THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Fish and Game

OFFICE OF THE COMMISSIONER
Headquarters Office

1255 West 8th Street
P.O. Box 115526
Juneau, Alaska 99811-5526
Main: 907.465.6136
Fax: 907.465.2332

February 9, 2023

The Honorable Click Bishop
Senate Resources Committee, Co-Chair
Alaska State Legislature
State Capitol, Room 504
Juneau, AK 99801

The Honorable Cathy Giessel
Senate Resources Committee, Co-Chair
Alaska State Legislature
State Capitol, Room 427
Juneau, AK 99801

Re: Presentation: AYK Fisheries Update – ADF&G Response

Dear Senate Resources Co-Chairs:

Thank you for the opportunity to provide supplemental information on the Department of Fish and Game's Artic, Yukon, and Kuskokwim (AYK) Fisheries Update to the Senate Resources Committee on January 27, 2023. Please find the Department's responses below.

1. **Provide a map of the AYK management region.**

Attachment 1 provides a map of the AYK management region.

2. **Provide bycatch numbers for AYK from 2008 – Present along with dates of federal trolling restrictions during that time.**

Bycatch amounts and origin are regularly posted on the North Pacific Fishery Management Council's (NPFMC) website: https://www.npfmc.org/fisheries-issues/bycatch/salmon-bycatch/. Relevant information is summarized below, and data graphs are provided in attachments 2 and 4.

Salmon are caught incidentally in the Bering Sea and Aleutian Islands (BSAI) offshore trawl fisheries, especially in the pollock trawl fishery. Salmon are considered a prohibited species catch (PSC), also referred to as bycatch, in groundfish fisheries and cannot be retained for sale.

In attachment 2, figure 1 shows total salmon bycatch, and figure 2 shows which proportion of the total bycatch comes from different regions and river systems, including AYK. Not all AYK

salmon caught as bycatch would have survived to return to spawn due to natural mortality and other factors. To give a more accurate estimate of bycatch impacts, NPFMC uses other information (number of salmon bycaught, age of fish, region of origin, and estimated maturity) to estimate how many of the bycaught salmon would have returned as adults to spawn, called adult equivalents (AEQ).

AEQ data shows impact rates on Chinook Salmon averaged 1.9% since 2011 for the combined coastal western Alaska stocks (0.6 for the Upper Yukon). The rate of western Alaska stocks increased in 2020 to an estimate of 3.4% but dropped to 2.6% in 2021 (0.9% and 1.1% for the Upper Yukon). The increase is due to lower returns overall with the biggest decrease for Combined western Alaska from the Nushagak River.

Determining AEQ for chum salmon in Coastal Western Alaska (CWAK) is not possible. Run reconstructions are currently only available for Yukon River summer and fall chum salmon and Kwiniuk River chum salmon. This excludes large populations in Kuskokwim River and throughout Bristol Bay, Kotzebue Sound, and Norton Sound. Unlike Chinook salmon, the lack of run reconstructions for large populations of Western Alaska chum salmon means that a good approximation of total Western Alaska chum salmon abundance cannot be provided. However, the impact rate for Yukon fall would be possible but may not accurately reflect trends across all Western Alaska chum stocks.

NPFMC and NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS) implemented a series of restrictions to minimize incidental catch of Chinook and chum salmon in trawling fisheries. In attachment 3, figure 1 shows closures for areas where higher rates of salmon bycatch occur that were established in 2018 for inshore catcher vessels. Figure 2 outlines Amendments 91 and 110.

In 2011, Amendment 91 was implemented to establish PSC limits for the entire pollock fishery fleet participating in an incentive plan agreement (IPA). That limit is 60,000 (total) and 47,591 (performance standard) for Chinook salmon. In 2016, Amendment 110 was implemented to further minimize Chinook salmon bycatch at low levels of salmon abundance and add chum salmon bycatch restrictions into the existing IPAs. This amendment strengthened incentives for bycatch avoidance (including rewards and penalties for failure to avoid Chinook salmon) and imposed a lower cap in years of estimated low western Alaska Chinook abundance (as estimated by the 3-River System Index for western Alaska based on the post-season in-river Chinook salmon run size for the Kuskokwim, Unalakleet, and Upper Yukon aggregate stock grouping). If the abundance is estimated greater than 250,00, the performance standard remains 47,591 with an overall PSC limit of 60,000. Lower than 250,000, the performance standard is 33,318 with an overall PSC limit of 45,000. As stated during the presentation and shown in figure 1 of attachment 2, the trawling fleet has been continually underneath those caps.

Additional information on the details of both amendments can be found on NPFMC's website through the link above. Attachment 4 shows the overall catch of Chinook and chum bycatch in the pollock fishery from 1991-2022 along with reference lines for Amendments 91 and 110.

3. **Copper River graph for comparison.**

In 2008, Copper River Chinook production decreased and has not returned to prior production levels. Overtime, Copper River Chinook salmon have also decreased in size, occurring

concomitant to declines in productivity. The cause of decreased productivity, age, and size is unknown but likely linked to changes in the marine environment, pointing towards poor marine survival. In attachment 5, figure 1 shows a graph of Copper River production from 1999 through 2021. Figure 2 shows the decline in size at age of the most dominant Copper River Chinook age class, 1.3 (5-year-old fish that have spent 1 winter in freshwater). This trend is consistent amongst all age classes.

4. **Hatchery release impact on natural systems.**

The committee had questions about the impact of hatcheries on natural systems, including potential impact of new hatcheries or increased hatchery releases. The North Pacific Anadromous Fish Commission (NPAFC) website provides statistics on hatchery releases as reported by the five member countries (Canada, Japan, the Republic of Korea, the Russian Federation, and the United States of America): https://npafc.org/statistics/. Release numbers for North pacific hatcheries have been stable since the mid-1980s.

I hope you find this information to be useful. Please do not hesitate to contact me if you have further questions.

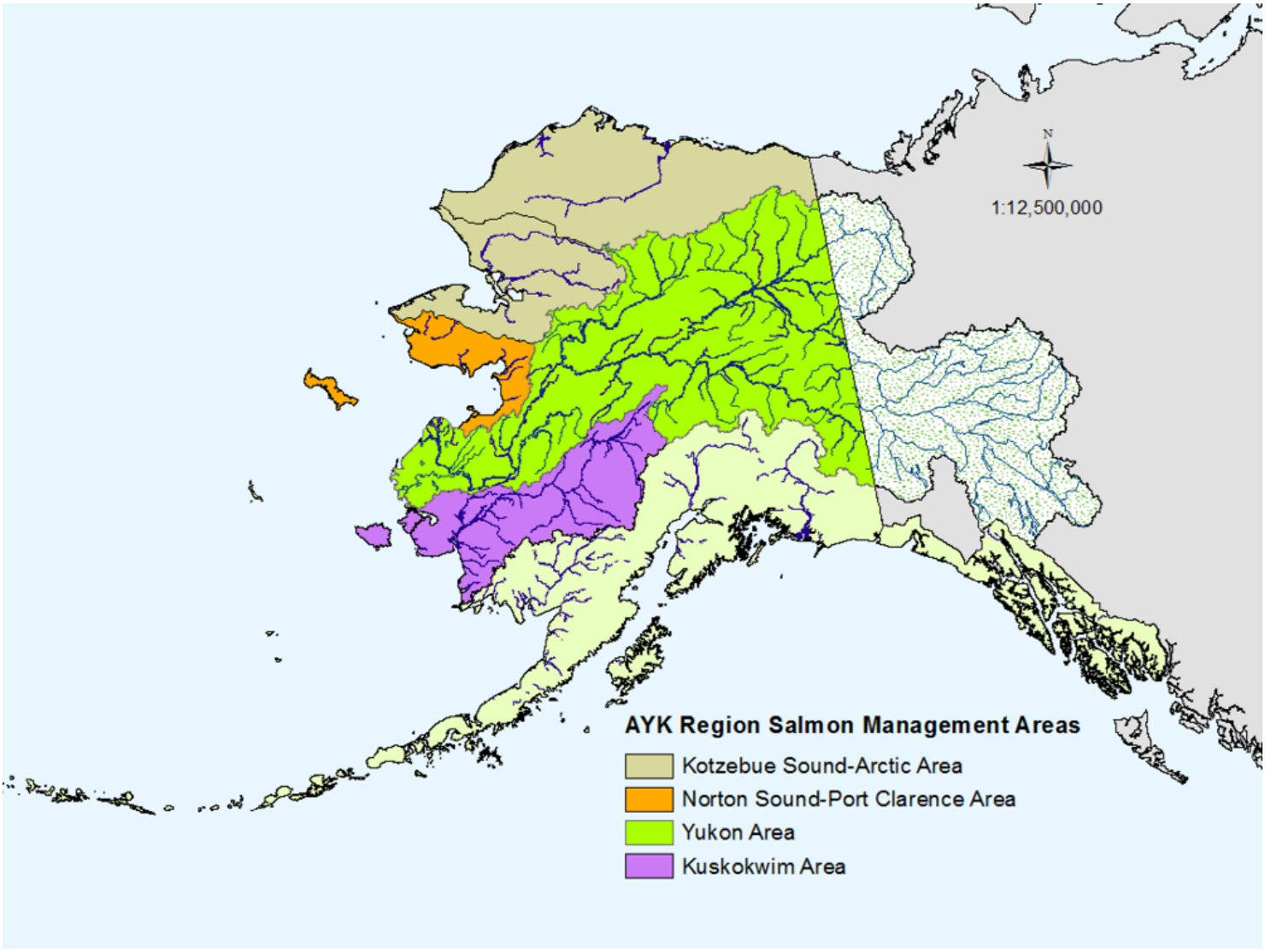
Respectfully,

Doug Vincent-Lang
Commissioner

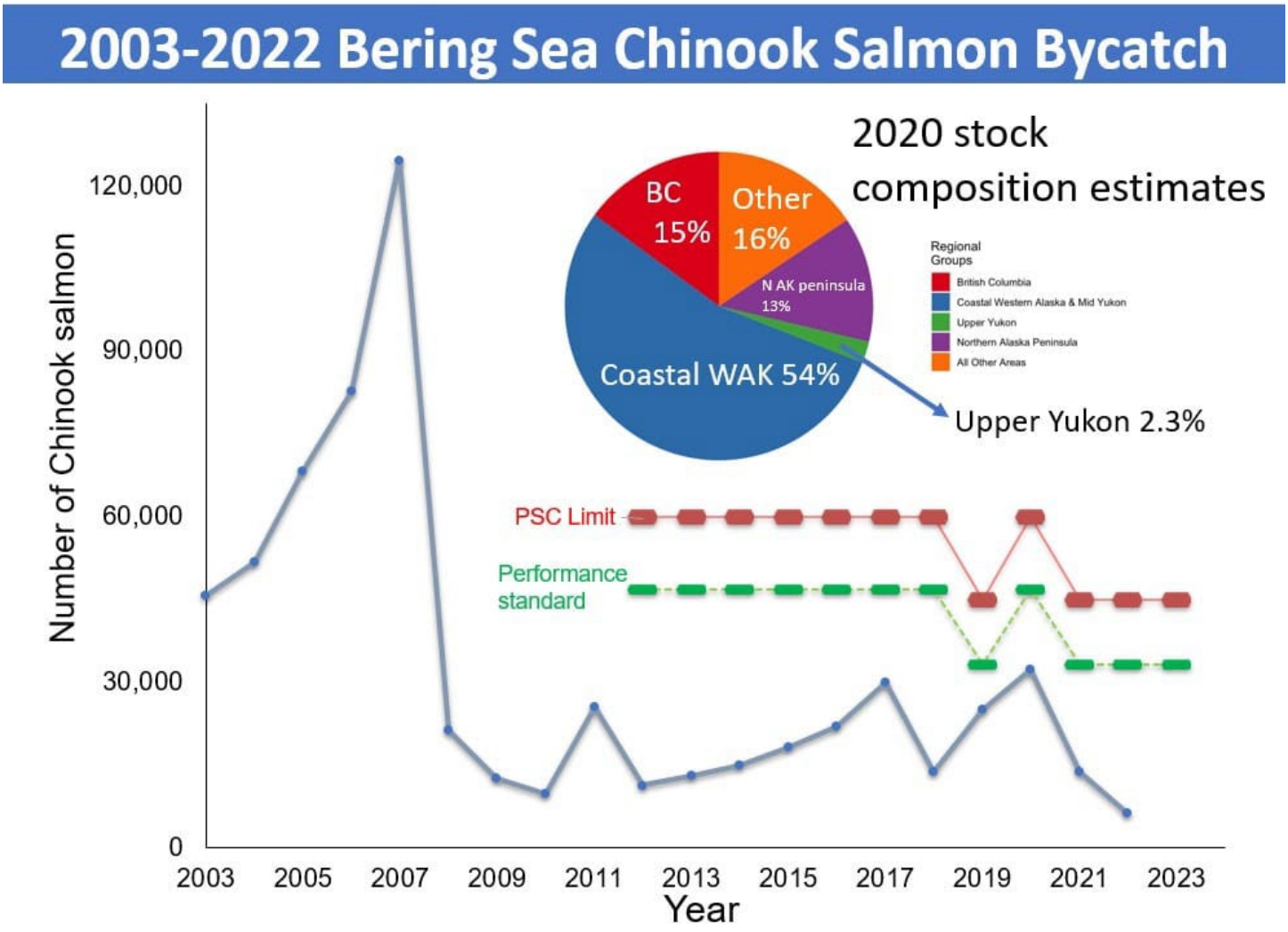
Cc: Laura Stidolph, Legislative Director, Office of the Governor

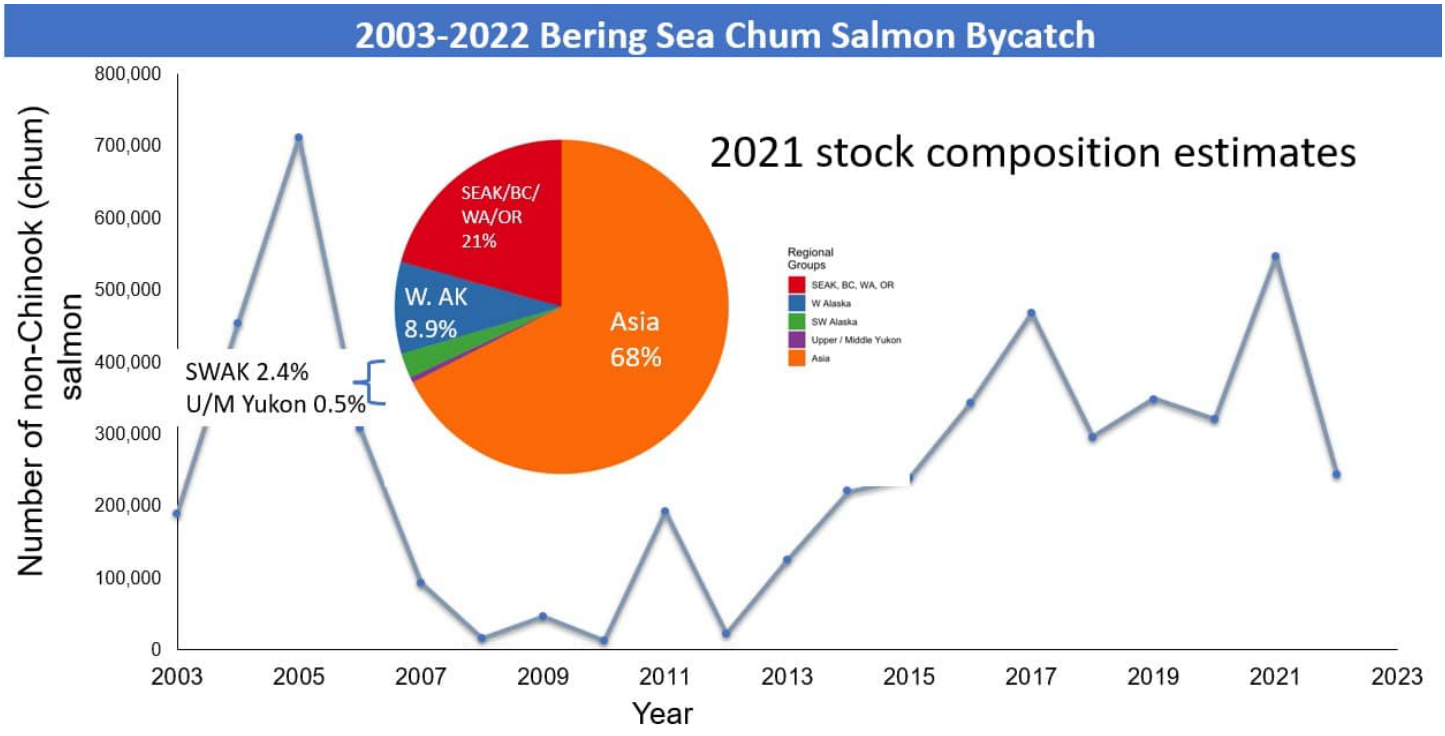
Enclosures (5)

Attachment 1: AYK management area



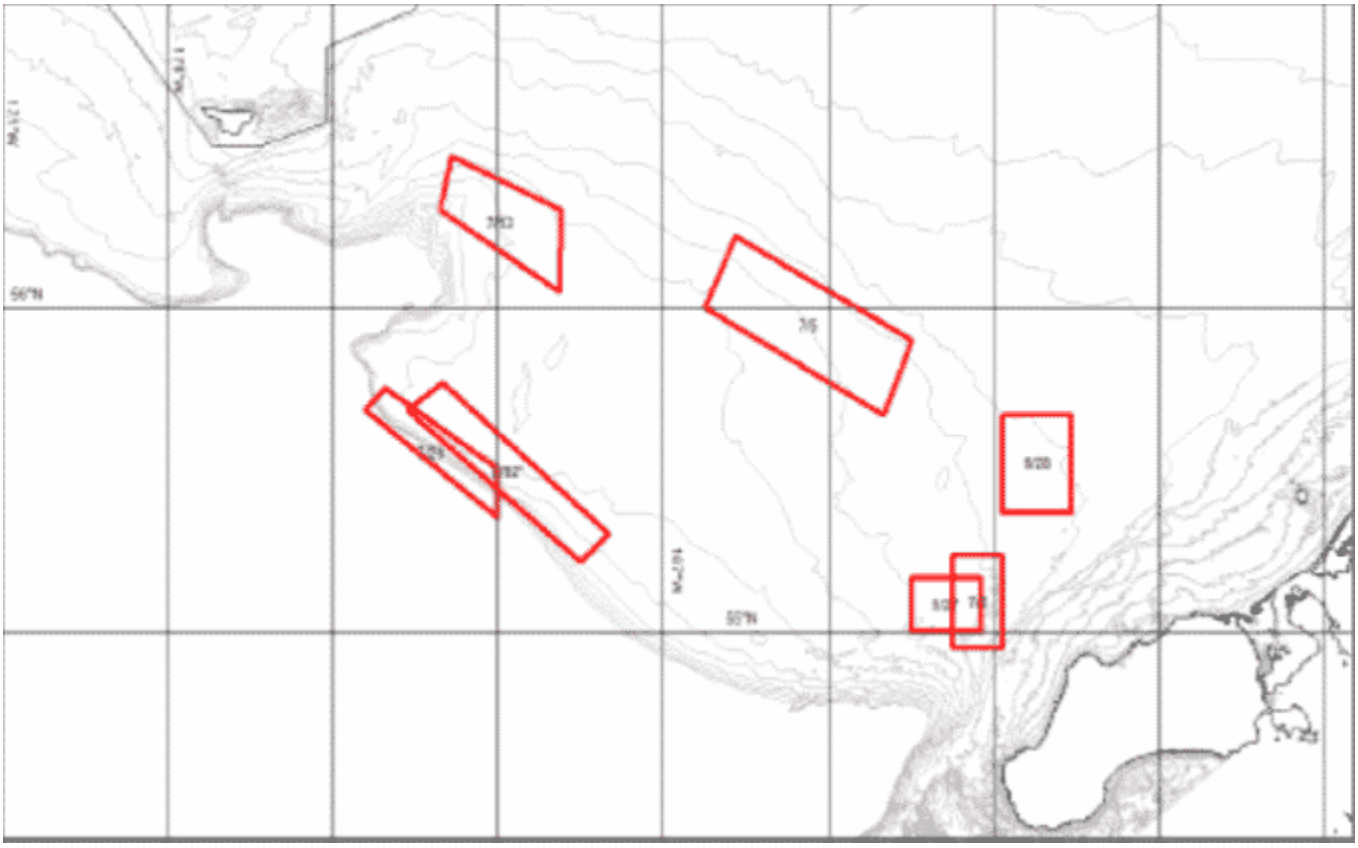
Attachment 2: figure 1 bycatch amounts; figure 2 bycatch origins





Source: North Pacific Fishery Management Council website: https://www.npfmc.org/fisheries-issues/bycatch/salmon-bycatch/

Attachment 3: figure 1 closure areas (2018); figure 2 Amendment 91 and 110 restrictions



Amendment 91

Performance Standard

47,591 Each pollock sector (shoreside, at-sea, mothership, CDQ) gets relative share of total for year.

Incentive – If a sector exceeds its share in 2 or 7 years, it is limited to the performance share thereafter.

Overall PSC Limit

60,000 The entire pollock fishery is shut down if this limit is hit.

Amendment 110

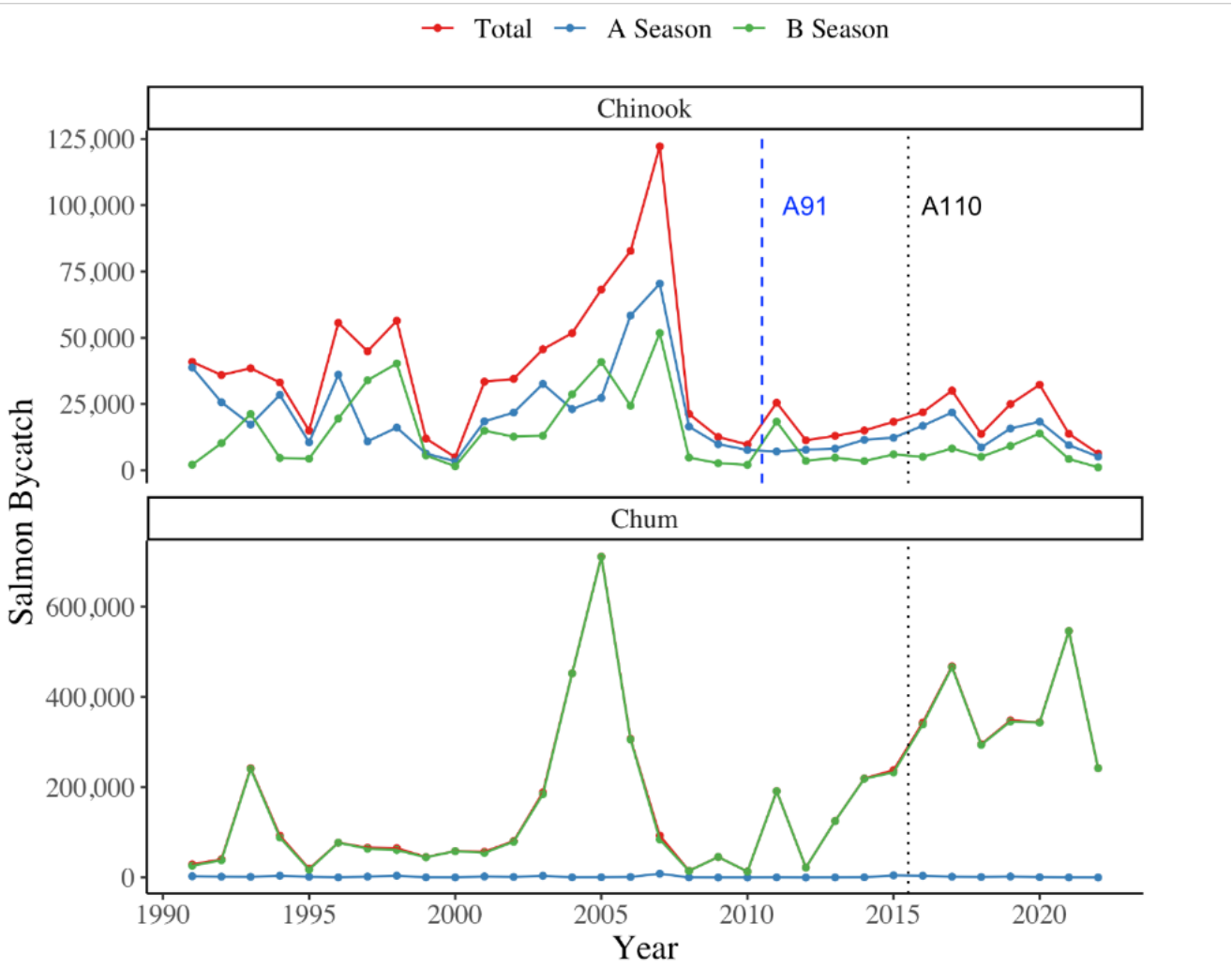
If Western AK 3-river system index > 250,00
then Performance standard = **47,591**
and Overall PSC Limit = **60,000**

If Western AK 3-river system index < 250,00
then Performance standard = **33,318**
and Overall PSC Limit = **45,000**

Western AK 3-river system index: Each year, ADF&G provides a Chinook salmon abundance using the 3-System Index for western Alaska based on the post-season in-river Chinook salmon run size for the Kuskokwim, Unalakleet, and Upper Yukon aggregate stock grouping

Source: North Pacific Fishery Management Council website: https://www.npfmc.org/fisheries-issues/bycatch/salmon-bycatch/

Attachment 4: Graph of overall catch of Chinook and chum bycatch in the pollock fishery with reference lines for Amendments 91 and 110



Source: North Pacific Fishery Management Council, Chum Salmon Bycatch Discussion Paper, November 2022.

https://meetings.npfmc.org/CommentReview/DownloadFile?p=18c9358e-ceea-46f5-a3fc-0cb725429f6d.pdf&fileName=D1%20Chum%20salmon%20discussion%20paper.pdf

Attachment 5: figure 1 Copper River Chinook production; figure 2 Copper River Chinook size