| V   | /P24–11 Executive Summary   |  |  |  |  |
|---|---|--|--|--|--|
| General Description   | Wildlife proposal, WP24-11, proposes to eliminate the antlerless deer restriction in Unit 8. Submitted by: Kodiak National Wildlife Refuge  |  |  |  |  |
| Proposed Regulation   | Unit 8—Deer   |  |  |  |  |
|   | All lands within the Kodiak Archipelago within the Aug. 1 – Kodiak National Wildlife Refuge, including lands on Jan. 31 Kodiak, Ban, Uganik, and Afognak Islands—3 deer; however, antlerless deer may be taking only from Oct. 1—Jan. 31.                     |  |  |  |  |
| OSM Preliminary Conclusion  | Support Proposal WP24-11  |  |  |  |  |
| Kodiak/Aleutians Subsistence<br>Regional Advisory Council<br>Recommendation | <b>Support</b> WP24-11 <b>with modification</b> to retain the antlerless restriction and to increase the harvest limit to four deer.  |  |  |  |  |
| Interagency Staff Committee<br>Comments                                     | The Interagency Staff Committee found the analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and the Federal Subsistence Board action on this proposal. |  |  |  |  |
| ADF&G Position  | Oppose  |  |  |  |  |
| Written Public Comments   | None  |  |  |  |  |

## STAFF ANALYSIS WP24-11

#### **ISSUES**

Proposal WP24-11, submitted by Kodiak National Wildlife Refuge (NWR), requests to eliminate the restriction on antlerless deer harvest in Unit 8 (see **Figure 1**).

#### DISCUSSION

The proponent states that the prohibition on harvest of antlerless deer between Aug. 1-Sep. 30 unnecessarily limits deer harvest opportunity by residents of Unit 8 as there is no biological basis for this restriction. The current regulation, set in 2002, was based on anecdotal information indicating that the deer population had crashed in response to severe winters in the late 1990s. The intent of the restriction was to increase survival of antlerless deer (does, yearlings, and fawns) during the first two months of the hunting season. The restriction likely had a negligible effect on deer survival because severe winters are the primary factor that influence deer survival on the remote Federal public lands of Unit 8, and most deer hunting on those lands occurs during rut between late October and early December. Furthermore, results of Kodiak NWR surveys indicated that intensive deer use of key winter browse (e.g., red elderberry) first documented in 2017 was sustained through 2022, which suggests that the population has not decreased. In conclusion, the effect of the proposed change would be to increase harvest opportunity for rural residents with no substantive effect on deer survival or population size expected.

## **Existing Federal Regulation.**

#### Unit 8—Deer

All lands within the Kodiak Archipelago within the Kodiak National Aug. 1 – Jan. 31 Wildlife Refuge, including lands on Kodiak, Ban, Uganik, and Afognak Islands—3 deer; however, antlerless deer may be taken only from Oct. 1 – Jan. 31.

## **Proposed Federal Regulation**

## Unit 8—Deer

All lands within the Kodiak Archipelago within the Kodiak National Aug. 1 – Jan. 31 Wildlife Refuge, including lands on Kodiak, Ban, Uganik, and Afognak

## Unit 8—Deer

Islands—3 deer; however, antlerless deer may be taken only from Oct. 1—Jan. 31.

# **Existing State Regulation**

## Unit 8—Deer

| Kodiak Road System Management Area (both residents and nonresidents) – One buck  OR | Aug. 1 – Oct. 31        |
|---|-------------------------|
| One deer by bow and arrow, crossbow, or muzzleloader only OR                        | <i>Nov. 1 – Nov. 14</i> |
| One deer by bow and arrow, crossbow, or muzzleloader only. Youth hunt only          | Nov. 16 – Dec. 31       |
| Unit 8 Remainder (residents) – Three deer total<br>Bucks only                       | Aug. 1 – Sep. 30        |
| Any deer  | Oct. 1 – Dec. 31        |
| Unit 8 remainder (nonresidents) – One Buck  | Aug. 1 – Dec. 31        |

## **Extent of Federal Public Lands**

Unit 8 is comprised of 49% Federal public lands and consists of 48% U.S. Fish and Wildlife Service (USFWS) managed lands and 1% Bureau of Land Management (BLM) managed lands (**Figure 1**).

## **Customary and Traditional Use Determinations**

Residents of Unit 8 have a customary and traditional use determination for deer in Unit 8.

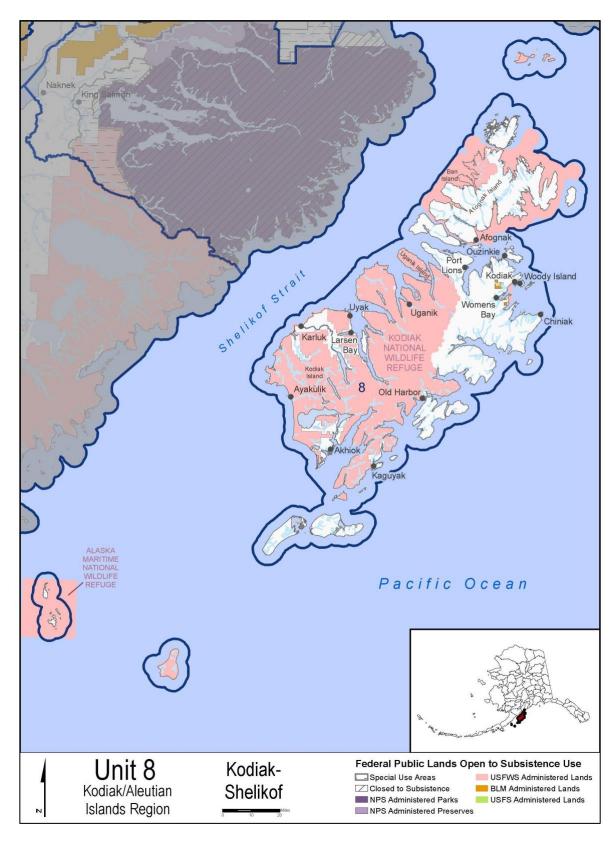


Figure 1. Unit 8 Area Map.

## **Regulatory History**

In 2000, Federal regulations for deer in Unit 8 consisted of three hunt areas: a northeastern hunt area near the community of Kodiak, Unit 8 south of Terror and Ugak bays, and Unit 8 remainder. The season in Unit 8 south of Terror and Ugak bays and Unit 8 remainder was Aug. 1–Jan. 31 with harvest limits of 5 deer; however, antlerless deer could only be taken from Oct. 1-Jan. 31.

In 2001, the Federal Subsistence Board (Board) approved Wildlife Special Action WSA01-01, that requested to reduce the harvest limit for federally qualified subsistence users from 5 to 3 deer within Kodiak NWR, starting Aug. 1, 2001. The severe winters of 1997/98 and 1998/99 had an estimated 50% deer mortality rate, resulting in the population estimate to be 40,000 deer, which was well below the State minimum population objective of 75,530 deer (FWS 2001). Additionally in 2001, the State simplified their Unit 8 deer regulations to include road system and non-road system hunt areas. The State also changed to a three deer harvest limit and a December 1-31 antlerless season (FSB 2001).

In 2002, the Board adopted Proposal WP02-22 to help with the recovery of the Unit 8 deer population, while continuing to provide subsistence harvest opportunities. This action reduced the codified deer harvest limit to 3 deer, simplified the hunt area descriptions, resulting in a single hunt area, and revised the antlerless season from Oct. 1-Jan. 31 to Nov. 1-Jan. 31 (FSB 2002). The deer population had not recovered from the harsh winters of 1997/98 and 1998/99 and would not be able to sustain the harvest increase back up to 5 deer per person when WSA01-01 expired (OSM 2002).

In 2006, the Board adopted Proposal WP06-21, which changed the opening date of the antlerless deer season in Unit 8 from Nov. 1 to Oct. 1, which aligned with State regulations. As the Federal season closed Jan. 31 and the State season closed Dec. 31, federally qualified subsistence users continued to have a longer deer season and maintain a subsistence priority.

#### **Current Events Involving the Species**

In March 2023, the Alaska Board of Game (BOG) adopted Proposal 73 as amended, reducing the nonresident harvest limit for deer in Unit 8, remainder to one buck, while retaining the resident harvest limit of three deer in Unit 8, remainder. The proposal as submitted requested the Unit 8, remainder harvest limit be reduced to two deer for residents and one deer for nonresidents. In the past five years there has been a large increase in the number of nonresident hunters for deer in Unit 8. These hunters typically harvest from the beach areas, leading to localized declines in the deer populations in these areas (ADF&G 2023a). The BOG modified the Proposal 73, to address this concern with the deer population (ADF&G 2023a).

On May 25, 2023, the BOG had an additional meeting to discuss a proposal delaying the implementation of the new Unit 8 deer harvest regulations until 2024. The BOG discussed the limited time frame before the regulation change. BOG members were concerned that not all requirements may have been discussed at the original March 2023 meeting. It was determined that all requirements were covered adequately, and the nonresident harvest limit would be reduced for the RY 2023/24 season (ADF&G 2023f).

## **Biological Background**

The Sitka black-tailed deer population in Unit 8 originated from three transplant events, totaling 25 deer, made to Long Island and Kodiak Island between 1924 and 1934. By the early 1940s, deer occupied northeastern Kodiak Island, and the first hunt was established in 1953. The deer population continued to expand into unoccupied habitat, and by the late 1960s deer were distributed throughout Kodiak, Afognak, and adjacent islands. The population suffered high mortality during the 1968/69 and 1970/71 winters, causing declines in harvests and hunter success. An increase in the population occurred from 1972 to the mid-1980s, when the population reached peak numbers, exceeding 100,000 animals. Winter severity, beginning in the 1987/88 winter, caused a declining population trend through 1992 (Van Daele 2003).

The Unit 8 deer population began to rebound in 1993. Survival was much improved during the 1992/93 and 1993/94 winters, and the upward population trend continued through the winters of 1994/95 and 1995/96 (OSM 2022). However, the deer population suffered moderate winter kills in 1997/98, and very heavy winter mortality in 1998/99, with at least 50% of the population suspected to have perished. Mortality was significantly lower during the 1999/00 winter as the population started to recover (OSM 2002).

Prior to the winter of 1997/98, the Unit 8 deer population was estimated at 80,000–100,000. After the severe winter kills of 1998/99, the population was estimated at about 40,000 deer in the fall of 2000 for all of Unit 8, with approximately 65%–70% of the population occurring on Kodiak NWR lands. For five successive winters, from 1999/00 to 2004/05, conditions were relatively mild, and consistent with previous patterns, the deer population responded positively. The 2004 population estimate was 60,000 deer and appeared to be increasing throughout Unit 8 (Van Daele 2005).

The Alaska Department of Fish and Game (ADF&G) and the Kodiak NWR has historically conducted annual winter mortality index surveys in selected portions of Unit 8 each spring. The purpose of these surveys was to document the cyclic changes in deer numbers in response to varying winter weather. The mild winter of 2004/05 prevailed in western Kodiak Island and likely promoted high deer survival. As a result, the deer population on Kodiak NWR increased (FWS 2005).

Winter browse surveys from 2017-2022 by the Kodiak NWR indicate that there has not been any decrease in population. The State has not conducted any activities to estimate the deer population since at least 2011 (Svoboda and Crye 2020; ADF&G 2023a). However, the State has monitored and assessed the deer population by using other metrics such as harvest monitoring, hunter success and effort, and winter mortality surveys (Svoboda and Crye 2020).

#### **Cultural Knowledge and Traditional Practices**

Kodiak Island is the second largest island in the United States, measuring roughly 3,600 miles in area, with a current population of approximately 13,287 residents (Sill et al 2021, ADCCED 2023). Most of the population of Kodiak Island Borough is located in Kodiak City and the surrounding road connected communities (Sill et al 2021). However, there are also seven other smaller communities located off the

road system, including: Aleneva on Afognak Island; Port Lions and Ouzinkie located on the northern end of Kodiak Island; and Akhiok, Old Harbor, Larsen Bay, and Karluk located on the southern end of Kodiak Island (Sill et al 2021).

The Alutiiq/Sugpiaq people are the original inhabitants of Kodiak Island and the surrounding area, with a history of residence dating back at least 7,500 years (Sill et al 2021, Clark 1998). The traditional subsistence economies of the Alutiiq/ Sugpiaq were based on the harvest of marine and freshwater resources such as marine mammals, non-salmon fish, shellfish, sea or littoral birds and their eggs, and salmon (Sill et al 2021, Clark 1998). The current subsistence practices of the rural residents of Kodiak and Afognak Islands still reflect the cultural traditions of the Alutiiq/Sugpiaq, as well as those of Eastern European, Asian, and American settlers. Commercial fishing and processing has also been an important industry in the area since the 1800s (Sill et al. 2021). Commercial fishing and processing, tourism, the service industry, and government operations are now important economic complements to the more traditional subsistence practices that have taken place in the area for generations (USFWS 2004). The commercial fishing industry has also been particularly important to many subsistence users on Kodiak Island, as commercial harvesters often bring home or give away part of their surplus commercial catch for local subsistence use (Mishler et al. 1995).

Large land mammals have traditionally been secondary components of local subsistence economies on Kodiak and Afognak Islands, as only the Kodiak brown bear (Ursus arctos middendorffi) is native to this area (USFWS 2023). Deer, elk, and mountain goats were all introduced to the area in the early-to-mid-1900s (Sill et al 2021). Deer in particular have been increasingly integrated into the seasonal round of subsistence harvest activities by Kodiak Island communities since their introduction in 1924 (Sill et al 2021). Deer are now the most dominant and important large land mammal species utilized by Kodiak Island residents in their subsistence efforts (Svoboda and Crye 2020, Sill et al 2021). Recent comprehensive subsistence harvest surveys conducted in Kodiak Island communities by ADF&G have consistently shown the importance of deer in terms of household utilization and overall bulk contribution to subsistence diets (**Table 1**). This data conforms to findings from subsistence studies conducted in many other rural Alaskan communities, where a smaller proportion of households often harvest a greater percentage of local subsistence resources, which they typically share with other households (Wolfe and Walker 1987). Harvesting and sharing deer has been particularly important among some of the communities located off the Kodiak Island road system (**Table 1**)

**Table 1**. Harvest, Use, and Sharing of Deer in Kodiak Island Communities from most Recently Reported Subsistence Studies (ADF&G 2023e).

| Community         | Study<br>Year | Community<br>Population | Percent<br>Using<br>Deer | Percent<br>Attempting<br>to Harvest<br>Deer | Percent<br>Harvesting<br>Deer | Percent<br>Giving<br>Deer | Percent<br>Receiving<br>Deer | Estimated<br>Total Deer<br>Harvested | Harvest per<br>Household<br>(lbs.) | Harvest per<br>Person<br>(lbs.) |
|-------------------|---------------|-------------------------|--------------------------|---|-------------------------------|---------------------------|------------------------------|--------------------------------------|------------------------------------|---------------------------------|
| Road Connect      | ed Com        | munities                |                          |   |                               |                           |                              |                                      |                                    |                                 |
| Chiniak           | 1982          | 615                     | 88%                      | 59%   | 59%                           | n/a                       | n/a                          | 688                                  | 191                                | 48                              |
| Kodiak City       | 1993          | 6058                    | 70%                      | 40%   | 27%                           | 24%                       | 49%                          | 2165                                 | 47                                 | 15                              |
| Kodiak Road       | 1991          | 4002                    | 72%                      | 61%   | 41%                           | 21%                       | 41%                          | 1803                                 | 67                                 | 19                              |
| Kodiak<br>Station | 1991          | 611                     | 52%                      | 61%   | 45%                           | 10%                       | 19%                          | 185                                  | 47                                 | 13                              |
| Off-Road Com      | nmunitie      | <u>s</u>                |                          |   |                               |                           |                              |                                      |                                    |                                 |
| Akhiok            | 2018          | 48                      | 91%                      | 73%   | 73%                           | 64%                       | 46%                          | 36                                   | 110                                | 32                              |
| Karluk            | 2003          | 39                      | 71%                      | 43%   | 43%                           | 14%                       | 43%                          | 9                                    | 25                                 | 8                               |
| Larsen Bay        | 2018          | 67                      | 100%                     | 43%   | 38%                           | 52%                       | 81%                          | 44                                   | 64                                 | 28                              |
| Old Harbor        | 2018          | 203                     | 93%                      | 57%   | 57%                           | 57%                       | 60%                          | 188                                  | 121                                | 40                              |
| Ouzinkie          | 2003          | 204                     | 84%                      | 43%   | 37%                           | 39%                       | 69%                          | 78                                   | 49                                 | 16                              |
| Port Lions        | 2003          | 191                     | 76%                      | 46%   | 46%                           | 28%                       | 48%                          | 146                                  | 89                                 | 33                              |

## **Harvest History**

Since their introduction on Kodiak Island in 1924, deer have been integrated into the seasonal round of harvest activities among local residents.

Annual Unit 8 deer harvests during the 1990s averaged between 7,000–9,000 deer, approximately half of which occurred on Kodiak NWR lands. Following the deer population decline in 1998/99, the estimated annual harvest averaged 3,065 deer for the four winters from 1999/00 through 2002/03 (Van Daele 2005).

Harvest has varied in response to deer abundance and severe winters (**Table 2**). Since 2010, severe winters have occurred in 2011/12 and 2016/17 and one moderately severe winter in 2019/20. The regulatory year following these three winters had a harvest number drop of 51-63% (**Table 2**) (ADF&G 2023c). These low harvest numbers are indicative of the heavy influence severe winter weather has on the deer population in Unit 8 (ADF&G 2023c). Unit 8 residents (which correspond to federally qualified subsistence users) had a 71% success rate from RY 2012-RY2021 with an average harvest of 1.8 deer per successful hunter (ADF&G 2023a).

Many federally qualified subsistence users (Unit 8 residents) prefer to wait until late in the season to hunt, when snow at higher elevations forces deer to concentrate at lower elevations and on beaches, making them easier to find, harvest, and transport by boat. Also, there are fewer non-federally qualified users or non-local hunters, later in the season. Unit 8 residents comprise a smaller proportion of all Unit 8 deer hunters, decreasing by 7% the last five years (RY2017-R2021) when compared to the previous five years (RY2012-RY2016) (**Table 3**) (ADF&G 2023c). Over the same time period, the proportion of nonresidents and non-local resident hunters (non-federally qualified users) has increased to 66% compared to the 60% during the previous five years (**Table 3**) (ADF&G 2023c).

Harvest of deer along the shoreline is easier for non-local residents and non-residents to find and transport by boat. This type of harvest has caused a source-sink dynamic within the Unit 8 deer population (ADF&G 2023a), causing conservation concerns, on a micro level, within these sink locations on the beaches; however, the remainder of the population does not have conservation concerns (ADF&G 2023a).

Over the last 10 years ADF&G's minimum harvest objective of 8,000 deer was only reached in 2016. Harvest of Unit 8 female deer has remained under 1,000, except in 2021 (ADF&G 2023d). From RY2012-RY2021, deer harvest by Unit 8 residents averaged 84% bucks (ADF&G 2023a). The large proportion of males in the harvest can be attributed to more conservative doe seasons, harvest limits, and preference of hunters.

Table 2. Total reported deer harvest from 1997-2022 in Unit 8 (ADF&G 2023b).

| Unit 8 |           |   | Unit 8            |           |
|--------|-----------|---|-------------------|-----------|
| Year   | Harvested | _ | Year              | Harvested |
| 1997   | 4,862     | _ | 2010              | 3,276     |
| 1998   | -         |   | 2011ª             | 4,907     |
| 1999ª  | -         |   | 2012              | 2,794     |
| 2000   | -         |   | 2013              | 3,212     |
| 2001   | -         |   | 2014              | 4,390     |
| 2002   | 2,723     |   | 2015              | 6,078     |
| 2003   | 4,542     |   | 2016 <sup>a</sup> | 8,137     |
| 2004   | -         |   | 2017              | 4,199     |
| 2005   | 5,766     |   | 2018              | 5,029     |
| 2006ª  | 4,862     |   | 2019 <sup>b</sup> | 5,460     |
| 2007   | 2,503     |   | 2020              | 3,484     |
| 2008ª  | 3,200     |   | 2021              | 4,797     |
| 2009   | 3,573     |   | 2022              |           |

<sup>&</sup>lt;sup>a</sup> Indicates a severe winter

Table 3. Unit 8 deer hunter participation by residency, split into 5-year time periods (ADF&G 2023a).

**Deer Harvest by Residency - 5-year average** 

|                            | RY2012-RY2016 | RY2017-RY2021 |
|----------------------------|---------------|---------------|
| Non-local Alaska Residents | 43%           | 40%           |
| Unit 8 Alaska Residents    | 39%           | 32%           |
| Nonresidents               | 17%           | 28%           |

## **Other Alternatives Considered**

One alternative considered was to retain the current antlerless restriction from Aug. 1-Sept. 30 and increase the deer harvest limit to four deer as recommended by the Kodiak/Aleutians Council at their Fall 2023 meeting. This would increase subsistence hunting opportunity, while protecting does and fawns during the early season. However, this alternative is outside the scope of the proposal. Per the Administrative Procedures Act (APA), adequate notice and opportunity for public comment is required on regulatory proposals. If a modification is beyond what a reasonably well-informed member of the public would anticipate, then there has not been adequate opportunity for comment. Thus, the Board cannot adopt such a modification because it would be in violation of the APA.

<sup>&</sup>lt;sup>b</sup> Indicates a moderately severe winter

## **Effects of the Proposal**

If this proposal is adopted, the Federal deer hunt in Unit 8 would provide for greater subsistence hunting opportunity. Specifically, removing the restriction on antlerless deer harvest will allow federally qualified subsistence users to harvest antlerless deer throughout the entire deer season, including August and September. Annual harvest has not reached the 8,000-8,500 deer objective in the management plan, since 2016.

The Unit 8 deer population does have localized conservation concerns along beaches where many hunters focus hunting efforts and harvests (ADF&G 2023a). However, winter browse surveys from 2017-2022 indicate that the deer population has not decreased overall (Pyle pers. comm. 2023). Additionally, winter severity is the primary driver for deer abundance in Unit 8, while hunter harvest does not appear to be a major limiting factor (ADF&G 2023c). During severe winters, the deer population is most likely to decrease; however, it then appears to recover quickly during mild winters. During the past 10 years there was one severe winter (2016) and one moderately severe winter (2019).

While adopting this proposal may increase harvest of does with fawns earlier in the season, which could reduce the survival of fawns (especially late-born fawns), it is expected to have little impact on the deer population for several reasons. 1) The Unit 8 deer population is primarily influenced by winter severity, not hunter harvest. 2) Federally qualified subsistence users focus hunting efforts later in the season when the antlerless season is already open. 3) Only 16% of harvest by federally qualified subsistence users has been does over the past 10 years.

#### OSM CONCLUSION

Support Proposal WP24-11.

## **Justification**

This proposal provides additional opportunity for deer harvest in Unit 8 by federally qualified subsistence users, and there are no conservation concerns for the overall Unit 8 deer population. This proposal would benefit federally qualified subsistence users with little impact expected on the Unit 8 deer population.

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#### SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

## **Kodiak Aleutians Subsistence Regional Advisory Council**

## **Fall 2023**

Support WP24-11 with modification to retain the antlerless restrictions and to increase the harvest limit to four deer. The Council voted to modify the proposal by retaining the antlerless restriction and increasing the harvest limit from 3 deer to 4 deer. Influenced by wildlife reports indicating a robust deer population in Unit 8, the Council expressed support for the proposal to provide more harvest opportunities. However, the Council acknowledged concerns regarding the potential inadvertent harvesting of fawns, a practice contrary to Alutiiq values that prohibit the harvest of does and their offspring. Given that newborn fawns are commonly delivered as early as mid-June, there is apprehension that an earlier extension of the anterless season may lead to the unintended harvesting of does with young fawns, potentially orphaning these vulnerable offspring. Additionally, lifting the current restrictions on antlerless deer harvest raises the prospect of capturing late-born fawns. Consequently, instead of extending the antlerless season, the Council recommended increasing the overall deer harvest limit while preserving the antlerless restriction that antlerless deer may be taken only from October 1 to January 31.

The modified regulations should read:

#### Unit 8—Deer

All lands within the Kodiak Archipelago within the Kodiak National Aug. 1 – Jan. 31 Wildlife Refuge, including lands on Kodiak, Ban, Uganik, and Afognak Islands—3 4 deer; however, antlerless deer may be taken only from Oct. 1 – Jan. 31.

## Winter 2024

Per the Administrative Procedures Act (APA), adequate notice and opportunity for public comment is required on regulatory proposals. If a modification is beyond what a reasonably well-informed member of the public would anticipate, then there has not been adequate opportunity for comment.

The Kodiak/Aleutians Council reconsidered this proposal at their winter 2024 meeting to address concerns over adequate public notice for the modification recommended by the Council at their fall 2023 meeting. During their reconsideration, the Council expressed their desire to maintain the same recommendation as before. They do not support increasing the harvest of antlerless deer by removing the language recommended in the proposal. The Council continues to support providing additional opportunity for users by increasing the harvest limit, while preserving the antlerless restriction.

Additionally, after reconsidering their recommendation at a second public meeting, it was determined that the public had now been provided adequate notice and opportunity for comment, meeting the requirements of the APA.

## INTERAGENCY STAFF COMMITTEE COMMENT

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

#### ALASKA DEPARTMENT OF FISH AND GAME COMMENT

## Wildlife Proposal WP24-11

This proposal would remove the prohibition on harvesting antlerless deer between Aug 1 – Sep 30 for residents of GMU 8. If adopted, this proposal would allow up to 3 antlered or antlerless deer to be taken by federally qualified users (FQU) on federal public lands between Aug 1 – Jan 31.

#### **Position**

ADF&G **OPPOSES** this proposal as it runs contrary to the authorities Congress allowed under the Alaska National Interest Lands Conservation Act (ANILCA) and presents concerns regarding the impact on the deer population. Section 815 of ANILCA authorizes federal restrictions on nonsubsistence uses on the public lands only if "necessary for the conservation of healthy populations of fish and wildlife" or if necessary to "continue subsistence uses."

It is widely known and supported by scientific literature that the harvest of female deer has a negative effect on population growth (Van Deelan et al. 2010, Decker et al. 1989) and more specifically, hunter harvest of female deer regulates population size (Porter et al. 1991). Because there are local concerns regarding the reduction in deer abundance and harvest opportunity, an increase in female deer harvest should be carefully considered as this proposal could slow population growth, and lead to prolonged population recovery times after experiencing severe winters.

ADF&G is currently conducting research to better understand the use of habitat by deer, their diet, and seasonal movements.

#### Background

Deer are an important subsistence, economic, and recreational resource throughout the Kodiak Archipelago. Venison has surpassed marine mammals as a primary source of mammalian protein for community residents, and income generated from services provided from resident and non-resident deer hunters is a major factor in the local economy.

Although hunting is an important consideration, deer mortality in Unit 8 is thought to be primarily driven by winter severity. Unlike areas where they originated (southeast Alaska); much of the archipelago lacks dense coniferous forests which provide thermal cover, reduced snow depth, and vegetative forage during harsh winters. As a result, the deer population on the Kodiak archipelago is primarily affected by weather patterns and fluctuations in winter severity. Annual winter mortality is assessed by searching for and examining deer carcasses in known coastal wintering areas. Winter conditions and physical appearance of deer are evaluated using aerial surveys. Local hunters and guides provide anecdotal information on deer mortality, body condition, and general appearance throughout the season. The Unit 8 deer population experienced substantial winter mortality during the harsh winter of 2018-2019, with an estimated 25-30% loss of the overall population and up to a 60-70% reduction in some of the harder hit

areas of the island. Recent surveys and reports from hunters and guides indicate the deer population throughout the archipelago has largely recovered. Anecdotal reports suggest recovery of the deer population in the western and interior portions of the island and along the road system occurred slower than other areas of the island. In general, recovery of the deer population appears to occur after 3-4 seasons with moderate winter conditions.

Over the last 10 years (RY12-RY21), an average of 3,800 hunters have entered the field annually with an average success rate of 69%. Successful hunters harvested approximately 1.2 deer/year, with an average annual harvest of 4,759 deer, of which 83% are male. Between RY12 and RY21, on average 49% of hunters harvested one deer, 26% of hunters harvested two deer, and 25% of hunters harvested three deer. Most deer harvest occurs during the months of October, November, and December with 10-year averages totaling 25.5%, 43.7%, and 17.7% of the annual harvest, respectively.

Residents comprise 77% of deer hunters of which  $\sim$ 70% of those who hunt are successful. Although harvest of deer is an important consideration, hunter harvest is presumed to have minimal impact on the overall population size given current harvest rates and hunt structure. An extended antlerless season is likely to have minimal impact on the overall island wide population but may result in slower population recovery times, reduced fawn recruitment, and reduced opportunity in some areas of the island following harsh winters. The potential impacts of an increased antlerless (i.e., doe) harvest could be compounded in easily accessible areas or areas with increased harvest (i.e., near villages, areas easily accessible by boat-based transporters).

## **Impact on Subsistence Users**

This proposal may provide for a short-term increased subsistence harvest opportunity as federally qualified users could harvest antlerless deer throughout the entire deer season. However, an increase in female harvest could decrease or further reduce subsistence harvest success in the years immediately following harsh winters as natural mortality due to winter severity will be compounded by increased female harvest thereby prolonging population recovery times and reducing fawn recruitment.

## **Impact on Other Users**

If adopted this proposal may have an adverse impact on the harvest success for NFQUs in the years immediately following harsh winters as natural mortality due to winter severity will be compounded by increased female harvest during the season thereby increasing population recovery times and reducing fawn recruitment.

## Opportunity Provided by State

**State customary and traditional use findings:** The Alaska Board of Game (BOG) has made positive customary and traditional use findings for deer in Unit 8.

Amounts Reasonably Necessary for Subsistence: Alaska state law requires the BOG 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 BOG does this by reviewing extensive harvest data from all Alaskans, collected either by ADF&G or from other sources.

ANS provides the Board of Game 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 8 is 3,600 – 4,100 animals. The season and bag limit for Unit 8 is:

| Open Season (Permit/Hunt #) |   |                       | on (Permit/Hunt #)         |
|-----------------------------|---|-----------------------|----------------------------|
| Unit/Area                   | Bag Limit   | Resident <sup>a</sup> | Nonresident                |
| Unit 8, that portion of 1 b | uck Aug. 1  | l – Oct. 31           | Aug. 1 – Oct. 31           |
| Kodiak Island north of a    |   |                       |                            |
| line from the head of       | 1 deer  | Nov. $1 - Nov. 1$     | Nov. 1 – Nov. 14           |
| Settlers Cove to Crescent   | (restricted weapon)                                 |                       |                            |
| Lake (57° 52' N. lat.,      |   |                       |                            |
| 152° 58' W. long.), and     | 1 deer  | Nov. 16 – Dec.        | 31 Nov. 16 – Dec. 31       |
| east of a line from the     | (youth hunt;  |                       |                            |
| outlet of Crescent Lake to  | 1 /   |                       |                            |
| Mount Ellison Peak and f    | rom   |                       |                            |
| Mount Ellison Peak to       |   |                       |                            |
| Pokati Point at Whale       |   |                       |                            |
| Passage, and that portion   |   |                       |                            |
| of Kodiak Island east of a  |   |                       |                            |
| line from the mouth of      |   |                       |                            |
| Saltery Creek to the mout   | h   |                       |                            |
| of Elbow Creek, and         |   |                       |                            |
| adjacent small islands in   |   |                       |                            |
| Chiniak Bay                 |   |                       |                            |
| Remainder of Unit 8         | 3 deer, only bucks<br>may be taken before<br>Oct. 1 | Aug. 1 – Dec. 3       | 31                         |
|                             |   |                       |                            |
|                             | 1 buck  |                       | Aug. $1 - \text{Dec. } 31$ |

<sup>&</sup>lt;sup>a</sup> Subsistence and General Hunts.

# **Conservation Issues**

There may be conservation concerns resulting from the additional harvest this proposal will provide in addition to the retardation of timely recovery of the population from a reduction in the population by this additional harvest.

# **Enforcement Issues**

There will likely be enforcement issues associated with the passage of this proposal as it misaligns with state regulations.