North Pacific Fishery Management Council Presentation on Bering Sea Chum Salmon Bycatch Action

Kodiak/Aleutians Regional Subsistence Advisory Council

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North Pacific Fishery Management Council

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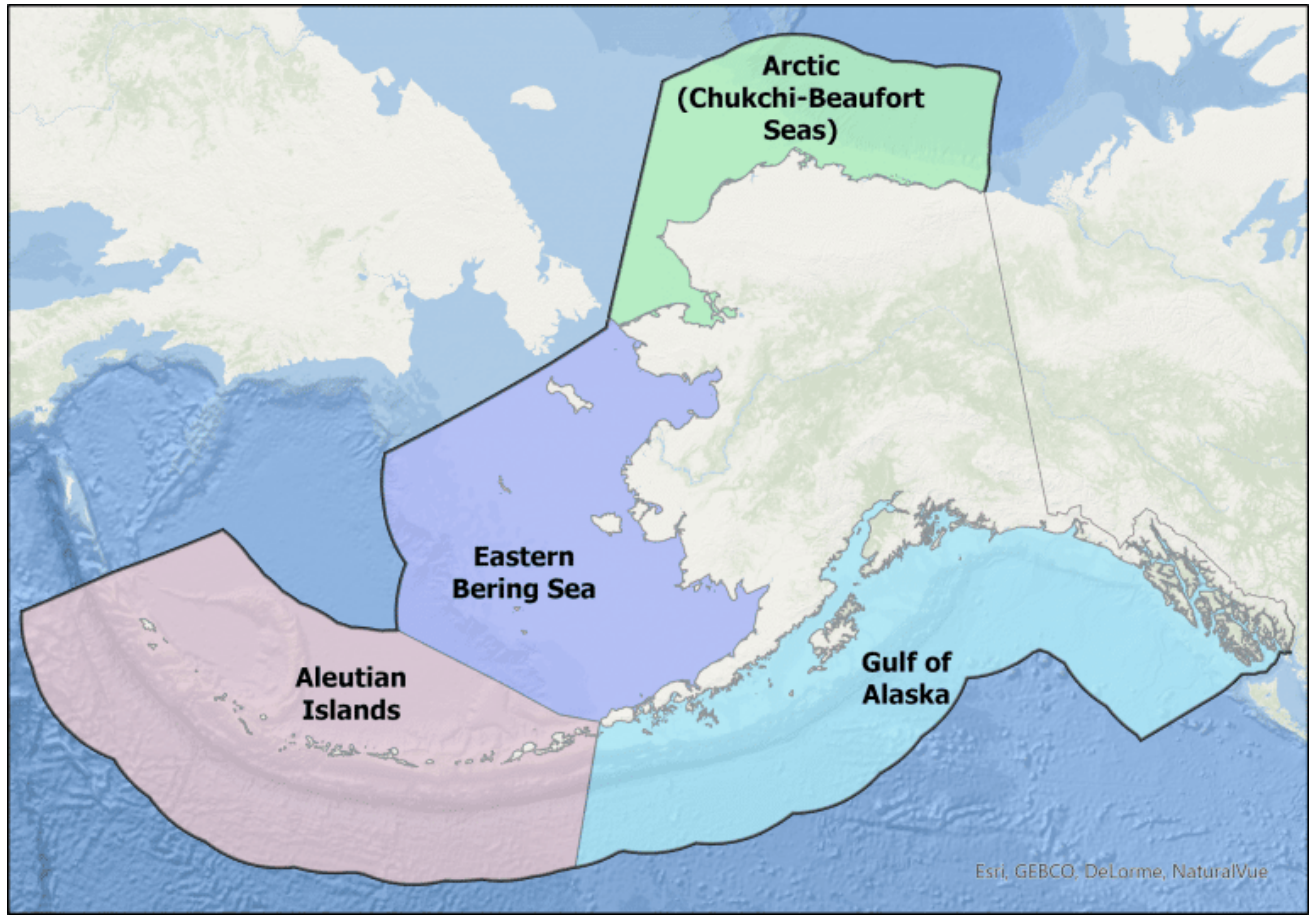
Who are we?

The Council and the National Marine Fisheries Service (NMFS):

- Manage U.S. Federal fisheries off Alaska from 3-200 miles
- Council makes recommendations to NMFS
- If NMFS approves, it implements regulations, and enforces them
- Management is coordinated, and in some cases jointly managed, with the State of Alaska

What Regions and Fisheries are Managed by the Council?



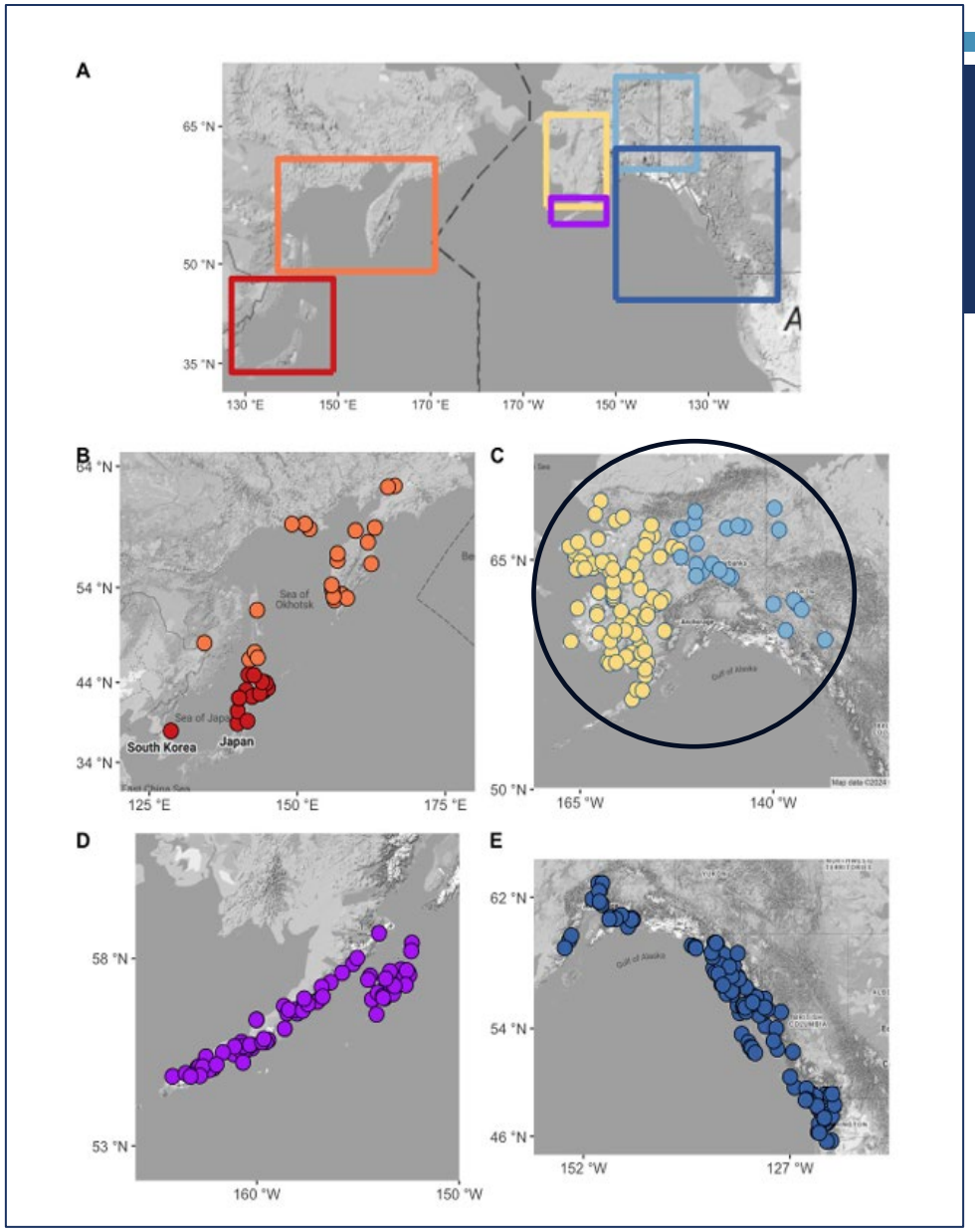
Notes: Management regions encompassed within the Council's jurisdiction.

Fisheries
• Primarily groundfish, including management of bycatch in groundfish fisheries • Crab (Joint w. State of Alaska) • Scallop (Joint w. State of Alaska) • Pacific Halibut (Joint w. Canada)

Current Action on Bering Sea Chum Salmon Bycatch

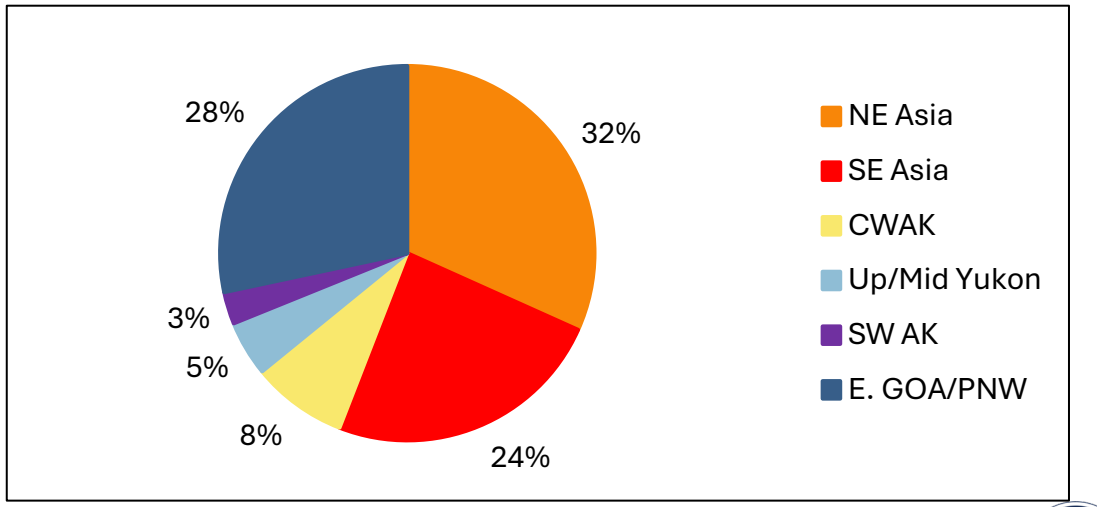
- Council adopted a purpose and need statement in April 2023
- **Purpose:** reduce chum salmon bycatch to the extent practicable in the Bering Sea pollock fishery, particularly Western Alaska chum salmon bycatch
  - Balance the National Standards
  - Maintain priority objectives of the existing Chinook management program
- **Need:** proposed changes are being considered in light of recent and going declines in Western Alaska chum salmon abundance

Western Alaska Chum Salmon Bycatch



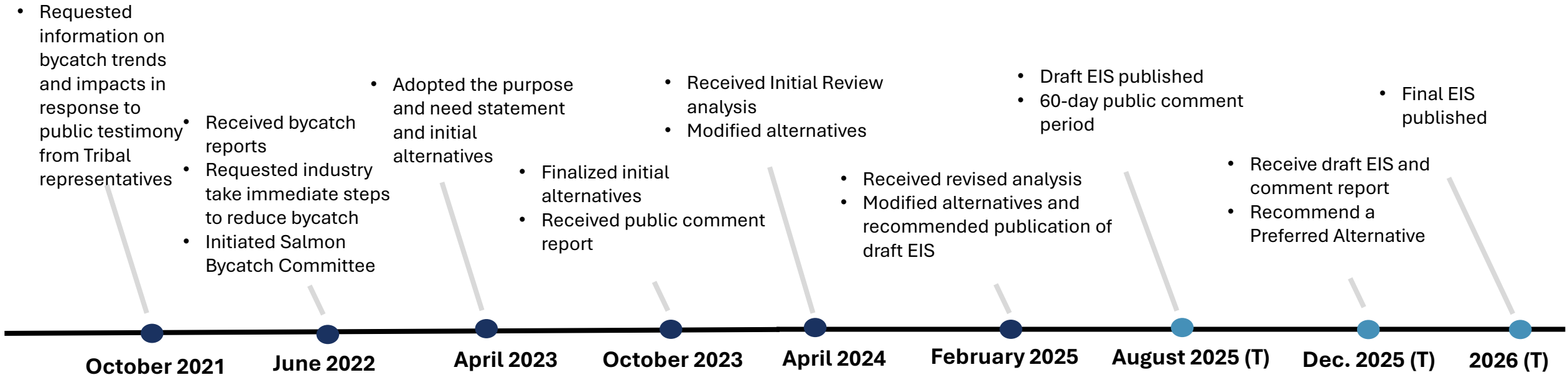
Notes: Six reporting groups of baseline chum salmon populations used in annual reports. Circles represent individual populations represented in the baseline. Panel C = Coastal Western Alaska (Yellow) and Upper/Middle Yukon (blue)

- From 2011 to 2023: an average of ~19% of the total chum salmon bycatch
  - 2024: ~13% of the bycatch or 4,205 chum salmon were Western Alaska fish



Notes: Genetic stock composition of chum bycatch in the 2024 pollock fishery

Timeline of Council Action



Actions Completed

Actions Upcoming

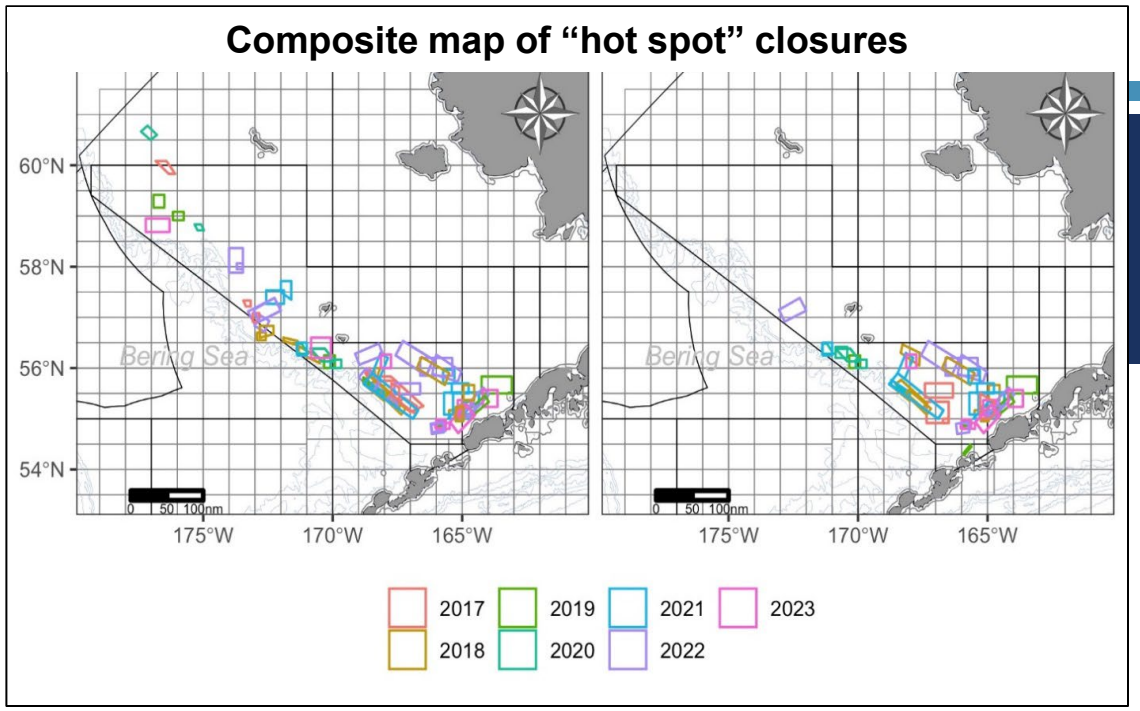
Proposed Alternatives to Meet the Purpose and Need Statement

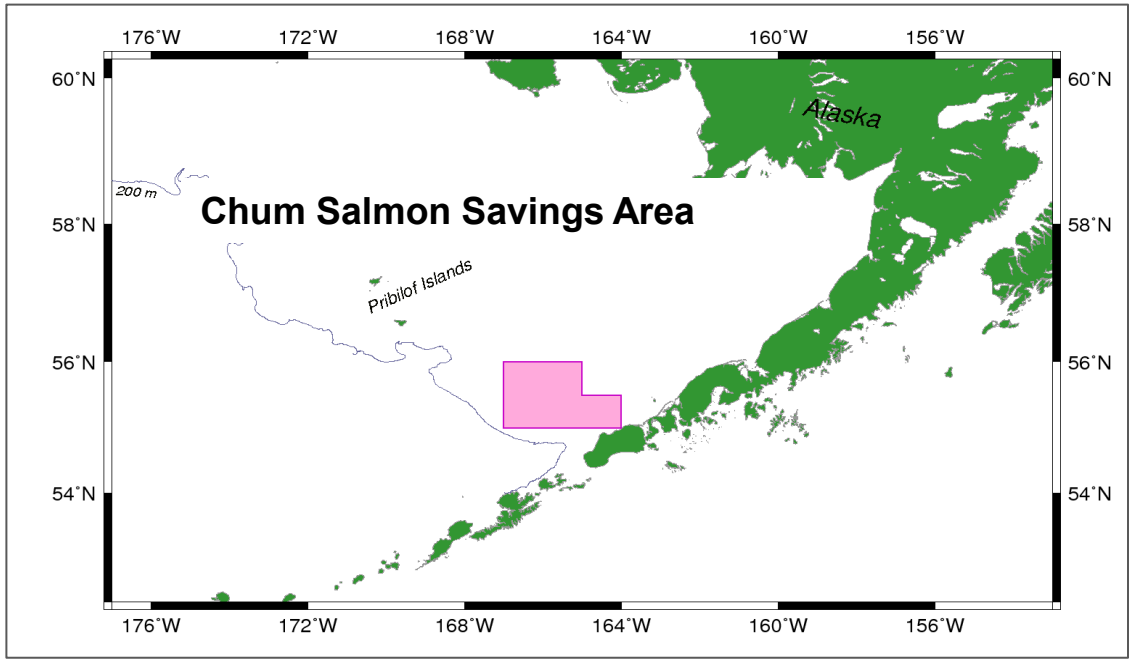
- Alternative 1: No Action

"Action alternatives"

- Alternative 2: Overall chum salmon hard cap
- Alternative 3: Overall chum salmon hard cap with abundance indices
- Alternative 4: Changes to IPA regulations
- Alternative 5: Inseason corridor triggered by area-specific chum cap

  Apply only to B season from June 10 – November 1 when >99% of chum salmon are caught as bycatch





Alternative 1: No Action

- “Hot spot” system of short-term and moving area closures based on real-time bycatch data *(top panel)*
- If vessels participate in the hot spot system, they are exempt from the Chum Salmon Savings Area *(bottom panel)*
  - Fixed time/area closure

Alternative 2: Hard Cap on Chum Salmon Bycatch

- Overall hard cap would be in effect during each B season
  - Fishery closes if and when the cap is met
- All bycaught chum salmon count towards the cap
- Cap range: 100,000 to 550,000 based on history (2011 to 2022)
- Divided among 4 sectors based on bycatch history or pollock allocation

Alternative 3: Hard Cap on Chum Salmon Bycatch Based on Abundance

Similar to Alternative 2 ***but*** a hard cap ***may or may not*** be in effect each year based on abundance

Option 1: Abundance based on 3-area index

- Yukon, Kuskokwim, and Norton Sound areas
- Cap range: 75,000 to 550,000 and divided among sectors
  - Cap amount could decrease if 2 or 3 areas are at low abundance

Option 2: Yukon Area

- Yukon summer and fall chum salmon
- Cap range:100,000 to 550,000 and divided among sectors

Alternative 4: Additional Provisions for Industry Incentive Plan Agreements

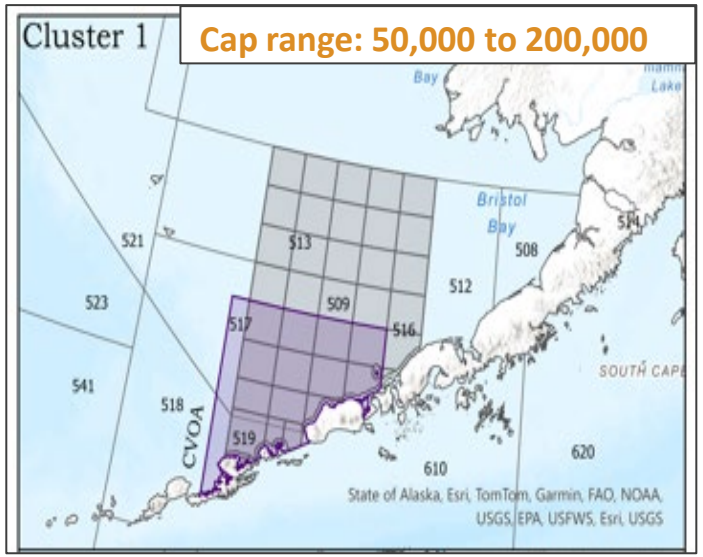
- 6 provisions added to federal regulations for industry's Incentive Plan Agreements
  - Provisions are focused on chum and Western Alaska chum salmon avoidance
    - Using genetic information to inform fleet movement,
    - Evaluating hot spot closures more than once per week,
    - Closing areas when encounters are very high, *etc.*
  - 3 incentive plans were modified in recent years and largely reflect proposed changes

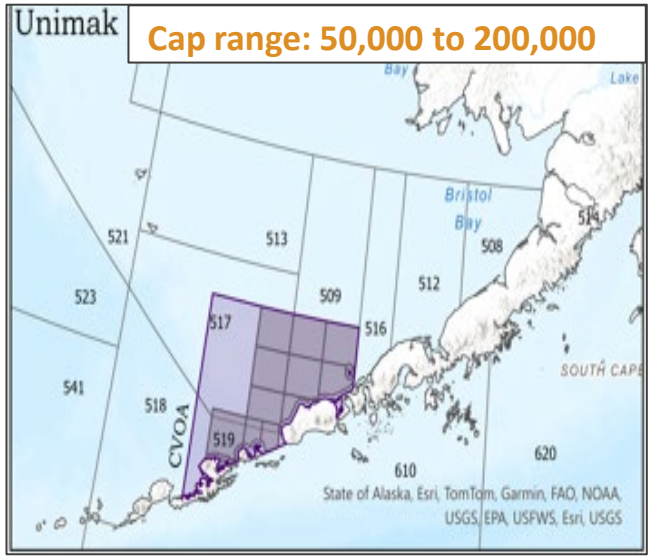
Alternative 5: Inseason Corridor Cap

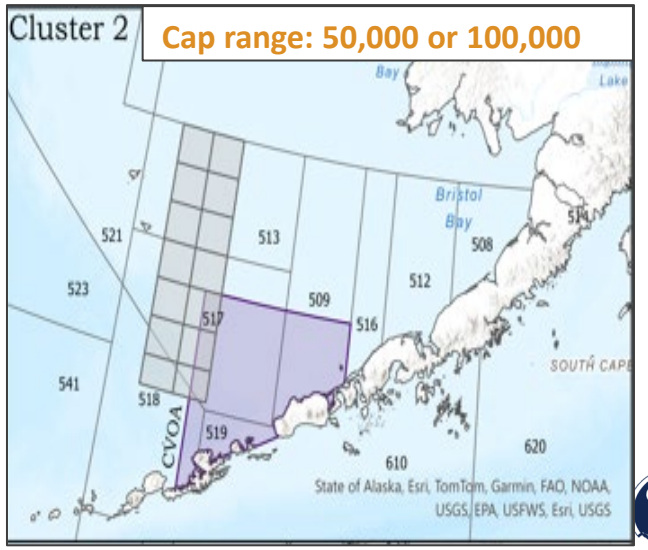
Substantial changes made to this alternative in February 2025

- Timing and location based on historical genetic information indicating when and where Western Alaska chum are more likely to be encountered
- Corridor closes if chum salmon bycatch cap is met between June 10 and August 31

Previously considered inseason corridor (gray) options:



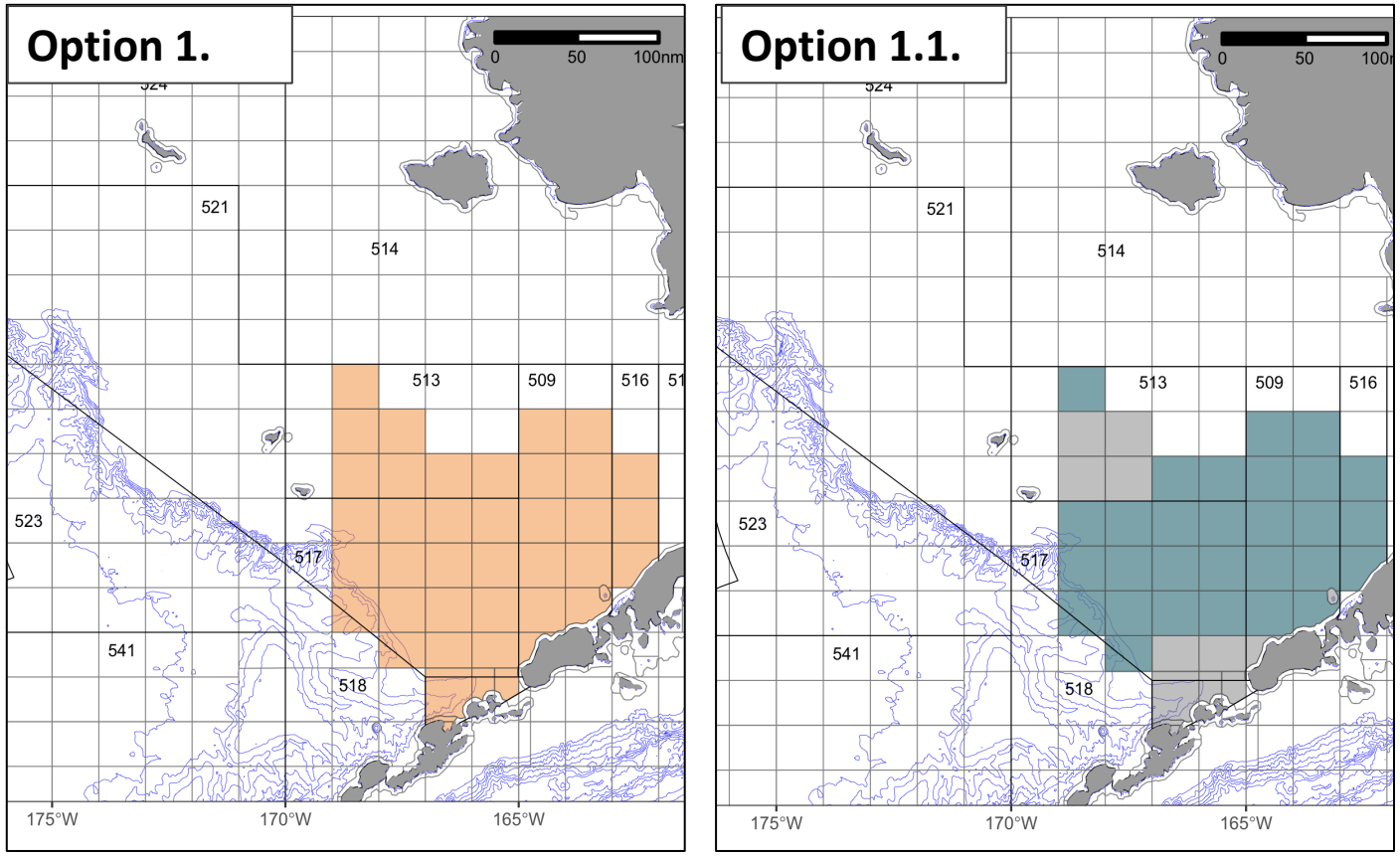




Notes: Inseason corridor options considered under Alternative 5 (gray) prior to the Council's February 2025 meeting. Catcher Vessel Operational Area (CVOA) is shown in purple. CPs are prohibited from fishing directed pollock allocation inside the CVOA during the B season.

NEW Alternative 5: Inseason Corridor Cap

Not analyzed yet



Notes: New Inseason corridors being considered under Alternative 5. Combined Cluster 1 and Cluster 2 corridor (left panel, orange) would close if cap is met during closure window. 75% of the combined Cluster 1 and Cluster 2 corridor would close (right panel, blue) if the cap is met. Option 2 is not depicted.

- Larger corridor area
- Cap range: 50,000 to 350,000
- **Option 1:** Entire corridor closes if sector meets cap
- **Option 1.1:** ~75% of corridor closes if sector meets cap
- **Option 2:** ~50% to 75% of corridor closes if sector meets cap
  - Areas identified inside corridor could change over time but not inseason

Summary of Other Council Actions in February 2025

Council's February 2025 motion is available on eAgenda

- Modified options to divide chum salmon bycatch caps among pollock sectors under Alternatives 2, 3, and 5
- Modified data source for Kuskokwim Area in 3-area Index under Alternative 3
- Additional changes to Alternative 5:
  - Option 3: Returns above the 75th or 90th percentile of historical abundance for Yukon summer and fall chum salmon "turn off" the corridor cap
  - Option 4: Adjust the start date for Winter Herring Savings Area

Reminder of Timeline Moving Forward

✓ **February 2025:** Council recommended publication of draft Environmental Impact Statement

August 2025: Tentative publication of draft Environmental Impact Statement

- 60-day public comment period → *next opportunity to provide written comment*

December 2025: Tentative Council final action scheduled

- All Council and advisory body meetings are open to the public
- Options for written, in-person, and virtual public testimony

2026 (tentative): rulemaking

2027 B season (tentative): implementation

Recent and Ongoing Outreach and Engagement

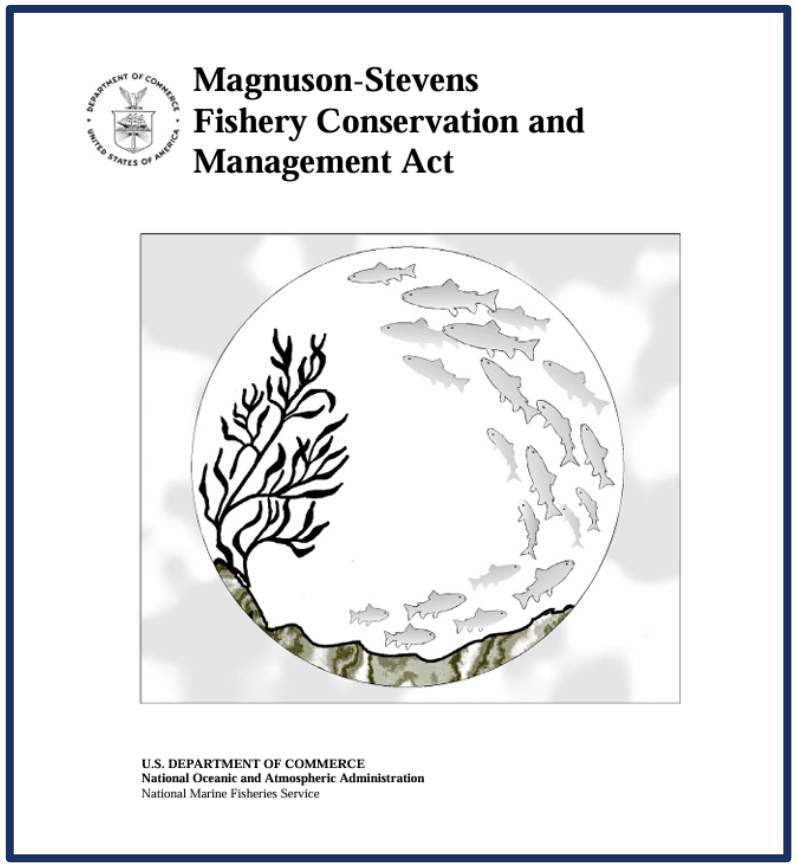
- Eastern Interior RAC (Fairbanks)
- Western Interior RAC (Fairbanks)
- Yukon-Kuskokwim Delta RAC (Bethel)
- Kodiak/Aleutians RAC (Virtual)
- Tanana Chiefs Conference (Fairbanks)
- Kuskokwim River Salmon Management Working Group (Virtual)
- NMFS Tribal Consultation and Engagement is ongoing
  - Regularly scheduled prior to each Council meeting including February 2025

Dutch Harbor, ASMI Industry and Partner Use

Extra Slides

BACKGROUND INFORMATION ON THE NPFMC

Council and NMFS Management is Governed by the Magnuson-Stevens Act



U.S. Federal law that established:

- 8 regional fishery management councils
- 200-mile limit (Exclusive economic Zone)
- 10 National Standards – Council and NMFS **must** consider all of them
  - Prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery (e.g., the Bering Sea pollock fishery),
  - Minimize bycatch to extent practicable (e.g., salmon bycatch),
  - Provide for the sustained participation and minimize adverse impacts on fishing communities

Who is on the Council?

15 total members

- 11 voting
  - 4 seats are designated → heads of: NMFS, ADF&G, Washington and Oregon Departments of Fish and Wildlife
  - 7 appointed seats
    - 5 Alaska
    - 2 Washington
- 4 non-voting
  - U.S. Coast Guard, Pacific States, U.S. Dept of State, U.S. Fish and Wildlife

Council Meetings

- Typically, 5 meetings per year
  - 3 in Anchorage, 1 in Alaska coastal fishing community, 1 in Seattle or Portland
  - Each meeting is ~8 days
- All meetings are open to the public
  - Written comments can be provided prior to the meeting
  - Public testimony can be provided in-person or remotely
  - YouTube link available to listen and watch Council meetings in real-time

Other Ways to Provide Input or Get Connected

Write a letter to the Council

- Provide written comments on the meeting agenda webpage under the item you are interested in

Testify at a Council meeting

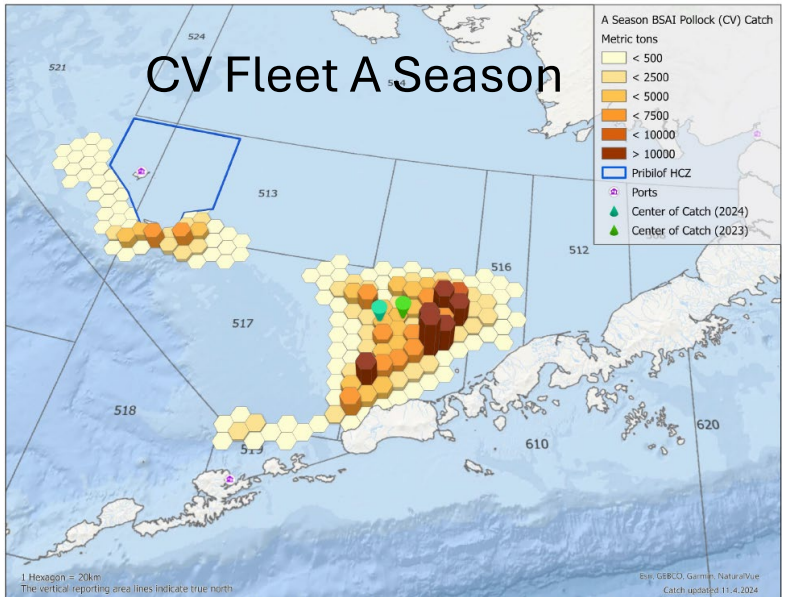
- Provide testimony in-person or remote when the Council discusses an item you are interested in

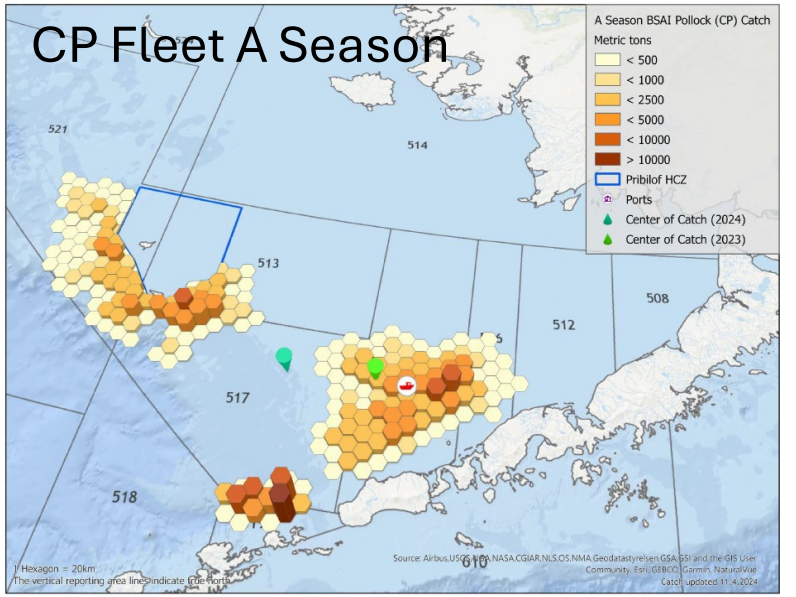
Check the Council website below or contact staff about upcoming agenda items

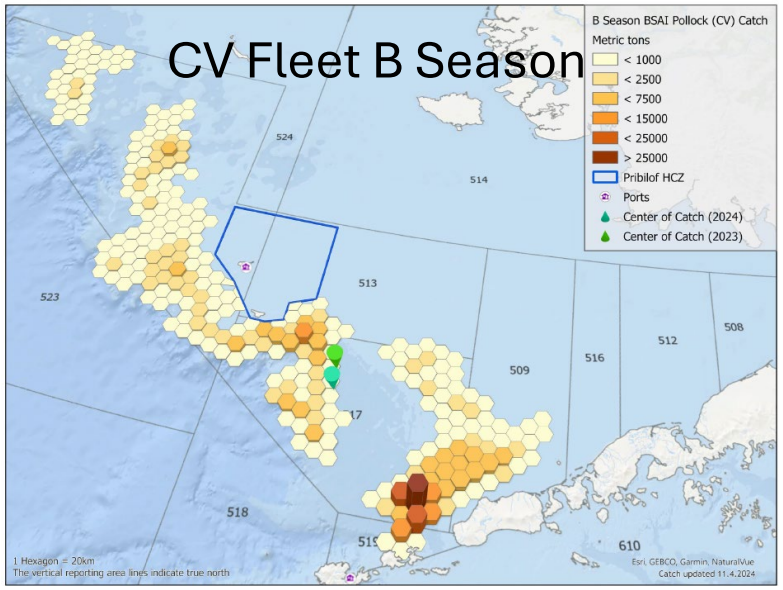
- Council website: www.npfmc.org

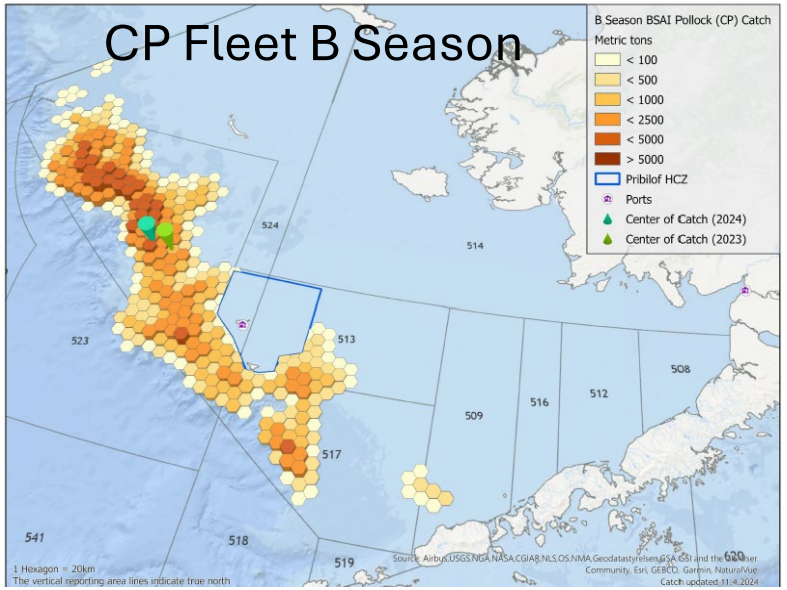
BERING SEA POLLOCK FISHERY

Distribution of the 2024 Bering Sea Pollock Fishery

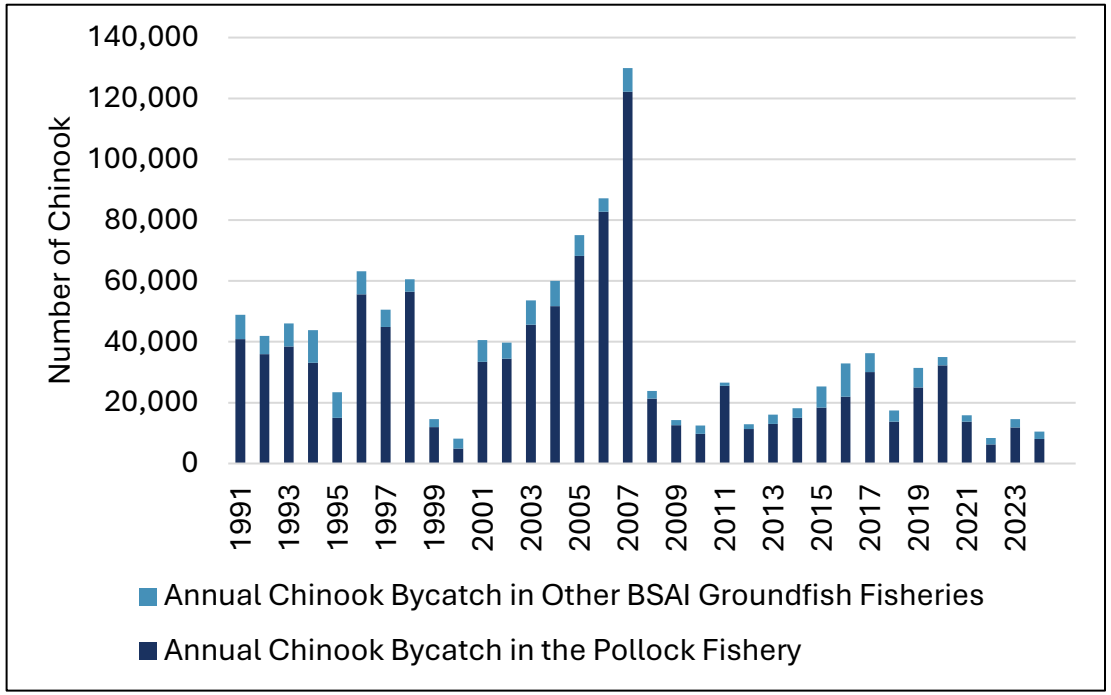




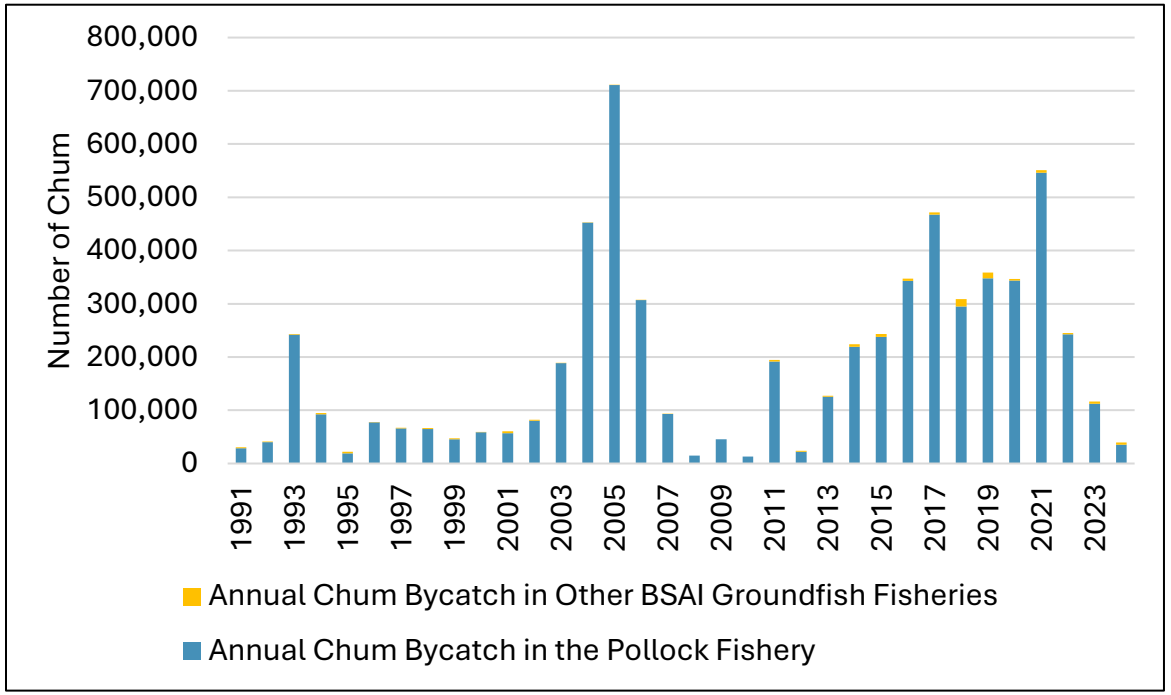




Salmon Bycatch Management Program is Focused on the Pollock Fishery



Notes: Chinook salmon bycatch (number of fish) in all Bering Sea Aleutian Islands (BSAI) groundfish fisheries compared to Bering Sea pollock fishery, 1991-2024



Notes: Chum salmon bycatch (number of fish) in all Bering Sea Aleutian Islands (BSAI) groundfish fisheries compared to Bering Sea pollock fishery, 1991-2024

Salmon Bycatch Monitoring in the Bering Sea Pollock Fishery

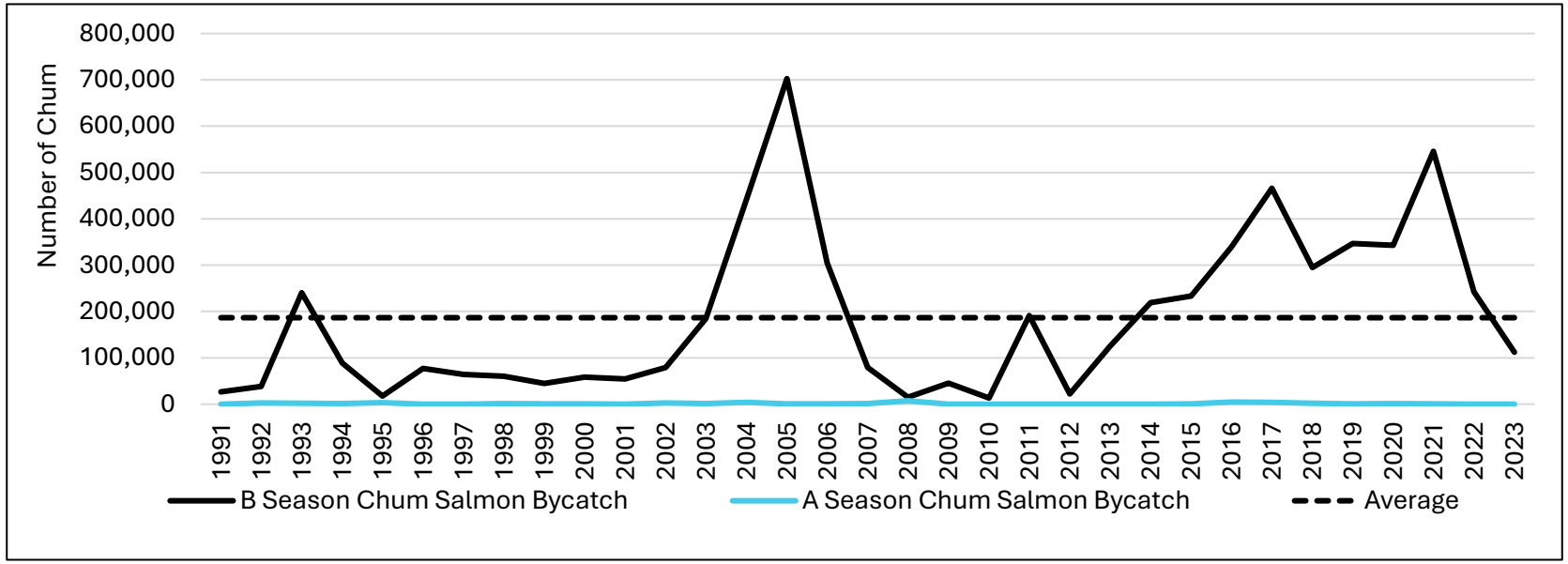
- Salmon caught as bycatch, by law, is counted by certified observers but cannot be retained or sold

Fishery	Observer monitoring	Salmon discard prohibition	Salmon accounting	Salmon biologicals
Catcher Processor	✓ At-sea observers (200%)	✓ All salmon discards are prohibited	✓ All salmon are counted and identified to species	✓ Biological information, including genetic samples, on Chinook and chum salmon
Motherships	✓ At-sea observers (200%)			
Shoreside catcher vessels <u>without</u> electronic monitoring	✓ At-sea and shoreside observers (100%)			
Shoreside catcher vessels with electronic monitoring	✓ At-sea video recording of all fishing activity and shoreside observers monitoring			

CHUM SALMON BYCATCH

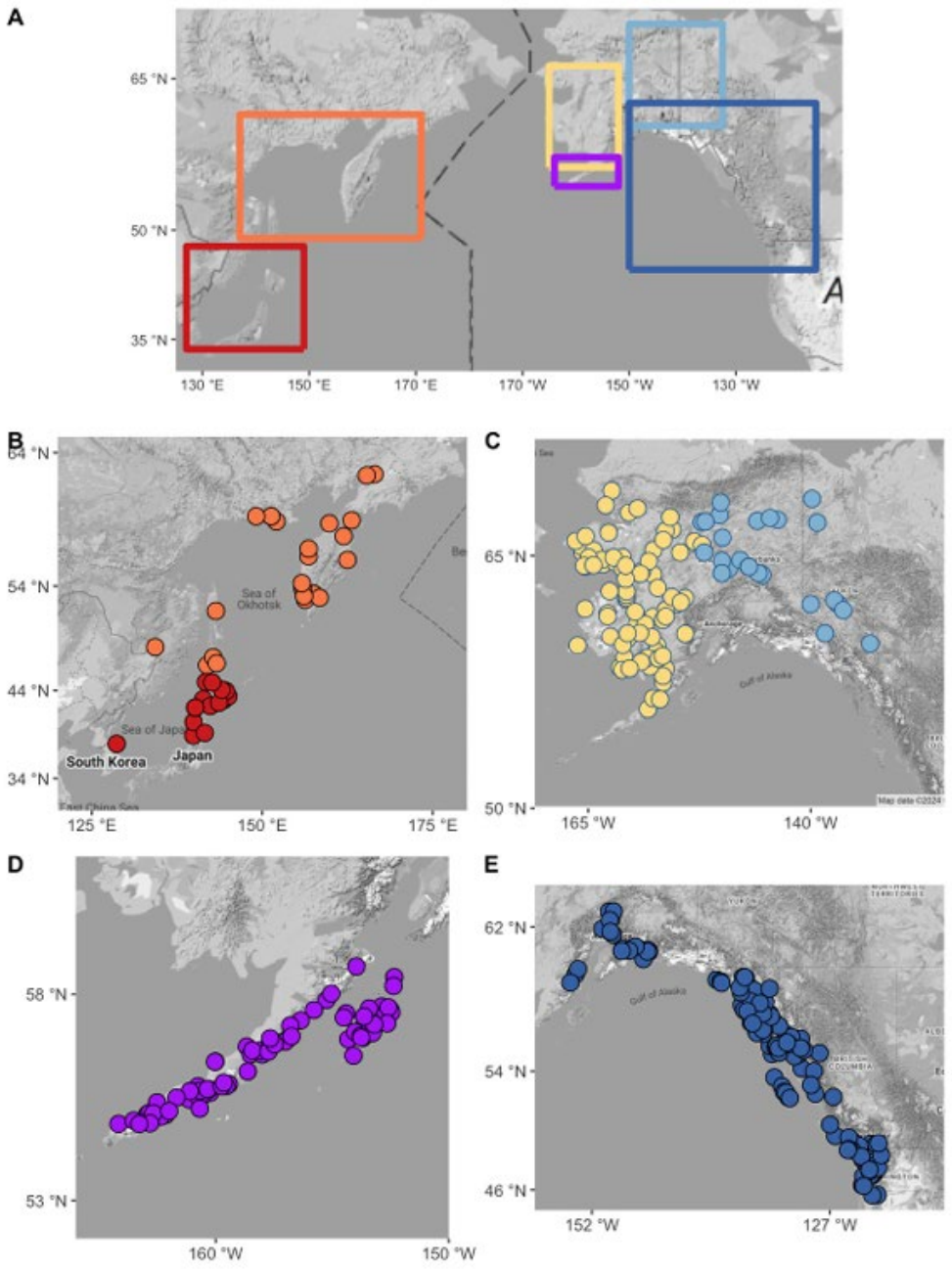
Chum Salmon Bycatch Trends

- Differential by season: Winter ("A season") and summer fishery ("B season")



Notes: B season chum salmon bycatch (number of fish) compared to A season bycatch (number of fish) and the long-term average, 1991-2024

- Differential among 4 sectors: offshore catcher processors, motherships, shoreside catcher vessels, and CDQ

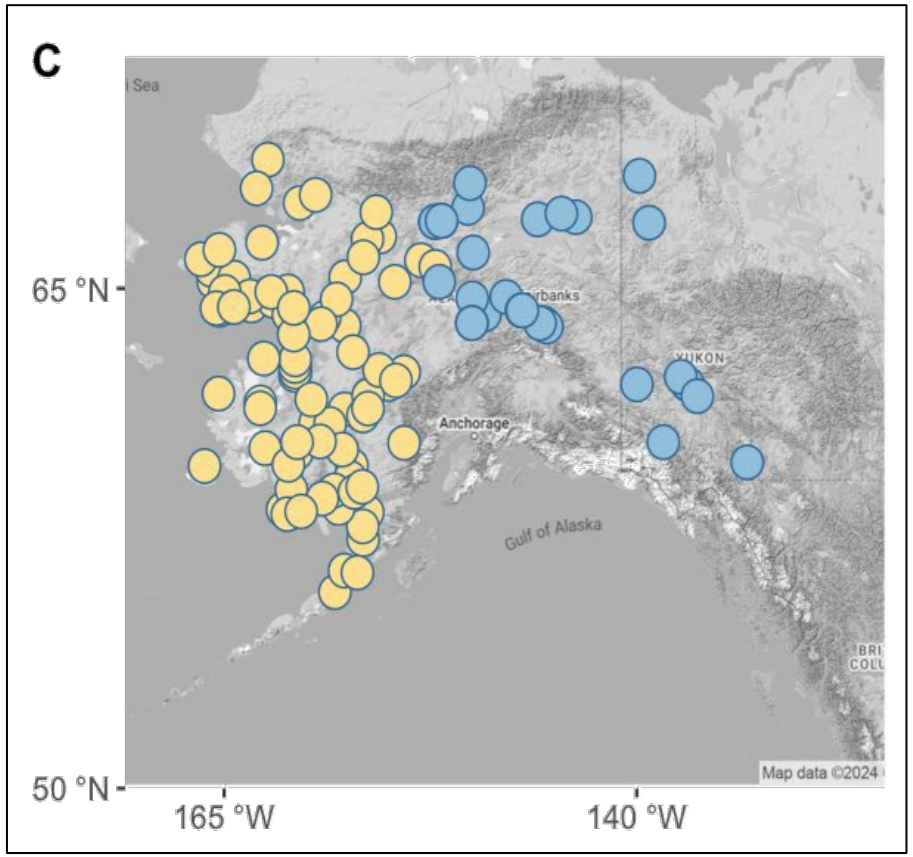


Where are Chum Salmon Caught as Bycatch From?

Six reporting groups of baseline chum salmon populations used in annual reports. Circles represent individual populations represented in the baseline.

- **Panel A** = Range wide distribution of the six reporting groups
- **Panel B** = SE Asia (red) and NE Asia (orange)
- **Panel C** = Coastal Western Alaska (Yellow) and Upper/Middle Yukon (blue)
- **Panel D** = SW Alaska (purple)
- **Panel E** = EGOA/PNW (dark blue)

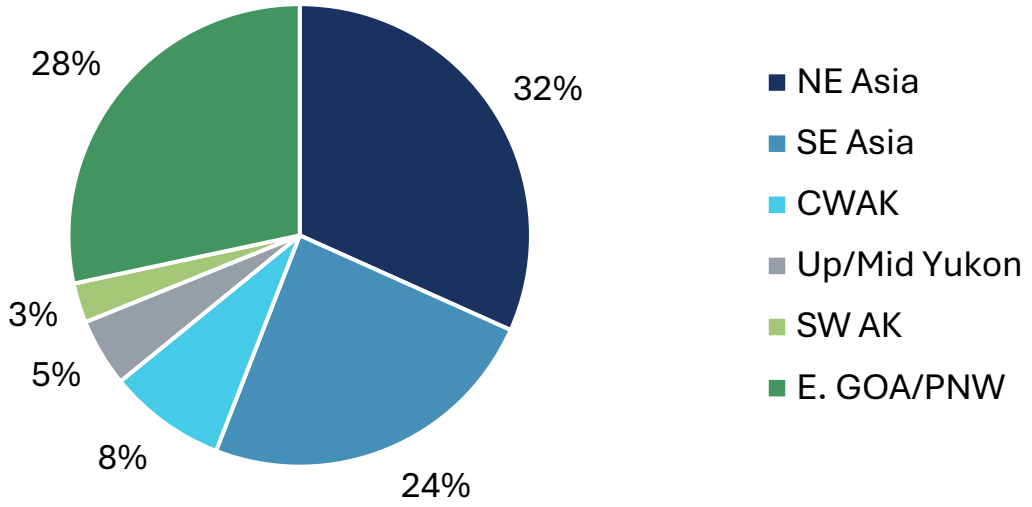
2024 Western Alaska Chum Salmon Bycatch



Notes: Western Alaska genetic reporting group = coastal Western Alaska (yellow) and Upper/Middle Yukon (blue)

In 2024, 32,081 chum salmon caught as bycatch

4,205 or 13.1% were Western Alaska chum salmon



Notes: Genetic stock composition of chum bycatch in the 2024 pollock fishery

Western Alaska Chum Salmon Bycatch Trends

Year	Coastal Western Alaska		Upper/Middle Yukon		Western Alaska Combined		Total chum salmon
	Average %	Estimated #	Average %	Estimated #	Average %	Estimated #	Observer count
2011	16.2%	30,993	8.9%	17,027	25.1%	48,020	191,313
2012	13.8%	3,060	7.4%	1,641	21.2%	4,701	22,172
2013	18.1%	22,633	6.3%	7,782	24.4%	30,415	125,114
2014	17.7%	38,699	2.1%	4,553	19.8%	43,252	218,886
2015	16.0%	37,294	3.9%	9,090	19.9%	46,384	233,085
2016	19.3%	65,473	5.3%	17,980	24.6%	83,453	339,236
2017	14.0%	65,219	6.0%	27,951	20.0%	93,170	465,848
2018	15.4%	45,385	3.4%	10,020	18.8%	55,405	294,675
2019	15.9%	55,143	0.3%	1,040	16.2%	56,183	346,671
2020	8.0%	27,448	1.1%	3,774	9.1%	31,222	343,094
2021	8.9%	48,658	0.5%	2,854	9.4%	51,512	545,901
2022	21.1%	51,106	1.9%	4,618	23.0%	55,724	242,309
2023	8.3%	9,246	2.3%	2,540	10.6%	11,491	111,843
Average	14.8%	38,489	3.8%	8,528	18.6%	46,995	267,704

Notes: Estimated number of chum salmon caught as bycatch from the coastal western Alaska reporting group, the Upper/Middle Yukon reporting group, the Western Alaska combined reporting group, and total chum salmon bycatch in the Bering Sea pollock B season

Different Types of Salmon Bycatch Data Available

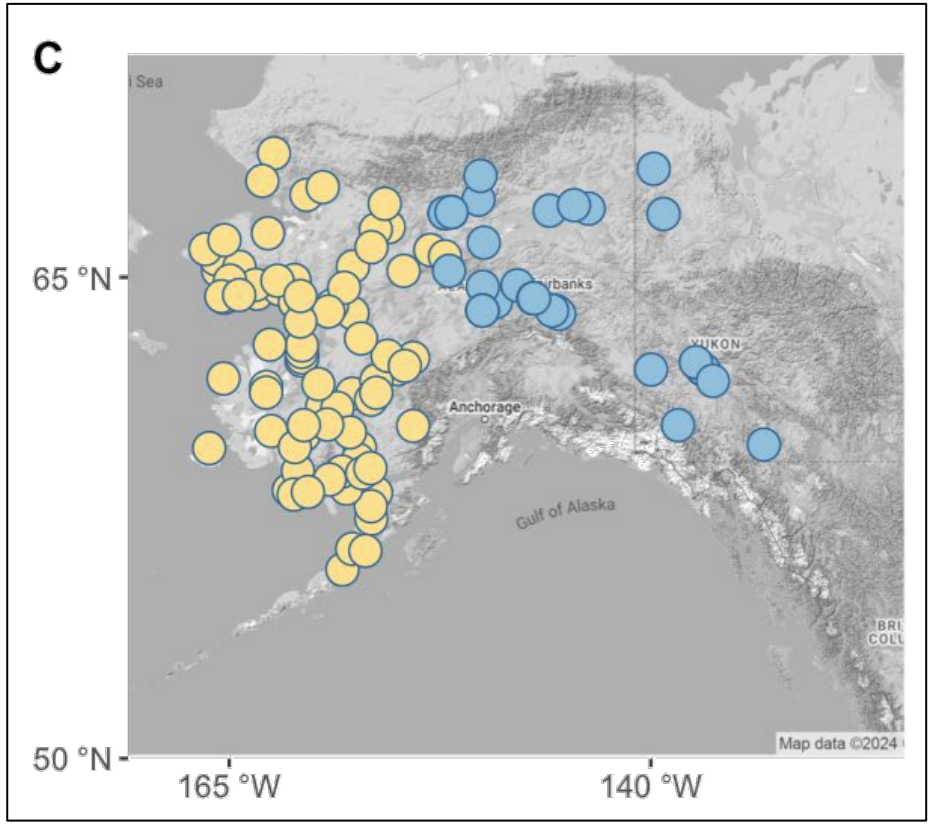
Category	Data or Methods Used
1. Total salmon bycatch	NMFS certified observer census data
2. Genetic stock identification (i.e., Western Alaska salmon)	• NMFS certified observer census data Observer collected biological samples (1 in 10 Chinook salmon or 1 in 30 chum salmon) • Analyses by Auke Bay Labs geneticists
3. Estimate of adult equivalent salmon	• NMFS certified observer census data • Observer collected biological samples + genetic analyses • Age of fish, maturation, and natural mortality • May be used to help evaluate bycatch impact if run size data is available, too

How are Adult Equivalent Estimates Used for Chum Salmon?

AEQ estimates are used to determine bycatch removals as a % of run size

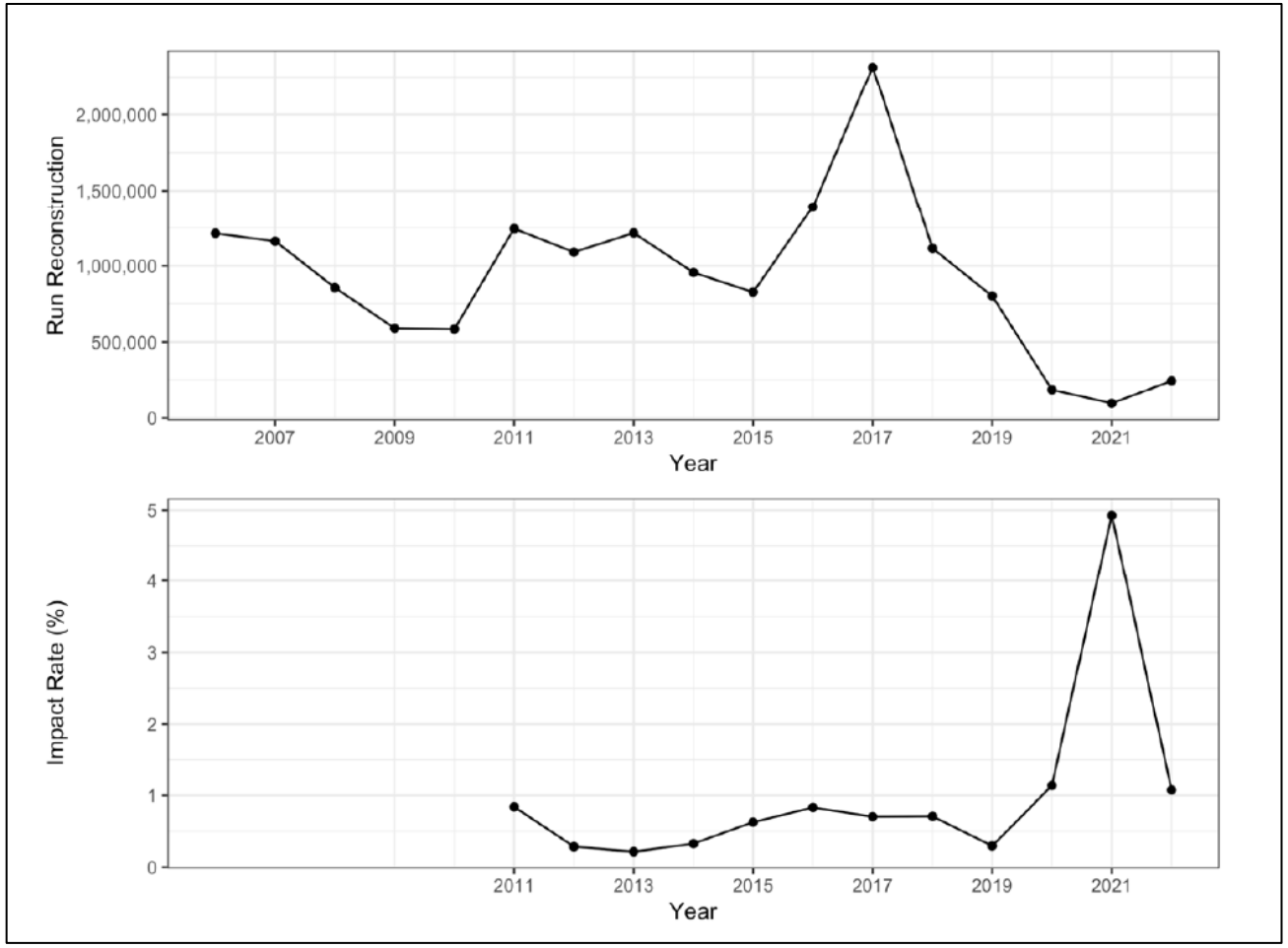
- Also need an aggregate run size for the genetic regional reporting group
  - **<u>Not available</u>** for coastal Western Alaska
  - **<u>Available</u>** for Upper/Middle Yukon and aligns with Yukon fall chum run

AEQ fish ÷ (run size + AEQ) = impact rate



Notes: Western Alaska genetic reporting group – coastal Western Alaska (yellow) and Upper/Middle Yukon (blue)

Impact of Chum Salmon Bycatch on Yukon Fall Chum



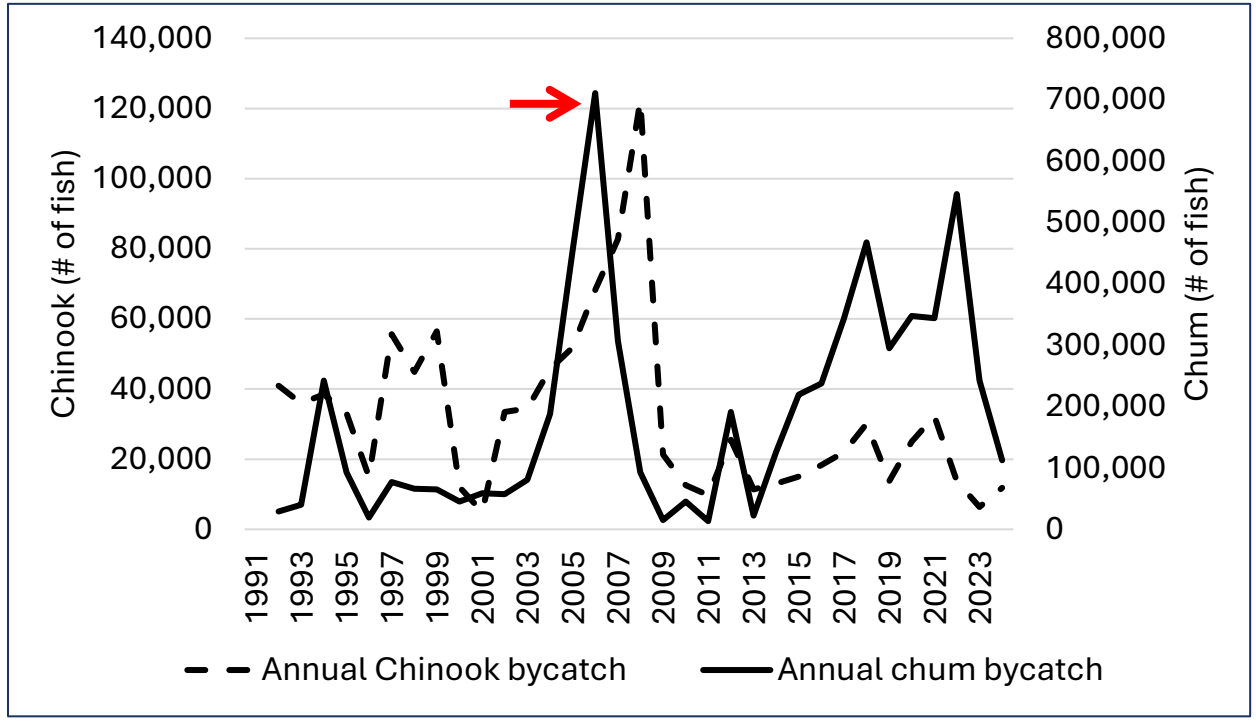
Notes: Yukon fall chum salmon run reconstruction (top) and the estimated impact rate of bycatch (bottom) of the Yukon River fall chum run

- Averaged 1% of Yukon fall chum salmon run size
  - Lowest at 0.22% in 2013
  - Peaked at 4.93% in 2021 due to very low returns
- Impact rate not available for Coastal Western Alaska reporting group
- Methods may not fully capture the importance of a relatively small number of chum salmon returning to natal systems

CHINOOK SALMON BYCATCH

Prior Council Actions on Salmon Bycatch in the Bering Sea Pollock Fishery

- Salmon bycatch managed using time-area closures since the mid-1990s
  - Fixed time-area closures were not responsive to changing conditions in early 2000s
    - Bycatch encounters were higher outside closed area compared to inside
- Council began evaluating new management measures in 2005



Notes: Comparison of annual Chinook and chum salmon bycatch (number of fish) in the Bering Sea pollock fishery, 1991-2024

Chinook Salmon Bycatch Hard Caps, Amendment 91

Implemented in 2011

- Hard caps for Chinook salmon bycatch close the fishery if met
- High cap of 60,000 Chinook salmon divided by season and sector
- Lower cap of 47,591 Chinook salmon
  - A sector cannot exceed its portion of the lower cap 3 times in any rolling 7-year period (performance standard)

Other Provisions of Amendment 91

- Incentive Plan Agreements implemented alongside Chinook salmon hard caps
  - 3 agreements in effect since 2010
- NMFS reviews and approves incentive plans and Council receives annual reports on performance (typically in April)
- Required ≥ 100% observer coverage on all vessels to manage hard cap
- Changes to sampling protocol including genetics
  - Annual reporting to Council on the genetic stock of origin of bycaught Chinook and chum salmon

Additional Chinook Salmon Bycatch Measures, Amendment 110

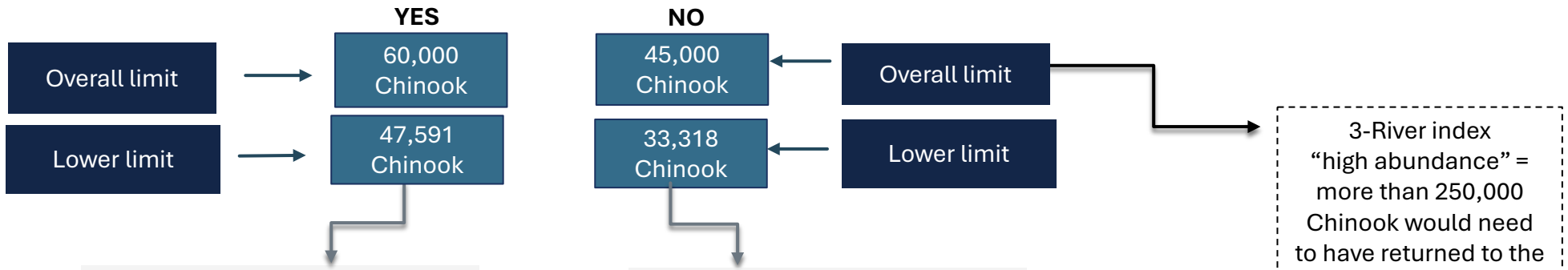
Implemented in 2017

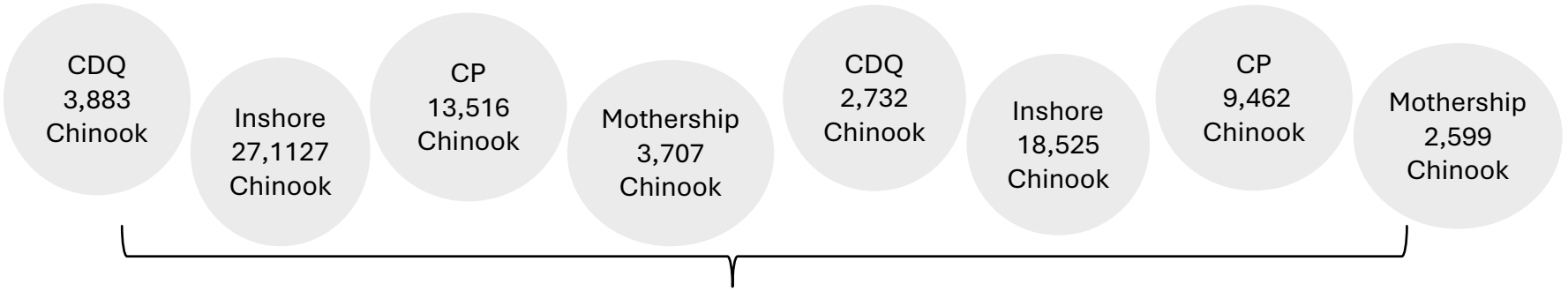
- 3-River index based on Yukon, Kuskokwim, an Unalakleet rivers
  - Returns under 250,000 Chinook (combined sum) → hard cap amounts decrease
    - High cap of 45,000 Chinook salmon divided by season and sector
    - Lower cap of 33,318 Chinook salmon
- Vessel-level incentives for bycatch avoidance
- Chum bycatch management incorporated into incentive plans
- Seasonal pollock allocation modified

Amendment 91 and 110 Chinook Salmon Hard Caps

Is Western Alaska Chinook abundance high?

Implemented in 2017

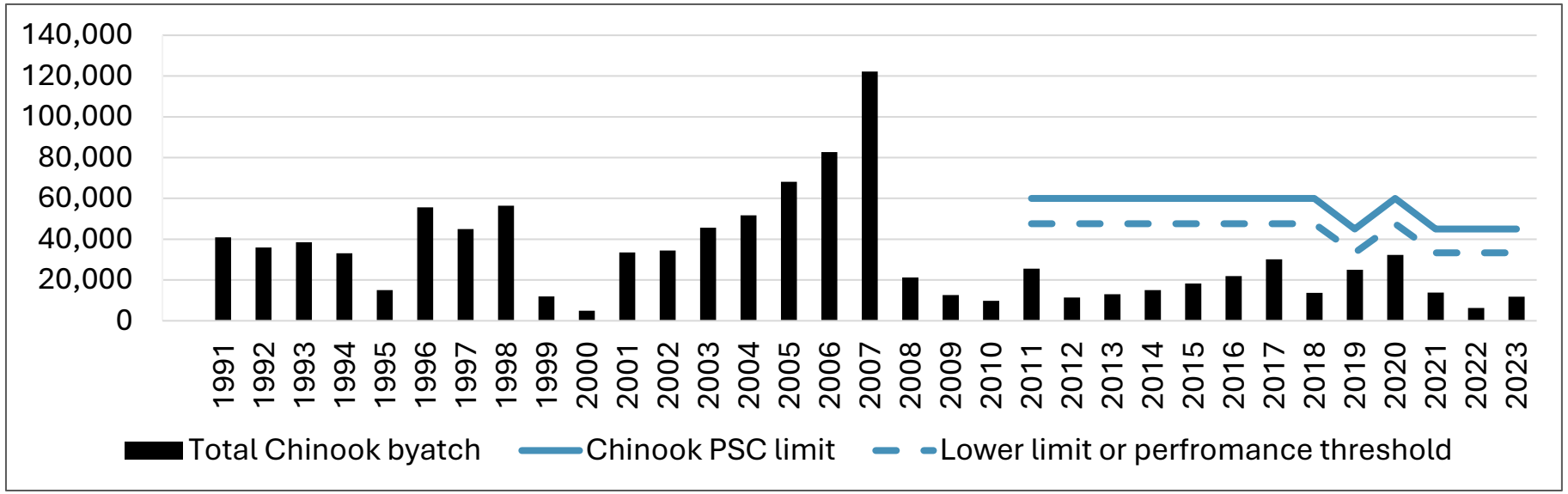




Performance standard: If a sector exceed its share of the lower limit in 3 out of 7 years, it is permanently allocated its share of the lower limit. If the pollock fishery hits the overall limit, it closes.

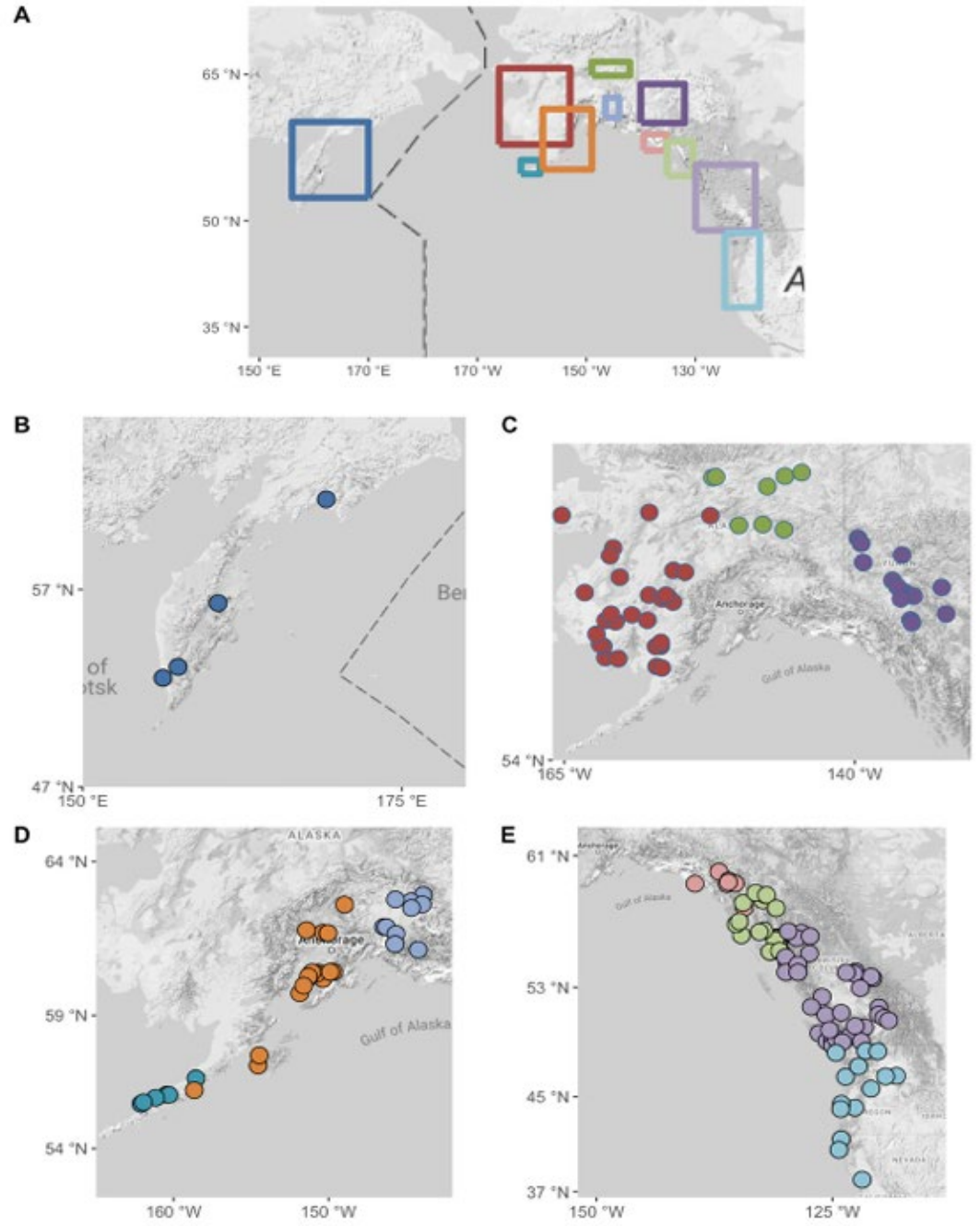
Policy Goals of the Chinook Salmon Bycatch Program

- Reduce Chinook bycatch always below a target level and under all conditions of encounters on the fishing grounds
- Provide vessel-level bycatch avoidance incentives
- Provide opportunities for the pollock fishery to catch quota



- Average level of bycatch from 1991 to 2010 was 40,976 Chinook
- Average level of bycatch from 2011to 2023 was 18,325 Chinook

Notes: Comparison of annual Chinook salmon bycatch (number of fish) in the Bering Sea pollock fishery, 1991-2024



Where are Chinook Salmon Caught as Bycatch From?

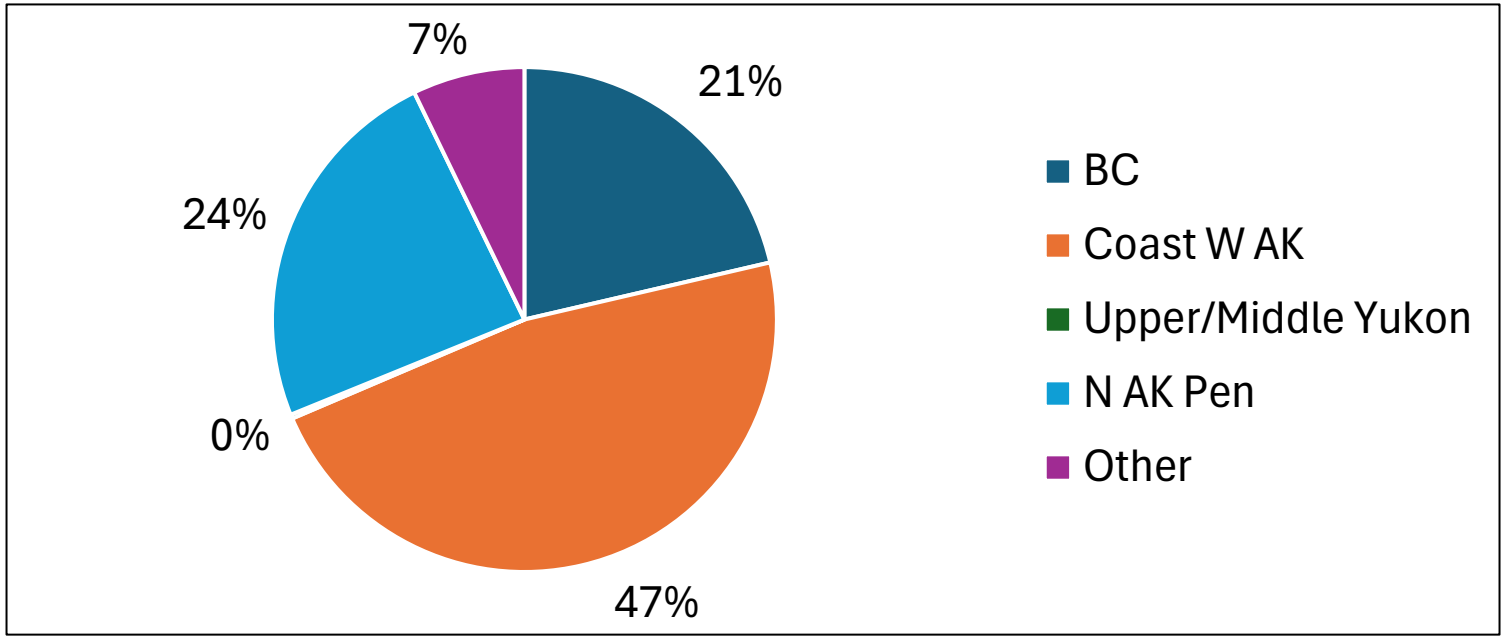
Eleven reporting groups of baseline Chinook salmon populations. Circles represent individual populations represented in the baseline.

- **Panel A =** Range wide distribution of the eleven reporting groups
- **Panel B =** Russia (dark blue)
- **Panel C =** Coastal Western Alaska (red), Middle Yukon (green), and Upper Yukon (dark purple)
- **Panel D =** Northern Alaska Peninsula (blue), NW GOA (orange), and Copper (light purple)
- **Panel E =** NE GOA (pink), Southeast Alaska (light green), British Columbia (light purple), West Coast US (light blue) reporting group

2023 Chinook Salmon Bycatch Genetics

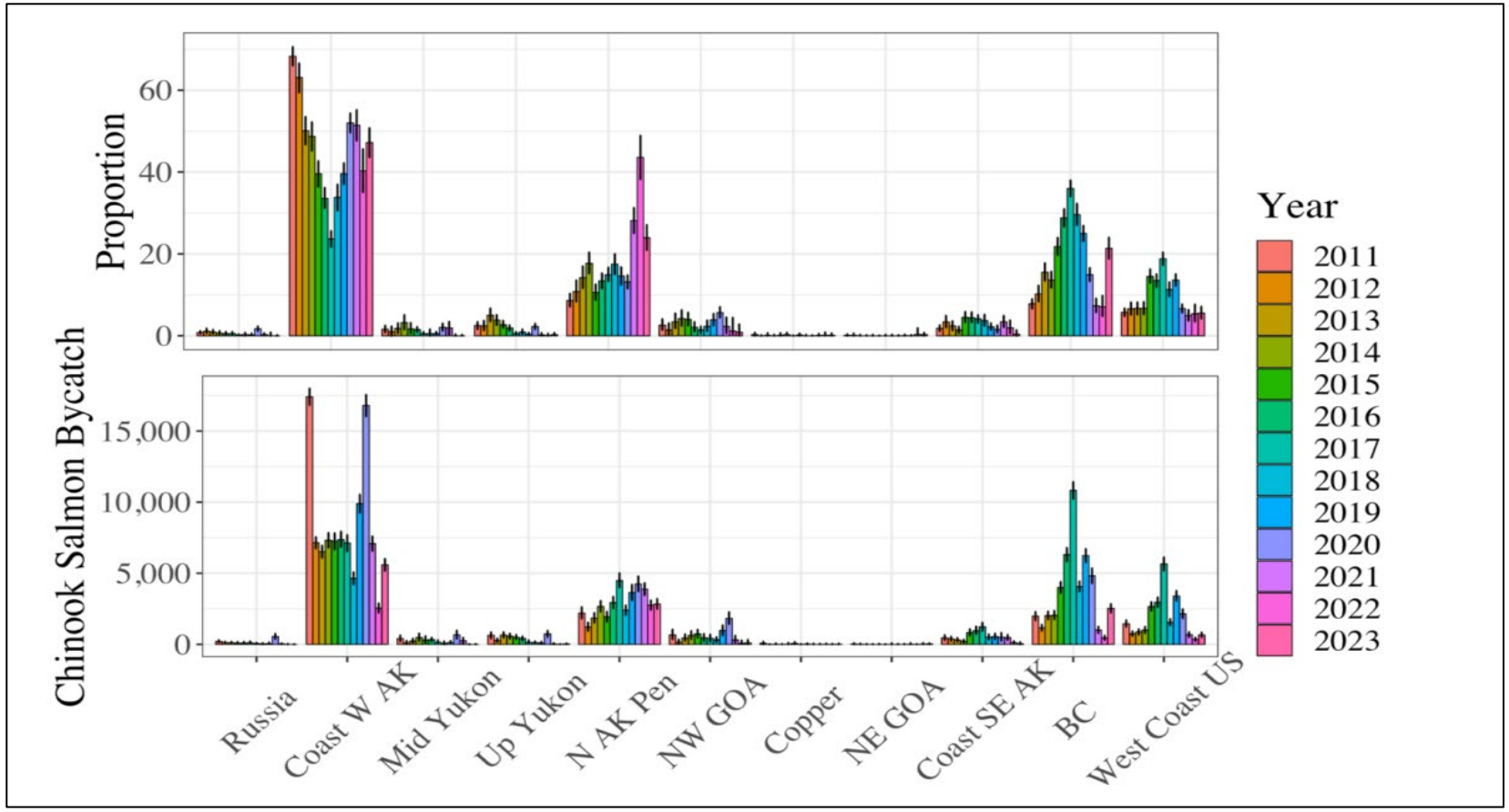
- 11,855 Chinook salmon were caught as bycatch in the 2023 pollock fishery
  - ~47% (5,597) originated from coastal Western Alaska river systems

2024 bycatch = 8,046
Genetics not yet available



Notes: Genetic stock composition of Chinook salmon bycatch in the 2023 pollock fishery

Chinook Salmon Bycatch Genetic Trends Since 2011



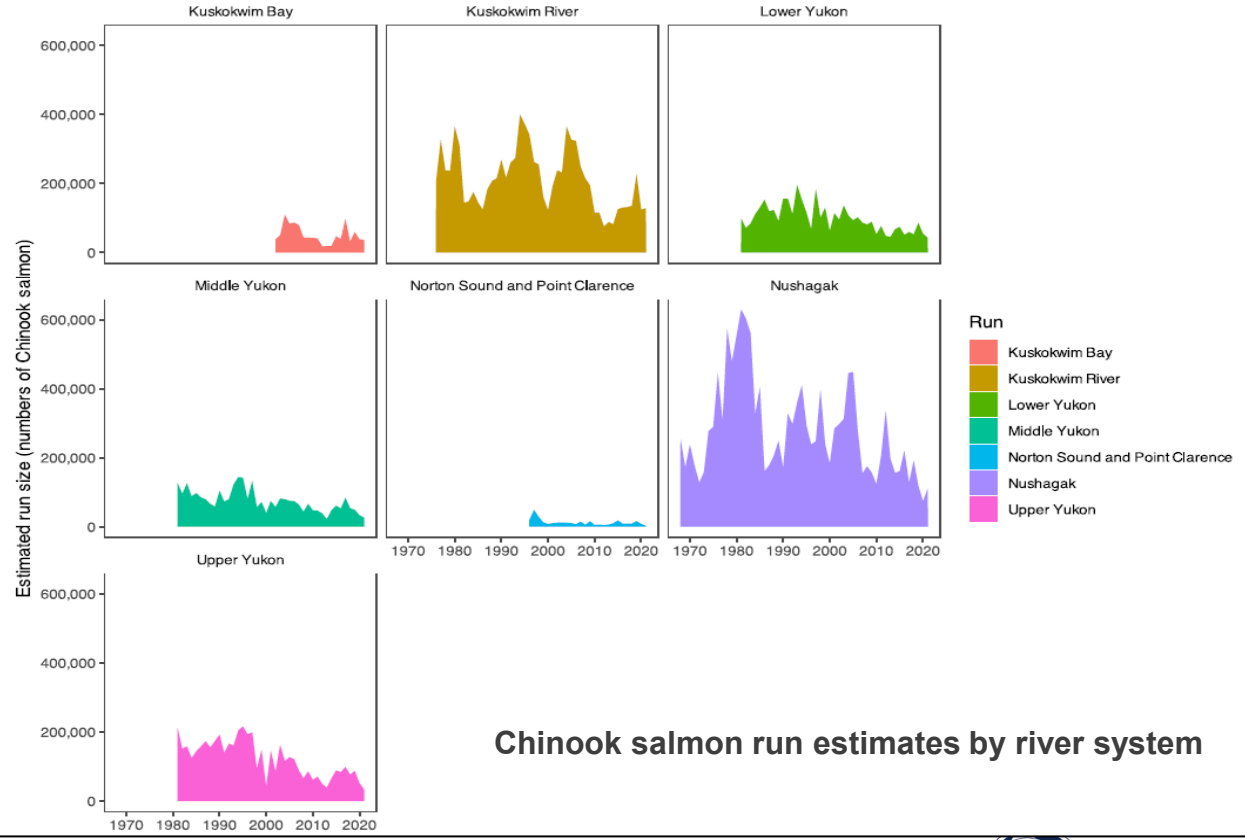
Notes: Annual Chinook salmon bycatch genetic stock composition estimates (top) and estimated number of Chinook salmon bycatch (bottom) from each regional reporting group in the Bering Sea pollock fishery along with 95% credible intervals, 2011-2023. Comparison of Annual Chinook Salmon Bycatch (number of fish) in the Bering Sea Pollock Fishery, 1991-2024

Estimating the Impact of Chinook Salmon Bycatch

To estimate bycatch as a % of total run size, we need:

- AEQ estimate for that genetic group
- Aggregate run size of a specific genetic grouping
  - Upper Yukon has a single run size estimate
  - Coastal Western Alaska run size is summed from Norton Sound to Nushagak

AEQ fish ÷ (run size + AEQ) = impact rate



Chinook salmon run estimates by river system

Summary of Chinook Salmon Bycatch Impact

- Impact of bycatch averaged 0.52% of Upper Yukon run size
- Impact of bycatch averaged 2.02% of the combined coastal Western Alaska run size

Year	Upper Yukon	Coastal WAK
2011	0.4% (0.3% - 0.5%)	1.7% (1.6% - 1.8%)
2012	0.5% (0.4% - 0.6%)	2.5% (2.3% - 2.8%)
2013	0.6% (0.5% - 0.8%)	2.3% (2.1% - 2.6%)
2014	0.4% (0.3% - 0.6%)	2.2% (2.0% - 2.4%)
2015	0.3% (0.3% - 0.4%)	1.4% (1.2% - 1.5%)
2016	0.4% (0.3% - 0.5%)	1.6% (1.5% - 1.7%)
2017	0.3% (0.3% - 0.4%)	1.6% (1.5% - 1.8%)
2018	0.3% (0.2% - 0.4%)	1.4% (1.2% - 1.5%)
2019	0.2% (0.2% - 0.3%)	1.2% (1.1% - 1.3%)
2020	0.7% (0.6% - 0.9%)	3.6% (3.4% - 3.8%)
2021	0.8% (0.6% - 1.0%)	3.0% (2.8% - 3.4%)
2022	1.1% (0.9% - 1.5%)	2.1% (1.8% - 2.3%)
2023	0.8% (0.6% - 1.0%)	1.7% (1.6% - 1.9%)

Estimated impact (median and lower and upper 95% confidence intervals) for combined western Alaska stocks and Upper Yukon impact estimates