



THE STATE
of **ALASKA**
GOVERNOR MIKE DUNLEAVY

B5 2021 Chinook index letter

October 2021

Department of Fish and Game

Division of Commercial Fisheries
Headquarters Office

1255 West 8th Street
P.O. Box 115526
Juneau, Alaska 99811-5526
Main: 907.465.4210
Fax: 907.465.2604

September 22, 2021

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.¹ The Council's action identifies historically low Western Alaskan Chinook salmon abundance using a three-system index of inriver adult Chinook salmon run sizes from the Unalakleet, Upper Yukon, and Kuskokwim rivers combined at or below the threshold level of 250,000 fish. The Council's action 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. If the threshold is not met, the performance standard and hard cap applicable to the Bering Sea pollock fishery would be lowered in the following year.

Methods and analyses used by the department to estimate the postseason run size for each of the three systems have been approved by the Council, and there were no changes to those methods in 2021. The methods used for the Unalakleet and Upper Yukon rivers are consistent with what is outlined in the Council's public review analysis.² Methods used for the Kuskokwim River were approved by the Council in June 2018³.

The 2021 three-system index of inriver adult Chinook salmon run sizes from the Unalakleet, Upper Yukon, and Kuskokwim rivers is 165,148 and is below the threshold level of 250,000.

The following details the preliminary total run estimates for each system:

Unalakleet River

The preliminary postseason run size estimate of Unalakleet River Chinook salmon is **2,892**, based on the sum of reported commercial harvest, expected subsistence harvest, and estimated total escapement. A total of seven Chinook salmon were commercially harvested in Norton Sound Subdistrict 6 (Unalakleet Subdistrict), and the total catch was assumed to be bound for the Unalakleet River. The department expects approximately 1,500 Unalakleet River Chinook salmon were harvested for subsistence uses in 2021. Subsistence harvest in 2021 is expected to be comparable or slightly smaller than the 2020 harvest (i.e., 1,778) given similarities in fishing opportunities combined with adverse weather conditions. The North River Tower and Unalakleet River weir operated successfully during much of the target operational period. The preliminary total escapement of Chinook salmon to the Unalakleet River was estimated to be 1,385 and is considered reliable (95% CI⁴: 977–1,793).

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

² 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.

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

⁴ CI: confidence interval

Upper Yukon River

The preliminary postseason run size estimate of Upper Yukon River Chinook salmon is **33,251**, based on the preliminary assessment of total passage into Canada and expectations of the total harvest in Alaska. Chinook salmon passage into Canada was based on a sonar project operated near the U.S./Canada border, downriver from Eagle, Alaska. The preliminary sonar count is 31,631 (90% CI: 31,289–31,973). The total harvest of Upper Yukon River Chinook salmon in Alaska is expected to be about 1,620. The potential for a very small Chinook salmon run was forecasted pre-season, and in-season assessment indicated both the Chinook salmon and chum salmon runs were very weak. As such, conservation actions were implemented to protect both Chinook salmon and chum salmon which co-migrate throughout much of the Yukon River. There were no commercial salmon fisheries executed in the Yukon River in 2021, relevant sport fisheries were closed, and subsistence fishing was closed for all salmon beginning June 2 in the lower portion of the river. Limited harvest of Upper Yukon River Chinook salmon occurred in test fisheries operated by the department and in small-mesh gillnet opportunities directed at non-salmon species. The 2021 preliminary harvest expectation was informed by the 2014 total harvest (approximately 3,000), which resulted from heavy restrictions like those imposed in 2021, and the recent five-year average proportion of Canadian-origin Chinook salmon in Alaska fisheries (54%). The preliminary total run size of Upper Yukon River Chinook salmon was generally consistent with the lower end of the pre-season run forecast (i.e., 80% CI: 42,000–77,000), but notably smaller than the lower end of the in-season run size estimate (i.e., 59,000) based on independent sonar and genetic stock identification programs.

Kuskokwim River

The preliminary postseason run size estimate of Kuskokwim River Chinook salmon is **129,005** fish (95% CI: 93,700–177,600), based on preliminary results of a maximum likelihood model. The total run estimate was informed by direct observations of escapement and an expectation of drainagewide harvest. The preliminary escapement estimate (101, 203) is uncertain (95% CI: 65,900–149,800) because the model was informed by only three weir projects. Poor weather conditions prevented the department from flying aerial surveys during the 2021 season, and those indices of escapement were not available to inform the model. The total harvest of Kuskokwim River Chinook salmon is expected to be 27,802. No commercial harvest of Kuskokwim River Chinook salmon occurred during the 2021 season. Nearly all harvest occurred in the subsistence fishery, and minimal harvest occurred in test fisheries operated by the department and collaborators. Subsistence fishing restrictions were implemented throughout the Chinook salmon run in 2021. U.S. Fish and Wildlife Service (USFWS) estimated that approximately 21,560 Chinook salmon were harvested within a portion of the Yukon Delta National Wildlife refuge during subsistence fishing openers announced by Federal Special Actions. A preliminary estimate of drainagewide subsistence harvest was generated using a five-year relationship between partial harvest estimates developed in-season by USFWS and drainagewide estimates developed post-season by the department. The preliminary total run size of Kuskokwim River Chinook salmon was within the pre-season run forecast of 94,000–155,000 and is consistent with an independent partial run estimate of 102,525 (90% CI: 84,409–120,641) Chinook salmon, based on a sonar project operated near Bethel, Alaska.

Sincerely,



Sam Rabung
Director, Division of Commercial Fisheries

cc: Doug Vincent-Lang, Commissioner
Rachel Baker, Deputy Commissioner
Glenn Merrill, NMFS AKR
David Witherell, NPFMC