

DRAFT

2021 KUSKOKWIM RIVER SALMON HARVEST STRATEGY



Draft of April 29, 2021

PURPOSE: This 2021 Kuskokwim River Salmon Harvest Strategy (Strategy) is a working draft intended to build on and be informed by the 2021 Kuskokwim River Salmon Management Strategy. It will provide additional guidance in-season for a conservation and harvest management approach to be used collaboratively by the Kuskokwim River Inter-Tribal Fish Commission (Commission) and the U.S. Fish and Wildlife Service (USFWS) at the Yukon Delta National Wildlife Refuge (YDNWR).

Our [2021 Kuskokwim River Salmon Management Strategy](#) presents a set of management approaches and actions to guide the provision of harvest opportunities while also:

- (1) Addressing the environmental and management risk factors facing this fishery.
- (2) Meeting essential conservation objectives.

Key management approaches and anticipated actions presented in our joint 2021 Kuskokwim River Salmon Management Strategy are summarized as follows:

- **Due to ongoing conservation concerns, for the seventh year in a row, the 2021 Kuskokwim River salmon season will begin under the authority of the Federal in-season manager** within the Refuge with harvest limited to Federally qualified subsistence users per the provisions of Title VIII of the Alaska National Interests Land Conservation Act (ANILCA).
- **We will adopt a 2021 Chinook salmon escapement target at the upper end of the existing escapement goal range to provide conservation-focused approach to fisheries management in response to the cumulative effects among multiple sources of uncertainty and multiple risk factors.** Specifically, we will adopt a precautionary escapement target of **110,000 Chinook salmon**, which is the same escapement target which has informed Federal Chinook salmon management for the past four years.
- **We will consider risk factors and sources of uncertainty impacting harvest management.**

- We will support the preseason salmon harvest closure from June 1 - June 11 to protect Chinook populations in the headwaters region.
- We will carefully evaluate multiple in-season indicators of run strength and run timing data between openings including:
 - In-season subsistence harvest estimates.
 - Local and Traditional Knowledge from Commission in-season managers and other rural subsistence users to help inform assessment of run strength and run timing.
- We will communicate to Federally qualified subsistence users the need for a conservative management approach based on assessment between openings to avoid overharvest.
- We will carefully monitor the chum salmon run and will adapt our management approach as needed in the event of low chum abundance in 2021.

Our Approach to Assessing Information to Inform Harvest Decisions:

- No single source of information about Kuskokwim Chinook salmon numbers or harvest levels provides a reliable *in-season indicator* of run abundance on its own. Total run abundance can be estimated with greater confidence only late in the Chinook salmon run.
- Each of the in-season information sources listed below has significant limitations, especially during the first half of the Chinook salmon run.
- Early in the season, we face the challenge of very minimal and often conflicting information from the currently available in-season data sources regarding the size and timing of the run. Therefore, we need to proceed with caution, especially during the first half of the run.
- Later in the season – sometime after June 21 – these sources of information taken together begin to paint a picture of how abundant the Chinook salmon run size is this year. However:
 1. It is important to use all available information sources together to get an idea of Chinook salmon total run abundance.
 2. It is not possible to put hard numbers on the size of run *in-season*. Rather the size of the run can only be assessed in rough categories such as: likely low abundance/poor run; likely a fair run; likely a strong run; likely a very abundant run. As the season progresses our confidence in our categorical assessment of the run abundance increases. However, a quantitative estimate of the total run size and escapement estimates are not available until several months after the season is over. As stated in our 2021 Kuskokwim River Salmon Management Strategy, due to very high uncertainty associated with recent prior-year forecasts, **our approach will be to prioritize in-season indicators of run strength and run timing over the pre-season forecast using information from a set of fisheries projects that operate during the Chinook salmon season.**

FOUR KEY SOURCES OF IN-SEASON DATA:

- The **Bethel Test Fish Project** is a long-term index of run strength and run timing which serves as the main formal management tool. Even though this project provides a index number each day and a cumulative index across the season, it should be used only as a general measure of abundance (i.e., high, medium, or low abundance). While it gives us some information, based on information from the past 25 years, the Bethel Test Fish Project is a very imprecise in-season indicator of the total run size (which is only available post-season).
- The **Bethel Sonar Project** is a new in-season indicator of run strength and run timing and remains experimental. It has served as an increasingly helpful and informative source of run strength and run timing information in recent years.
- **Community-Based Harvest Data** from harvest opportunities from Bethel and a subset of lower river communities provides critical information about harvest during openings, including species ratios and catch per unit effort (CPUE). Immediately after a harvest opportunity, this data provides information about salmon abundance during a harvest opportunity. This community-based information is particularly valuable because it is provided directly by harvesters and therefore is seen as highly credible.
- **Traditional Knowledge and local observations** from Commission In-Season Managers and other rural subsistence users help inform assessment of run strength and run timing.

When assessing the run strength and run timing, it is important to not focus on a single source of information, but to consider multiple sources of information that together point toward the same direction regarding run abundance and run timing.

Harvest Opportunities: Early Season June 1 – 11

BEFORE JUNE 1: Historic data from the Bethel Test Fishery and telemetry work suggests that Chinook salmon are unlikely to be present in large numbers within Refuge waters before June 1.

FEDERAL CLOSURE DATE, JUNE 1:

There are no significant changes from the 2020 Section 804 subsistence user prioritization analysis approved by the Federal Subsistence Board (FSB) that warrant revisiting the 804 analyses. Except for one of the past 11 years (2019), the Kuskokwim River Chinook salmon run continues to experience low abundance and productivity. Due to this prolonged decline and low productivity, Kuskokwim River Chinook salmon runs have not been abundant enough to meet subsistence needs since 2010. In addition, available information sources align to support the conclusion that the 2020 chum salmon return was alarmingly low and among the lowest in the past two decades.

The effective date chosen for the requested action are to begin June 1 and continue through the Chinook salmon season, or until rescinded by subsequent Federal Action. Federal subsistence fisheries regulations are already in place to prevent use of 6”-or-less mesh-sized gillnets before June 1, unless superseded by Federal special action.

Therefore, we feel that closure on June 1 will provide adequate protection measures at the front-end of the salmon returns.

EARLY SEASON SET NET OPPORTUNITIES DURING JUNE 1 – 11:

During early June, many local subsistence users opportunistically harvest Chinook salmon while actively fishing for whitefish species. Historic data from the Bethel Test Fishery and telemetry work suggests that Chinook salmon numbers increase about 1 percent per day, making them much more vulnerable to harvest during the June 1 through June 11 period. Telemetry projects indicate that early run Chinook salmon are disproportionately composed of headwater stocks. In an effort to conserve and rebuild these headwater stocks and to allow for a fair and equitable harvest of Chinook salmon species, the closure to the use of gillnets for the harvest of salmon in Federal public waters of the Kuskokwim River from June 1 through June 11 is important.

We propose three (3) 16-hour set gillnet opportunities for Federally qualified subsistence users, which includes residents of the Kuskokwim River drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganak, to harvest Chinook salmon on Federal public water of the Kuskokwim River mainstem, except for the waters of the area referred to as the Aniak Box. The dates of the three opportunities are June 2, June 5, and June 9, with the following start time and end time for each opportunity: 6:00 a.m. to 10:00 p.m.

Harvest Opportunities: Mid-Season June 12 – 20

MANAGEMENT OF MIXED STOCK SALMON FISHERIES:

During the mid-season June 12 through 20 time the fishery becomes a mixed stock by overlapping run timing of Chinook, chum, and sockeye salmon. As shown in Figure 1 below, from mid-June to mid-July the run timing of Chinook, chum and sockeye salmon overlap. That means that during the majority of the Chinook salmon subsistence harvest opportunities, subsistence fishers are harvesting salmon in a mixed-stock fishery in Federal waters of the Kuskokwim River. When salmon in this mixed stock fishery are harvested using non-selective 6” mesh gillnet gear, it is not possible to target chum and sockeye salmon without potentially impacting Chinook salmon during the length of the Chinook salmon run.

Each year for the past seven years, the need for conservation actions aimed at conserving and rebuilding Chinook salmon stocks have required Federal in-season management actions impacting the harvest of all three species in Federal waters due to their overlapping run timing during the bulk of the Chinook salmon run. Numerous management actions (via emergency special action) closing fishing to all species of salmon for all users between short-duration subsistence harvest opportunities for Federally qualified subsistence users, until such time that in-season Chinook salmon conservation measures are no longer needed.

There is no practical way to conserve and rebuild Chinook salmon populations within this mixed stock gillnet fishery without also taking management actions that restrict the harvest of chum and sockeye salmon during closed fishing periods. Given the current forecast, in 2021 we anticipate the need for fishery closures restricting the use of all gillnets during closed periods to provide for the conservation of Chinook salmon.

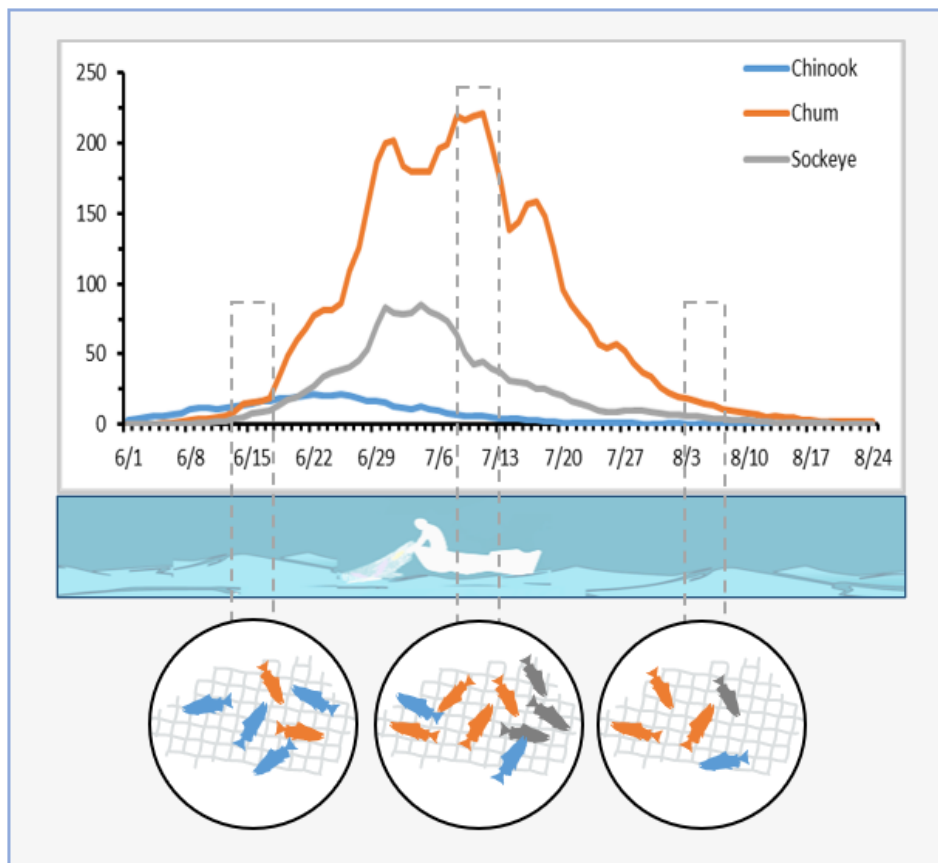


Figure 1: This figure of the average run timing from Bethel Test Fish data for the past ten years shows the overlapping run timing of Chinook, chum and sockeye salmon. Harvesting with driftnets that harvest all species requires the management of chum and sockeye to ensure Chinook conservation and rebuilding. [Note: Numbers on the left side of the figure are not numbers of salmon, but simply an index of abundance (Bethel Test Fish Cumulative CPUE.)]

DRIFT AND SET NET OPPORTUNITIES, JUNE 12-20:

We propose to pre-announce a total of two (2) 12-hour drift and set gillnet opportunities for Federally qualified subsistence users to harvest Chinook salmon on Federal public water of the Kuskokwim River mainstem, except for the waters of the area referred to as the Aniak Box. Additional drift and set gillnet harvest opportunities Federally qualified subsistence users may be announced during this period depending on in-season assessment of Chinook run abundance and the need for conservation measures.

Additional details including allowable means and methods and details regarding closures of tributaries and other special areas to the harvest of salmon with gillnets will be provided in in-season Federal special actions. When each of these 12-hour harvest opportunities expire, Federal public waters of the Kuskokwim River, will remain closed to the harvest of Chinook salmon with gillnets until opened again by Federal special actions and Federal public waters of the Kuskokwim River will remain open Federally qualified subsistence users with all other allowable means and methods.

Harvest Opportunities: Late Season June 21 – 30

We anticipate that sometime after June 21, the in-season data from the four information sources listed above will begin to converge to give us greater confidence in our assessment of how abundant the Chinook salmon run size is this year. However, it is important to use all these information sources together to get an idea of Chinook salmon total run abundance and not only after the season is over can run size estimates be produced. Additional drift and set gillnet harvest opportunities Federally qualified subsistence users may be announced during this period depending on the results in-season assessment of Chinook run abundance and the need for conservation measures.

In addition, we intend to continue to carefully monitor the chum salmon run and will adapt our management approach as needed in the event of low chum abundance in 2021.

End of Federal Season

The Federal in-season manager anticipates relinquishing Federal management back to the State of Alaska when there is no longer a demonstrable need for Chinook and/or chum conservation measures requiring limiting harvest of salmon to Federally qualified subsistence users.