



THE STATE  
of **ALASKA**  
GOVERNOR BILL WALKER

**Department of Fish and Game**

DIVISION OF COMMERCIAL FISHERIES  
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September 13, 2018

Dr. James Balsiger, Administrator  
NOAA Fisheries, Alaska Region  
PO Box 21668  
Juneau, Alaska 99802-1668

Dear Dr. Balsiger:

In April 2015, the North Pacific Fishery Management Council (Council) adopted an action that lowers Chinook salmon bycatch caps in the Bering Sea pollock fishery when Chinook salmon abundance in Western Alaska is at historically low levels.<sup>1</sup> This action identifies historically low Western Alaskan Chinook salmon abundance using a 3-system index of in-river adult Chinook salmon run sizes from the Unalakleet, Upper Yukon, and Kuskokwim rivers combined at or below the threshold level of 250,000 fish. It also specified a process by which the Alaska Department of Fish and Game (department) would provide postseason abundance estimates to the National Marine Fisheries Service (NMFS) by October 1, following the salmon season each year, to determine if the combined adult Chinook salmon abundance in the indexed systems falls at or below the threshold level of 250,000 fish. The performance standard and hard cap applicable to the Bering Sea pollock fishery would be lowered in the year following the year in which the index was  $\leq 250,000$  Chinook salmon.

**Methods and analyses used by the department to estimate the 2018 postseason run size for each of the three systems have been approved by the Council.** The methods used for the Unalakleet and Upper Yukon rivers have not changed and are consistent with what is outlined in the Council's public review analysis.<sup>2</sup> The department revised the model used to estimate total run size of Kuskokwim River Chinook salmon after a multi-year process which included interagency collaboration and independent expert review. The department presented the revised Kuskokwim model to the Council and the Council's Scientific and Statistical Committee in June 2018. The Council approved the revised model for use in the 3-river index.<sup>3</sup> As required by NMFS, the department will notify the Council of any future improvements to methods used in the assessment of the 3-system index so that they may be evaluated and approved through the Council process.

<sup>1</sup> <https://npfmc.legistar.com/LegislationDetail.aspx?ID=2237783&GUID=89E4DA9C-19B8-4BDE-8643-B19D68DD9EE3>

<sup>2</sup> Public Review draft Environmental Assessment/ Regulatory Impact Review/ Initial Regulatory Flexibility Analysis for Proposed Amendment to the Fishery Management Plan for Bering Sea Aleutian Islands Groundfish Bering Sea Chinook and Chum salmon bycatch management measures, March 2015.

<sup>3</sup> <https://npfmc.legistar.com/LegislationDetail.aspx?ID=3486558&GUID=81056FD0-C9E8-4376-BD59-C2F6084C82E9&Options=ID|Text|&Search=Kuskokwim>

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### 2018 Postseason Chinook Salmon Run Size Estimates

**The 3-system index of in-river adult Chinook salmon run sizes from the Unalakleet, Upper Yukon, and Kuskokwim rivers is 225,908.** The following details the preliminary total run estimates for each system.

#### **Unalakleet River**

The postseason run size estimate of Unalakleet River Chinook salmon is **7,058** based on preliminary assessment of total escapement, commercial harvest, and expectations of subsistence harvest. Preliminary Chinook salmon escapement in the Unalakleet River was 5,886 fish, measured by escapement projects on the North River tributary (2,577 fish) and mainstem Unalakleet River (3,309 fish). Both escapement projects experienced operational delays at the beginning of the season prior to the arrival of large numbers of Chinook salmon. The North River escapement counting project was impaired by high water after the Chinook salmon run had passed. The combined escapement is considered a reliable measure of the total Chinook salmon escapement. Harvest of Unalakleet River Chinook salmon included 647 commercially caught fish and approximately 525 subsistence caught fish. The subsistence harvest was expected to be slightly larger than what was estimated in 2017, because similar fishing restrictions were enacted and subsistence users indicated that more Chinook salmon were caught this season.

#### **Upper Yukon River**

The postseason run size estimate of Upper Yukon River Chinook salmon is **77,959**, based on preliminary assessment of total escapement into Canada and expectations of subsistence harvest in Alaska. The escapement of the Upper Yukon, or Canadian-origin, stock group into Canada is assessed by a sonar project at Eagle, AK. The 2018 preliminary sonar estimate is 57,959 Chinook salmon. There were no commercial sales of Chinook salmon harvested incidentally during the 2018 season, and all incidentally caught Chinook salmon were retained for personal use. Subsistence harvest of Upper Yukon River Chinook salmon is expected to be about 20,000 fish. Subsistence harvest was restricted based on inseason run projections which indicated the Upper Yukon stock group may be below average and near the lower bound of the preseason forecast. In most districts, subsistence fishing periods were reduced to half the usual regulatory schedule and gillnet mesh size was restricted to 6" or smaller to reduce harvest. Subsistence harvest of Upper Yukon River Chinook salmon in Alaska has averaged approximately 30,000 in years with no restrictions, based on rigorous subsistence harvest surveys conducted annually in the fall/winter. The 2018 expectation of a subsistence harvest near 20,000 is based on 1) management actions intended to reduce harvest compared to years with unrestricted fishing, 2) inseason run assessment, and 3) consultation with subsistence users during inseason management meetings. This postseason Upper Yukon run size estimate is corroborated by a preseason forecast that predicted 71,000–103,000 fish would return in 2018 and by inseason run projections that indicated approximately 74,000 Upper Yukon Chinook salmon passed the lower Yukon River sonar site located near Pilot Station, which is upriver from where some harvest occurred.

#### **Kuskokwim River**

The postseason run size estimate of Kuskokwim River Chinook salmon is **140,891** fish. Total run in the Kuskokwim River is estimated using a maximum likelihood model which was originally published in 2012 and subsequently revised, and approved by the Council in 2018 (see public review analysis and referenced documents). The revised model resulted in more accurate estimates of total run and increased

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model stability. The total run estimate for 2018 was informed by direct observations of escapement at 14 locations combined with historical observations of escapement, harvest, and commercial fishing effort since 1976. The model was scaled using nine years of independent estimates of total run size representing a range of run abundance including record high and record low run sizes. No commercial harvest of Kuskokwim River Chinook salmon occurred during the 2018 season and the sport fishery was closed. Subsistence restrictions were again necessary in 2018 to ensure that escapement goals were met, and included regulatory early season closures, mesh size and gillnet length restrictions, and time/area closures. Due to projected low run sizes and anticipated subsistence restrictions, the U.S. Fish and Wildlife Service (USFWS) issued a Federal Special Action and assumed management of the Chinook salmon fishery within the boundaries of the Yukon Delta National Wildlife Refuge. USFWS estimated that between 17,600 and 24,600 Chinook salmon were harvested during the limited subsistence fishing opportunities they provided within a portion of the mainstem Kuskokwim River. The department expects that the total subsistence harvest will be about 30,000 Chinook salmon based on available inseason harvest data provided from USFWS, historical harvest patterns, post hoc survey responses from subsistence users, and input from fisheries managers and assessment biologists. Total preliminary harvest of Kuskokwim River Chinook salmon is expected to be about 30,465 and includes 465 Chinook salmon harvest in the test fishery operated by ADF&G near Bethel. This preliminary total run estimate is corroborated by a preseason forecast that predicted a run size between 116,000–150,000.

Sincerely,

A handwritten signature in black ink, appearing to read 'MS Kelley', with a long, sweeping horizontal stroke at the end.

Scott Kelley  
Commercial Fisheries Division Director

cc: Glenn Merrill, NMFS AKR