulls per day; however, calves may not be taken;	RC800	July 1-June 30
	Up to 5 cows per day; however, calves may not be taken	RC800	July 1-March 31
		HT	August 1-September 30
	Nonresidents—1 bull; however, calves may not be taken		
Unit 22B, that portion west of Golovnin Bay, and west of a line along the west bank of the Fish and Niukluk rivers to the mouth of the Libby river, and excluding all portions of the Niukluk River drainage upstream from and including the Libby River drainage	Residents—5 caribou per day, by registration permit only, up to 20 caribou total; as follows:		
	Up to 5 bulls per day; however, calves may not be taken;	RC800	October 1-April 30
	Up to 5 cows per day; however, calves may not be taken	RC800	October 1-March 31
	Up to 5 caribou per day; however, calves may not be taken; during the period May 1-September 30, a season may be announced by emergency order; however, cow caribou may not be taken April 1-August 31	RC800	Season to be announced by emergency order
		HT	Season to be announced by emergency order
	Nonresidents: 1 bull; however, calves may not be taken; during the period August 1-September 30, a season may be an-		

	nounced by emergency order		
22B Remainder	Residents—5 caribou per day, by registration permit only, up to 20 caribou total; as follows:		
	Up to 5 bulls per day; however, calves may not be taken	RC800	July 1-June 30
	Up to 5 cows per day; however, calves may not be taken	RC800	July. 1-March 31.
		HT	August 1-September 30
	Nonresidents—1 bull; however, calves may not be taken		
22D, that portion in the Pilgrim			
	Residents—5 caribou per day, by registration permit only, up to 20 caribou total; as follows:	RC800	October 1 –April 30
	Up to 5 bulls per day; however, calves may not be taken;	RC800	October 1 – March 31
	Up to 5 cows per day; however, calves may not be taken	RC800	Season to be announced by emergency order
	Up to 5 caribou per day; however, calves may not be taken; during the period May		

	1-September 30, a season may be announced by emergency order; however, cow caribou may not be taken April 1-August 31	HT	Season to be announced by emergency order
		RC800	Season to be announced by emergency order
	Nonresidents: 1 bull; however, calves may not be taken; during the period August 1-September 30, a season may be announced by emergency order	HT	Season to be announced by emergency orde
22D, that portion in the Kuzitrin River drainage (excluding the Pilgrim River drainage) and the Agiapuk river drainage, including tributaries	Residents—5 caribou per day, by registration permit only, up to 20 caribou total; as follows:		
	Up to 5 bulls per day; however, calves may not be taken	RC800	July 1-June 30.
	Up to 5 cows per day; however, calves may not be taken	RC800	July 1-March 31.
		HT	August 1-September 30
	Nonresidents—1 bull; however, calves may not be taken		
22E, that portion east of and including the Sanaguich River drainage	Residents—5 caribou per day, by registration permit only, up to 20 caribou total; as follows:		
	Up to 5 bulls per day; however, calves may not be taken	RC800	July 1-June 30.
	Up to 5 cows per day; however, calves may	RC800	July 1-March 31.

	not be taken	HT	August 1-September 30
	Nonresidents—1 bull; however, calves may not be taken		
22 Remainder	Residents—5 caribou per day, by registration permit only; however, calves may not be taken; cow caribou may not be taken April 1-August 31; bull caribou may not be taken April 1-August 31; bull caribou may not be taken October 15-Jan. 31.	RC800	Season to be announced by emergency order
	Nonresidents—1 bull; however, calves may not be taken; during the period August 1-September 30, a season may	HT	Season to be announced by emergency
23, north of and including the Singoalik River drainage	Residents—5 caribou per day as follows:		
	Up to 5 bulls per day; however, calves may not be taken	RC907	July 1-October 14 February. 1-June 30
	Up to 5 cows per day; however calves may not be taken	RC907	Jul. 15-April 30
		HT	August 1-September 30
	Nonresidents—1 bull; however, calves may not be taken		
23 remainder	Residents—5 caribou per day as follows:		
	Up to 5 bulls per day; however, calves may not be taken	RC907	July 1-October 14

			February. 1-June 30
	Up to 5 cows per day; however calves may not be taken	RC907	September 1-March 31
	Nonresidents—1 bull; however, calves may not be taken	HT	August 1-September 30
26A, that portion of the Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Sea south and west of, and including the Utukok River drainage	Residents—5 caribou per day, as follows:		
	Up to 5 bulls per day; however, calves may not be taken	RC907	July 1-October 14 February. 1-June 30
	Up to 5 cows per day; however, calves may not be taken	RC907	Jul. 15-April 30
		HT	July 15-September 30
	Nonresidents—1 bull; however, calves may not be taken		
26A, Remainder	Residents—5 bulls per day; however, calves may not be taken;	RC907	July 1-July 15 July 16-October 15
	5 caribou per day; however, no more than 3 cows per day; cows accompanied by calves and calves may not be taken	RC907	October 16-December. 31
	3 cows per day; however, calves may not be taken	RC907	Jan.1-March 15

5 caribou per day; however no more than 3 cows per day; calves may not be taken	RC907	Mar 16.-June 30
5 bulls per day; however, calves may not be taken	HT	July 15 – September 30
Nonresidents—1 bull; however, calves may not be		

Special instructions:

- Reporting:
  - RC 800: Successful Hunters: Report within 15 days of taking a legal annual bag limit. Unsuccessful hunters, those who did not hunt, and hunters who were successful but harvested less than 20 caribou must submit their report by July 15. Report in person, online at hunt.alaska.gov, by telephone (907) 443-2271 or (800) 560-2271 (you can leave a recorded message at Ext 8191), outside drop box at Nome ADF&G, or by pre-paid mail.
  - RC907: Unsuccessful hunters, those who did not hunt, and hunters who were successful must submit their report by July 15. Report in person, online at hunt.alaska.gov, by telephone (907) 442-3420 (you can leave a recorded message), outside drop box at Kotzebue ADF&G, or by pre-paid mail.
- Who qualifies:
  - RC 800 & RC907: Alaska residents are qualified to hunt in all areas. Immediately upon taking an animal you must completely remove the number corresponding to that part of your bag limit and fill in the date you killed the animal as well as its sex in ink.
- Penalty for failure to report:
  - RC 800 & RC907: If you fail to report you will not be eligible to receive any permits (Drawing, Targeted, Tier II, or Registration) during the next regulatory year. In addition, your name may be turned over to the Alaska Wildlife Troopers for enforcement action.

Conservation Issues: The Western Arctic herd has been declining for several years, but it is still the largest caribou herd in the state of Alaska. A photocensus conducted in July 2017 estimated the population at 259,000 caribou; indicating the population has stabilized and could even be increasing. The most recent fall

composition survey indicated the calf:cow ratio was 57 calves:100 cows and bull:cow ratio was 54bulls:100 cows. Because caribou harvest by hunters who do not qualify for federal subsistence hunting opportunity is minimal, closing federal lands to these hunters will not improve the herd's status or affect overall subsistence harvest opportunity. At this point, the managers need more tools to gather harvest data and recommend the use of a registration permit to collect annual information about caribou harvest from all hunters. In 2017, the Board of Game adopted a registration permit to hunt caribou in Unit 23. The information collected will be used to assess the effects of human harvest on the herd and to develop management strategies that will improve the herd's status and continue to provide subsistence opportunity.

Enforcement Issues: None identified.

Recommendation: ADF&G **OPPOSES** these proposals at this time because they will not improve the caribou herd's population status. Harvest by non-federally qualified users is minimal. Recent actions by the BOG were intended to reduce user conflicts in Unit 23 by modifying the Noatak Controlled Use area and by collecting additional harvest information by establishing a new registration permit requirement in Unit 22, 23 and 26A. Both of these changes were adopted following an extensive public process that included the input of Regional Advisory Councils, the Western Arctic Herd working group, Fish and Game Advisory Committees, and the BOG. Additional restrictions are not needed until the effects of these changes are better understood.

If changes are deemed to be necessary, then targeted closures would be preferred so non-federally qualified users are not concentrated on state and private lands. The Western Arctic Caribou Herd Working Group supported a 2-year partial closure that mirrors the WSA 17-03 and would be preferable to the alternate options proposed.

ADF&G has documented the reports of migration deflection due to harvest of animals leading migrations, changes in migration patterns, and other user conflict issues. Although caribou may be temporarily affected by hunters, deflections of herd migration have not been detected to date (Fullman et.al., 2017). Further research on these issues would be needed to quantify their effects on caribou populations and subsistence opportunity.

Literature Cited:

Fullman, T.J., K. Joly, and A. Ackerman. 2017. Effects of environmental features and sport hunting on caribou migration in northern Alaska. Movement Ecology (2017) 5:4 https://movementecologyjournal.biomedcentral.com/articles/10.1186/s40462-017-0095-z (Accessed December 2017)

Appendix A

Estimated total caribou harvest by community, per capita caribou harvest by community, and data sources for Unit 23: Western Arctic caribou herd (ADF&G 2015).

Unit 23

Community	Year/Period	Est Caribou Harv.	# caribou per capita	Source
Ambler	2003	325	1.12	Georgette et al. 2005, unpublished data
	2009	456	1.75	Braem 2012
	2012	685	2.54	Braem et al. 2015
Buckland	2003	637	1.56	Magdanz et al. 2011
	2009	561	1.30	Braem 2012
Deering	1994	142	0.96	Magdanz et al. 2002
	2007-2008	182	1.37	Braem 2011
	2011-2012	237	1.91	Braem 2011
	2013	393	2.85	ADF&G unpublished data
Kiana	1999	488	1.23	ADF&G unpublished data
	2006	306	0.77	Magdanz et al. 2011
	2009	440	1.18	Braem 2012
Kivalina	1982	346	0.48	CSIS
	1983	564	0.78	CSIS
	1992	351	0.49	CSIS
	2007	268	0.67	Magdanz et al. 2010
	2010-2011	86	0.23	Braem et al. 2014
Kobuk	2004-2005	134	1.06	ADF&G unpublished data
	2009	210	1.72	Braem 2012
	2012	119	0.84	Braem et al. 2015
Kotzebue	1986	1917	0.71	Georgette and Loon 1993
	1991	3782	1.04	CSIS
	2001	2376	0.77	Whiting 2003
	2002	1719	0.56	Whiting 2003
	2003	1915	0.61	Whiting 2003
	2012-2013	1804	0.56	CSIS
	2013-2014	1629	0.51	ADF&G unpublished data
Noatak	1994	615	1.62	Magdanz et al. 2002
	1999	683	1.61	Georgette et al 2000., unpubd data
	2002	410	0.90	Georgette et al. 2004, unpubd data
	2007	441	0.90	Magdanz et al. 2010
	2010	66	0.13	Braem et al. 2014
	2011	360	0.66	Mikow et al. 2014
Noorvik	2002	988	1.46	Georgette et al. 2004, unpubd data
	2008	767	1.19	Braem et al. 2012
	2012	851	1.36	CSIS

-continued-

Unit 23, continued

Community	Year/Period	Est Caribou Harv.	# caribou per capita	Source
Point Hope	1994-1995	355	0.49	Bacon et al. 2009, rev. 2011
	2000-2001	219	0.31	Bacon et al. 2009, rev. 2011
Selawik	1999	1289	1.68	CSIS
	2006	934	1.11	CSIS
	2011	683	0.79	Braem et al. 2013
Shungnak	1998	561	2.17	Georgette 1999, unpubd data
	2002	403	1.62	Magdanz et al. 2004
	2008	416	1.53	Braem 2012
	2012	396	1.47	Braem et al. 2015



Winters in Alaska: What are federal reserved waters and why do they matter in Alaska?

Kirsa Shelkey

When the federal government reserves land, by implication, it reserves the unappropriated appurtenant water necessary to accomplish the primary purposes of the reservation.

- Limited to what is necessary, and no more. Not for secondary uses.
- Whether or not the waters are navigable or non-navigable does not matter. Equal footing doctrine and state reserved water rights are limited by federal reserved water rights.
- The federal government does not need to perfect its reserved water rights , because these rights are not governed by state law.
- The priority appropriation date is the date of reservation.
- Judicially created doctrine.







Winters v. United States

1908

- The Court held the primary purpose of the Reservation was to "turn Indians into a pastoral and civilized people," and to "set [Fort Belknap] aside as an Indian Reservation and permanent home and abiding place."
- To achieve this primary purpose (agriculture), the Court implied federal intent to reserve waters necessary to achieving this purpose.
- Otherwise, Indians would have reserved to themselves an arid barren wasteland.
- Priority date= 1888. (Defendants began diverting in 1900 and are thus junior to the Gros Ventre and Assiniboine.)
- What does the Court mean by appurtenant? – (applies to Katie John)

Caeppart v. United States (1976)



- Expands *Winters Doctrine* to all federal reservations of land, not just Indian Reservations.
- Here, Devil's Hole= National Monument reserved in 1952
- Rancher enjoined from pumping up to a certain volume from the aquifer.
- Purpose= preservation of the pool and pupfish in Proclamation. Pupfish threatened if water drops beneath a certain level, so federal reserved water right up to that level. (necessary to fulfill purpose)
- Federal reserved water rights may reach sources of water that are separated from, but "physically interrelated as integral parts of the hydraulic cycle" with waters appurtenant to the reserved land.


Inherent Conflict between Prior
Appropriation and the Winters Doctrine


“It’s different in Alaska.”
Jurisdiction is at the heart of
the controversy in Alaska.

Katie John v. United States
2011

- Title VIII of ANILCA authorizes a subsistence priority for rural Alaskans on "public lands."
- ANILCA defines "public lands" as "land situated in Alaska which after December 2, 1980, are Federal lands."
  - Except
    - "land selections of the State of Alaska which have been tentatively approved or validly selected under the Alaska Statehood Act and lands which have conformed to, validly selected by, or granted to the Territory of Alaska or the State under any other provision of Federal Law."
    - "Land selections of a Native Corporation made under ANCSA which have not been conveyed."
- "Federal lands" are "lands the title to which is in the United States after December 2,1980."
- "Land" is **"lands, waters and interests therein."**
- (Navigable waters, because of equal footing doctrine, generally belong to the states.)
- In 1990, the Federal government took back management of the Federal Subsistence Program from the State, and promulgated the 1999 Rules.
- The 1999 Rules interpret "public lands" to include some navigable waters in which the United States has a federal reserved water right and identifies 34 Units where these reserved rights exist.
  - Appurtenant water necessary to fulfill the purpose of the reservation= Title VIII includes subsistence fishing



- *Katie John I* held that the 1999 Rules were reasonable.
- *Katie John III* (sued from both sides)
- Argument= 1999 Rules improperly interpret and apply the federal reserved water rights doctrine.
  - Katie John argued that there should be a subsistence priority on navigable waters upstream and downstream from ANILCA CSUs as well, because of the federal reserved water rights doctrine. (Rules interpret too narrowly)
  - The State argued "public lands" are not waters outside the boundaries of federal lands, CSUs, National Forests, etc. (Rules interpret too broadly)



What did we learn from Katie John III?

- Federal reserved water rights apply to waters <u>appurtenant (adjacent)</u> to federal land… it's not where the water is located per se, but whether it's necessary to the fulfillment of the purpose of the reservation. Remember *Caeppart,* which reached water "physically interrelated to the hydraulic cycle."
  - Reasonable to interpret this to apply to streams adjacent to federal reservations.
  - Reasonable not to extend that to all navigable waters (upstream and downstream)



A new issue…

Does ANILCA's priority for subsistence use require a more expansive identification of federal reserved water rights?

- We'll see. The Court said that, for now, this interpretation is too broad.
- The 1999 Rules were promulgated for the purpose of administering ANILCA.
- The Court observed that water in Alaska is abundant and adjudication may never be necessary.
- And that it is not addressing quantity because quantity will be determined when the U.S. enforces its rights against the State.



When the federal government reserves land, by implication, it impliedly reserves the unappropriated appurtenant water necessary to accomplish the primary purposes of the reservation.

- Whether or not the waters are navigable or non-navigable does not matter. Equal footing doctrine and state reserved water rights are limited by federal reserved water rights.
- The federal government does not need to perfect its reserved water rights , because these rights are not governed by state law.
- The priority appropriation date is the date of reservation.
- No more than necessary. Not for secondary uses.
- Judicially created doctrine.