

**Nushagak River King Salmon Management Plan Revisions
Proposed by the Nushagak King Salmon Committee
in Consideration of Proposal 11 and the ADF&G Action Plan**

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Introduction

At the November 2022 meeting, the Alaska Board of Fisheries deferred action on proposals concerning the Nushagak-Mulchatna King Salmon Management Plan (Proposals 11-13) and the Nushagak River King Salmon Stock Status and Action Plan (RC004) to its March 2023 Statewide meeting. The Board chair encouraged the public to work together toward solutions for Nushagak River king salmon for consideration at the March meeting. This document summarizes the work requested by the Board chair and presents Substitute Language for Proposal 11, for the Board's consideration at its March 2023 meeting.

Since November 2022, the Bristol Bay Science and Research Institute (BBSRI) Study Team met with Alaska Department of Fish and Game (ADF&G) staff over numerous occasions prior to convening the stakeholder based Nushagak River King Salmon Committee to discuss elements in ADF&G's proposed Action Plan for further consideration. Elements included:

- 1) escapement-based triggers to delay the start of commercial fishery openings to allow additional king salmon passage into the river,
- 2) optimum escapement goals (OEGs) for Nushagak and Wood River sockeye salmon to reduce fishing effort once commercial fishing begins,
- 3) use of the Wood River Special Harvest Area at the outset of the season to allow sockeye salmon harvest when the Nushagak District is closed
- 4) commercial gillnet mesh size restriction to 4 $\frac{3}{4}$ ",
- 5) reduced bag limits in the sport fishery, and
- 6) *status quo* regulations for the subsistence fishery.

ADF&G staff also suggested placing these Action Plan provisions in a new, independent regulatory plan that would be in effect (only) when Nushagak kings are designated as a Stock of Concern, and they provided conceptual language to use as a starting point for discussion among stakeholders.

The Nushagak River King Salmon Committee met in person twice to develop a solution considering the deferred proposals (11-13) and the Action Plan. On February 13, a meeting was held among committee members, ADF&G, and other interested stakeholders to discuss the concept of a separate "Stock of Concern Management Plan" and what elements might be in it, using the draft conceptual language as a starting point. The committee also discussed changes to the existing management plan outlined in Proposal 11 and how the SOC Management Plan would mesh with it. The committee concurred with the concept of a new SOC Management Plan, made changes to language in Proposal 11, drafted a SOC Management Plan, and agreed to meet again to discuss specific elements including numerical threshold and trigger levels within the SOC plan. On February 21, the committee reconvened to refine language in both plans, and strive for consensus on as many elements as possible. Tables at the end of this document contain information reviewed by the committee in the form of meeting handouts but have been modified somewhat for inclusion here and clarity.

After the meetings by the Nushagak River King Salmon committee were complete, the BBSRI technical committee used the consensus items to draft a revised version of Proposal 11 and the new SOC Management Plan. These plans were then presented to the Nushagak AC which voted in favor of the SOC Management Plan and the Revised Proposal 11 with some minor changes (as footnoted below). The details surrounding both the SOC management plan and the Revised Proposal 11 are discussed throughout the remainder of this document.

Although not part of this document the research plan for Nushagak King Salmon is a critical part this effort. At the November Board of Fisheries meeting ADFG staff gave several presentations on the shortcomings surrounding king salmon assessment in the Nushagak River and outlined in brief the potential future monitoring plans for king salmon in the stock of concern Action Plan. It is clear that the current assessment program for king salmon in the Nushagak river is insufficient for management, especially in times of low king salmon abundance. The current level of stock assessment makes it nearly impossible to evaluate the effectiveness of regulatory changes to improve Nushagak River king salmon management. BBSRI staff is currently drafting a research plan in collaboration with ADFG to better assess Nushagak king salmon. BBSRI has recently received a Legislative grant to expand and improve the assessment program.

“Stock of Concern Management Plan” for Nushagak King Salmon

There are five main components of the conservation actions for which the Nushagak River King Salmon Committee reached consensus, in response to designating Nushagak king salmon as SOC. Specific details how these items appear as Substitute Language is in the following section, for consideration by the Board at the March 10-14, 2023 Statewide meeting. In this section, we describe the five elements.

- 1) Create an independent management plan intended to only be in effect while the SOC exists. All Action Plan conservation actions are thereby in one regulation, not merged into multiple existing management plans. This eliminates having to remove these components from regulation once Nushagak River king salmon are out of SOC status. This new Nushagak King Salmon SOC Management Plan will supersede existing regulations *only while a stock of concern status exists*. The independent management plan also keeps all actions in one place and eliminates the need for board action once the stock has been delisted.
- 2) Establish much larger optimum escapement goals (OEGs) in place of the current Sustainable Escapement Goals (SEGs) for sockeye salmon on both the Nushagak and Wood rivers during years of above average sockeye salmon abundance to reduce fishing effort and reduce incidental harvest of king salmon while harvesting sockeye. The upper bounds of the OEGs increase based on the forecasted or projected run sizes in each river in years of high sockeye salmon abundance. The OEGs provide the department the ability to increase chinook salmon escapement throughout the sockeye run.

ADF&G suggested that OEGs be based on adding a percentage of the run to the existing SEGs. Tables 1 and 2 illustrate the upper bound of the OEGs as a function of different percentages. After reviewing and discussing these tables with those in the department and among members, the committee chose an OEG range for Nushagak River sockeye by adding 15% of the forecasted or projected total run size for runs of 2.5 million or greater. As an example, a Nushagak River run of approximately 7 million sockeye salmon, like the run forecast for 2023, would be managed for an OEG of 370,000-1,950,000 fish (i.e., 1,050,000 fish higher above upper bound of the SEG; Table 1). For the Wood River OEG, the committee chose 10% of the total run size for runs 7 million and larger. For example, a run of 8 million Wood River sockeye salmon would be managed for an OEG of 700,000-2,600,000 fish (800,000 fish above the upper bound of the SEG; Table 2). For a discussion on how these thresholds (2.5 and 7 million) were chosen see *Revisions to Proposal 11* (below).

- 3) Establish triggers that delay the start of commercial fishing in the Nushagak District to allow for additional king salmon passage into the river when the bulk of their passage occurs. The district would remain closed until sockeye salmon “triggers” are met, or until June 28 (whichever comes first). June 28 would delay commercial fishing until 60% of the king salmon run has typically passed through the district. Triggers would only be in effect in years when the king run is underperforming, i.e., when the inriver king salmon run size is projected to be less than 95,000 fish. Triggers were originally included in Proposal 11 (Item 4), in addition to the Action Plan. After reviewing Tables 3 and 4 discussing with ADF&G, the committee chose 6% of the preseason or projected total sockeye run to establish the triggers for both Nushagak and Wood River stocks.
- 4) Reduce the annual limit for large king salmon from four fish 20 inches or greater in length, to four fish 20 inches or greater in length of which only one may be 28 inches or larger. The purpose of this is to conserve king salmon by reducing the upriver harvest of large king salmon (See NEW PLAN, section (e)). This provision was originally included in Proposal 11 presented in November 2022, Item 6.
- 5) Make no changes to regulations for the subsistence fishery.

The committee did not reach consensus on two other actions suggested by ADF&G staff in discussions and draft language: use of the Wood River Special Harvest Area early in the season district closures and restricting gillnet mesh size in the commercial fishery to 4 ¾”.

*Substitute Language for the SOC Management Plan - NEW***5 AAC 06.### (likely 391). Nushagak District King Salmon Stock of Concern Management Plan.**

- (a) **The purpose of this management plan is to provide management tools and guidelines for the management of Nushagak District salmon fisheries, while Nushagak River king salmon are listed as a stock of management concern, that will result in the sustained yield of king salmon stocks large enough to meet sustainable escapement goals while allowing for harvest opportunity in the subsistence, sport, and commercial fisheries. It is envisioned that the Nushagak River king salmon stock of concern status and this plan would remain in effect until the king salmon escapement is within the escapement goal for three or more years.**
- (b) **While the Nushagak River king salmon are listed as a stock of management concern, it is the (board) intent that all Nushagak District salmon stocks are managed conservatively through June 28 to protect Nushagak River king salmon, consistent with the Policy for the Management of Sustainable Salmon Fisheries (5 AAC 39.222).**
- (c) **The department shall manage commercial fisheries in the Nushagak District as follows:**
1. **To achieve an inriver goal of 95,000 king salmon in the Nushagak River consistent with the Nushagak King salmon management plan (5 AAC 06.361(b)(1));**
 2. **When the Wood River sockeye salmon forecast or in season projection is less than 7 million the department shall manage for the current SEG of 700,000 to 1.8 million fish.**
 3. **When the Wood River sockeye salmon forecast or in season assessment of run size is greater than 7 million the department shall manage to achieve a Wood River sockeye salmon OEG of 700,000 to an upper bound that is up to 10% of the Wood River total run size above the 1,800,000 upper bound of the SEG, based on the preseason forecast and in season assessment of run size.**
 4. **When the Nushagak River sockeye salmon forecast or in season projection is less than 2.5 million the department shall manage for the current SEG of 370,000 to 900,000 fish.**
 5. **When the Nushagak River sockeye salmon forecast or in season assessment of run size is greater than 2.5 million the department shall manage to achieve a Nushagak River sockeye salmon OEG of 370,000 to an upper bound that is up to 15% of the Nushagak total run size above the 900,000 upper bound of the SEG, based on the preseason forecast and in season assessment of run size.**
- (d) **Prior to 9:00 a.m. June 28, if the Nushagak king salmon inriver run size is projected to be less than 95,000 fish, the commissioner;**
1. **Shall close by emergency order, the sockeye salmon commercial drift gillnet fishery in the Nushagak District, and the sockeye salmon commercial set net fishery in the Nushagak Section of the Nushagak District until:**
 - i. **The sockeye salmon sonar estimate in the Nushagak River is projected to exceed 6% of the Nushagak River sockeye salmon run based on the**

Nushagak River sockeye salmon preseason forecast and in season assessment of run size; or

- ii. The sockeye salmon count past the Wood River tower is projected to exceed 6% of the Wood River sockeye salmon run based on the Wood River sockeye salmon preseason forecast and in season assessment of run size.

(e) In the Nushagak River drainage, excluding the Wood River drainage,

1. the annual limit for king salmon 20 inches or greater in length is four fish, of which only one fish may be 28 inches or greater in length.
2. If the total inriver king salmon return in the Nushagak River is projected to exceed 95,000 fish, the commissioner may increase the annual limit for king salmon to 4 king salmon 20 inches or longer (no restriction to one fish over 28 inches).

(f) Subsistence fisheries will be managed in accordance with current regulations.

Revisions to Proposal 11 in consideration of the new Stock of Concern Management Plan

This section describes changes to Proposal 11 made by the committee. A “revised” proposal is presented below as Substitute Language for the Board’s consideration in lieu of the original Proposal 11. The new language includes six of the eight items in the original proposal. The two that were not included are now included in the SOC Management Plan: triggers that delay the start of commercial fishing in the Nushagak District and modifying the sport fish annual limit for king salmon.

There are two additional differences in language between the original Proposal 11 and the Substitute Language below.

The first is the numerical thresholds upon which to guide where within the SEG range management should land as a function of run size (included in Item 2 below). These thresholds were originally identified in Proposal 11 at 8 and 4 million sockeye salmon for Wood and Nushagak River, respectively. After discussing the numerical levels with ADF&G staff and reviewing Tables 5 and 6, the committee chose to revise the thresholds to 7 and 2.5 million sockeye salmon for the Wood and Nushagak rivers, respectively. This change was made following input from ADF&G that lower thresholds would conserve more king salmon as originally intended by the provision. The new threshold levels represent the **median run sizes** observed over the recent 20-year period (**2003-2022**). The committee then applied the same thresholds (7 and 2.5 million) to identify the level at which the proposed OEGs apply (See *Substitute Language - NEW*, section (c)), above. Combined, the application of these thresholds in both the SOC Plan and the Proposal 11 changes to the Nushagak King Salmon Management Plan are intended to conserve chinook salmon across its early and later stages now and after a SOC designation has been removed.

Second, the committee added “*to the extent practicable*” to the language below to the proposed use of a Nushagak District test fishery under Item 3. This change was made after discussion among the committee and ADF&G, in which it was pointed out that regulations cannot direct department funding. Although the current test fishery is funded by BBSRI, the new language allows the department to consider funding should BBSRI discontinue its operation of the test fishery.

Substitute Language - PROPOSAL 11 (Revised)

5 AAC 06.361. Nushagak-Mulchatna River King Salmon Management Plan.

Make amendments to the Nushagak-Mulchatna River King Salmon Management Plan, as follows:

1. Define specific management objectives for the Plan by adding the language below to, or following, section (a) of the Plan:

The department shall manage the Nushagak fisheries for the following management objectives:

- 1) Provide consistent sport fishing opportunity within and among seasons. This includes a level of inriver abundance as a given year’s run timing allows, and a predictably open season.**
- 2) Provide a directed commercial king salmon fishery when surplus is available.**
- 3) Provide for an uninterrupted commercial sockeye salmon fishery (i.e., minimize disruptions to the sockeye salmon fishery).**
- 4) Provide for reasonable opportunity for subsistence harvest of king salmon.**
- 5) The subsistence fishery is the last fishery to be closed ¹.**
- 6) Achieve escapement goals for all species in the district.**
- 7) Maintain a representation of age classes in the escapement similar to the run.**

2. Manage large sockeye runs so that escapements fall in the upper portion of the escapement goal range, which would reduce incidental catch of king salmon, by adding new provisions to section (b) as follows:

(X) Consistent with 5 AAC 06.367 Nushagak District Commercial Set and Drift Gillnet Sockeye Salmon Fisheries Management and Allocation Plan, the department in an attempt to conserve king salmon shall manage for sockeye escapements in the Nushagak District to fall within the

- (1) lower half of the escapement goal range when the Wood River sockeye salmon run is 7 million or less and/or the Nushagak sockeye salmon run is 2.5 million or less, or the**
- (2) upper half of the escapement goal range when the Wood River sockeye salmon run is greater than 7 million and/or the Nushagak sockeye salmon run is greater than 2.5 million based on the preseason forecast and in-season assessment of run size.**

¹ Nushagak AC voted to add “restricted or” before “closed”

(X) On or after June 25, the department shall consider when evaluating total run of sockeye salmon to the Nushagak District all possible data sources including but not limited to: pre-season forecast, Port Moller test fishery indices and stock and age composition, total C+E to date, age composition of C&E and district test fishing.

3. Use a Nushagak District Test Fishery to assess relative abundance of sockeye and king salmon by adding the following new provision to (b):

(X) From June 1 through June 30 the department in an attempt to conserve king salmon shall, to the extent practicable, conduct a drift² gillnet test fishery to assess the abundance of sockeye and king salmon prior to opening by emergency order a fishing period directed at sockeye salmon.

4. Provide a directed commercial fishery for king salmon when surplus clearly exists by modifying section (c) as follows:

(c) If the total inriver king salmon return in the Nushagak River is projected to exceed 95,000 fish,

(1) the guideline harvest level described in (b)(1)(C) of this section does not apply[.], and (X) the department will consider a directed commercial king salmon fishery.

5. Avoid complete closures of the sport fishery when possible by modifying section (e) as follows:

(1) shall [close]**restrict to catch and release**, by emergency order, the sport fishery **for king salmon** in the Nushagak River [to the taking of salmon] and prohibit the use of bait for fishing for all species of fish until the end of the king salmon season specified in 5 AAC 67.020 and 5 AAC 67.022(g); and

6. Provide the department with flexibility to restrict but not close the subsistence fishery in low inriver run scenarios and standardize subsistence fishing schedule and area under a restricted scenario by modifying section (e) as follows:

(2) [shall]**may** establish, by emergency order, fishing periods during which [the time or area is reduced for the inriver king salmon subsistence fishery in the Nushagak River] **the subsistence fishery is restricted to 3 days per week³ in the Nushagak District; and the waters above the district including Dillingham beaches, Wood River up to Red Bluff, and the Nushagak River drainage.**

² Nushagak AC voted to strike "drift"

³ The Nushagak AC struck the "3 days a week"