

Willapa Bay Salmon Management Policy: Alternative 2 April 15, 2022, Fish Committee Draft

Comments and Questions from WDFW Staff May 9, 2022

A version of the April 15, 2022 Alt 2 document with Line Numbers included in the margins is part of this package.

Useful definitions:

HOR = Hatchery-origin returns. Returning adults that are of hatchery origin.

NOR = Natural-origin returns. Returning adults that are of natural origin.

HOS = HORs that spawn naturally (in the river)

NOS = NORs that spawn naturally (in the river)

HOB = HORs that are used as broodstock in a hatchery

NOB = NORs that are used as broodstock in a hatchery

pHOS = $HOS / (HOS + NOS)$. Proportion of natural spawners that are of hatchery origin

pNOB = $NOB / (NOB + HOB)$. Proportion of hatchery broodstock that are of natural origin

Escapement = NORs and HORs that escape all fisheries and return to either the rivers or hatcheries

Lines 40-41. The sentence lists the terms: values, direction, positions, goals, objectives, and actions, and directs department staff to use these terms to “achieve the stated purpose of the Policy.” These terms are undefined and therefore may result in a disconnection between policy purpose and policy implementation. Line 52 states that the “Policy provides the Department with a cohesive set of guiding principles, strategies and actions” The term strategies is defined later in the policy, but those sections are deleted. If these terms are being used as synonyms, we suggest that a single word be used to improve clarity of the Policy. If each of these terms mean something different, we suggest that a glossary be included in the Policy.

Line 64. It is our understanding that steelhead has been removed from the policy. Please clarify.

Line 73. The first guiding principle is that the policy should be implemented with the recognition that no “fish species in the Willapa Bay basin [is] currently listed under the federal Endangered Species Act.” We are uncertain how to use this information when implementing the policy.

Line 81. The second guiding principle directs the Department to restore damaged habitat. We suggest that the principle states that the Department attempts to protect and restore damaged habitat where possible.

Lines 97-100. This Guiding Principle is unclear to us. What is being aggregated in the phrase “higher aggregate abundance”? Is this the combined HOR and NOR total escapement, or combined HOR and NOR that spawn naturally (HOS + NOS)? If HORs and NORs are combined in the aggregate, you can achieve a higher aggregate abundance with Alt. 2 just by producing more hatchery fish, regardless of the status (abundant or depressed) of the wild population. It is unclear to us how we would know if Alt. 2 provides a higher sustainable catch in fisheries than full implementation of Policy C-3622 adopted in 2015. With healthy wild populations, implementation of Policy C-3622 may produce a large sustainable catch.

Lines 113-120 (including footnote 1). As with Lines 97-100, it is not clear what is being aggregated and which fisheries will be limited to 10% incidental take. If preseason forecast indicates that the aggregate fall Chinook

NOR run-size will be below the escapement goal, and that the Coho run is healthy, does this limit the fall Chinook commercial, marine sport, and freshwater sport harvest to 10% of the run, or any harvest of Coho to 10% incidental take of fall Chinook? Likewise, it is not clear which fishery is being limited if the preseason forecast indicates that only one tributary (e.g., Willapa River) will be below the escapement goal.

Lines 152-153. It is our understanding that the federal government can list an ESU if only a portion of the ESU (e.g., major population segment) is depressed.

Lines 156-157 (and elsewhere). Is there a difference between spawning escapement goal and a spawning escapement conservation goal?

Lines 157-164. Are these escapement goals based on NOS only, or a combined NOS + HOS? The language here seems to indicate that the goal is based on NOS only. In addition, are the values in yellow taken from the plots in Appendix 1 of the Comprehensive Evaluation of the Willapa Bay Salmon Management Policy C-3622, 2015-2018? If so, we need to be mindful of the fact that these analyses were not intended for the development of any management metrics, including S_{msy} . Secondly, the plots show a broad range of uncertainty for both the Ricker curves (Line 441, gray lines, bottom figure) and the S_{msy} estimates (Line 441, short orange/yellow lines at the bottom of the bottom figure). This uncertainty would translate directly to uncertainty in establishing escapement goals using this method.

Lines 174-176. This section states “and to utilize the number of hatchery-origin spawners necessary to achieve the wild spawning escapement conservation goal.” This section indicates that HOS count towards achieving the spawner escapement goal. Likewise, in Lines 232-233, the text states “to achieve aggregate spawning escapement conservation goals for both natural and hatchery origin fall chinook.” *Does this mean that the spawner escapement goals are established using the S_{msy} for NOS only, but both NOS and HOS are counted toward achieving that escapement goal? If so, wouldn't that guarantee that the S_{msy} threshold target would be achieved (i.e., escapement > S_{msy}) every season?*

Lines 191-198. There is no indication here that these smolt release objectives are temporary until the HMPs for these facilities is established, as required by the Hatchery Policy C-3624. Are these temporary smolt release objectives or is this policy exempt from the C-3624? Same question concerns coho releases (Lines 283-285) and chum (Lines 345-347) releases.

Lines 196-197. If Alternative 2 becomes the approved policy, for a SEPA analysis we will need to know how these smolt release objectives were established. Also, should we interpret these objectives as being minimum objectives, based on the inclusion of a plus sign “+” for each goal, and the content in Lines 200-202?

Lines 205-209. Based on a Fish Committee assignment in November 2021 WDFW staff presented data, analyses, and results to the Fish Committee on December 2, 2021. These analyses showed that the out-of-basin releases into Willapa Bay did *not* leave a genetic legacy, and that the Willapa Bay fall Chinook population is genetically part of the Washington Coast ESU, which is composed of three unique population segments (north coast, Chehalis Basin/Grays Harbor tributaries, and Willapa Bay tributaries). *In other words, the “original genetic strains native to Willapa Bay tributaries” appear uncompromised by out-of-basin releases.*

Line 209. We agree that the “genetic practices” should emphasize local adaptation to Willapa Bay tributaries.

Lines 216-218. We ask for clarification here. When spawner escapement goals are exceeded, will NORs be removed from the river and included as broodstock? Increasing pNOB can be useful in reducing fitness loss when HORs spawn naturally. However, based on Lines 174-176 (see above), a tributary can reach its spawner

escapement goal with a mix of HORs and NORs. If pHOS is high, removing NORs from the river may prevent local adaptation, inconsistent with Line 209.

Line 229. When referring to tributaries, does this include all freshwater fisheries?

Lines 255-265, and Line 334. How were these numbers determined?

The following is an initial draft of Objectives for each of the Alternatives based on our interpretation of the three alternatives

OBJECTIVES

(Specific and concise statements of desired future states)

Alternative 1.

1. Wild populations are restored and conserved, and are adapted to the basin tributaries
2. Increased recreational (sport) fishing opportunities
3. Spawner escapement goals are established at a level that would result in an increase in the wild populations, up to the spawning carrying capacity of each tributary
4. Broodstock management designed to reduce genetic and ecological impacts to wild populations from hatchery production.

Alternative 2.

1. Increased both commercial and recreational fishing opportunities in Willapa Bay and tributaries
2. Increased hatchery production for Fall Chinook, Coho, and Chum
3. Spawner escapement goals are established at a level equal to spawner MSY
4. Hatchery production levels established within the policy are maintained or increased throughout the life of the policy

Alternative 3.

1. Wild populations are restored and conserved, and are adapted to the basin tributaries
2. Increased recreational (sport) fishing opportunities
3. Spawner escapement goals are established at a level that would result in an increase in the wild populations, up to the spawning carrying capacity of each tributary
4. Broodstock management and hatchery production levels established through Hatchery Management Policy C-3624 process, as specified by hatchery program-specific Hatchery Management Plans (HMPs).
5. Temporary hatchery production levels established until HMPs are finalized