



THE STATE  
of **ALASKA**  
GOVERNOR MIKE DUNLEAVY

B4-C2 Chinook Index 2020  
October 2020

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 18, 2020

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> 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 2020. The methods used for the Unalakleet and Upper Yukon rivers are consistent with what is outlined in the Council's public review analysis.<sup>2</sup> Methods used for the Kuskokwim River were approved by the Council in June 2018<sup>3</sup>.

**The 2020 three-system index of inriver adult Chinook salmon run sizes from the Unalakleet, Upper Yukon, and Kuskokwim rivers is 173,416 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 **5,215**, based on the sum of reported commercial harvest, expected subsistence harvest, and estimated total escapement. A total of 475 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 2020, which is based on a modest increase to the 2019 subsistence harvest (i.e., 1,459) and informed by a relative increase in fishing opportunity and positive inseason catch reports. The preliminary total escapement of Chinook salmon to the Unalakleet River is estimated to be 3,240. The North River Tower was installed 10 days late, and the Unalakleet River weir did not operate, due to high water. Standard methods were used to estimate the number of fish that passed the North River Tower during inoperable periods. The resulting North River

<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>

Tower escapement was expanded to the total Unalakleet River, based on the average<sup>4</sup> contribution of the North River to the total escapement. The expansion methods used in 2020 were consistent with those used to develop the 3-system index.

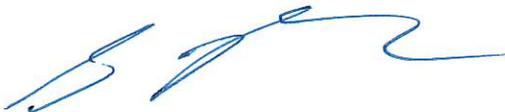
### Upper Yukon River

The preliminary postseason run size estimate of Upper Yukon River Chinook salmon is **52,005**, 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 33,005 (90% CI<sup>5</sup>: 32,649–33,361). The preliminary sonar count does not include one day of right-bank passage estimates. The total harvest of Upper Yukon River Chinook salmon in Alaska is expected to be about 19,000, based on the 2018 harvest (i.e., 19,266) which resulted from similar conservative management strategies. Nearly all harvest occurred in the Alaskan subsistence fishery, and minimal harvest occurred in test fisheries operated by the department. Subsistence fishing restrictions were implemented throughout the Chinook salmon run in 2020, and high-water conditions likely further reduced subsistence harvest relative to the opportunities provided. There was no sale of Chinook salmon harvested incidentally in summer chum salmon commercial fisheries, and all commercially harvested Chinook salmon were retained for subsistence uses. The preliminary total run size of Upper Yukon River Chinook salmon was smaller than expected but generally consistent with the lower end of the preseason run forecast (i.e., 59,000) and the lower end of the inseason run projections (i.e., 63,000).

### Kuskokwim River

The preliminary postseason run size estimate of Kuskokwim River Chinook salmon is **116,196** fish (95% CI: 95,000–143,000), 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. Escapement was successfully monitored at 15 locations, and there were no operational issues. The total harvest of Kuskokwim River Chinook salmon is expected to be 28,315. No commercial harvest of Kuskokwim River Chinook salmon occurred during the 2020 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 2020. U.S. Fish and Wildlife Service (USFWS) estimated that approximately 23,000 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 four-year relationship between partial harvest estimates developed inseason by USFWS and drainagewide estimates developed postseason by the department. The preliminary total run size of Kuskokwim River Chinook salmon was smaller than expected given the preseason run forecast of 193,000–261,000. However, the preliminary model estimate is consistent with an independent partial run estimate of 106,152 (90% CI: 90,231–122,073) Chinook salmon, based on a sonar project operated near Bethel, Alaska.

Sincerely,



Sam Rabung  
Director, Division of Commercial Fisheries

cc: Anne Marie Eich, NMFS AKR  
David Witherell, NPFMC

---

<sup>4</sup> The average contribution of the North River escapement to the total Unalakleet River escapement was based on years 2015, 2017, and 2019, which were the most recent three years with complete escapement assessment. The contribution of North River in prior years was not used, because there is evidence that the proportional contribution of the North River to the total Unalakleet River escapement has declined modestly over time.

<sup>5</sup> CI: confidence interval