

Willapa Bay Salmon Policy (C-3622) Revisions

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November 2, 2021

Presentation Outline

- Conceptual Approach
- Policy revision items identified in December 2020
- Staff Recommendations
- Calendar



General Policy Changes

Conceptual Approach

- Consistent with other WA state management plans and FWC policies.
- Science-based and data-driven
- Adaptive and flexible to adjust to changing situations



C-3622 Revision Analyses: Staff Assistance

- Science Division
- H.E.A.T. Unit
- Regional Willapa Bay Staff
- Headquarters Fish Management Staff





Revisions identified at FWC Meeting, December 5, 2020

Hatchery Management

- **Population Designations for Chinook**
 - Measure of the biological significance of a population to the recovery of the ESU
 - Willapa River/North River- Primary; Naselle River- Contributing
 - Policy decisions
 - Paradigm shift from previous management plan



Hatchery Management

- **Hatchery Production Levels**
 - Based on achieving metrics associated with the population designation
 - Reduced production in northern portion of the bay
 - Marine area recreational and commercial fisheries
 - Guidance modifications
 - 2016 BY – Legislative proviso
 - 2.5M @ Naselle Hatchery
 - 2019 BY – Commission action
 - 2.2M @ Forks Creek Hatchery
 - 2020 BY – Prey availability; SRKW
 - Addt'l 2.5M @ Naselle Hatchery
- **Staff Recommendation (12/2020)**
 - Hatchery Policy C-3624
 - Statewide consistency
 - Designation of programs
 - HMP development for non-ESA listed stocks
 - Analysis of risks and benefits
 - Monitoring and evaluation

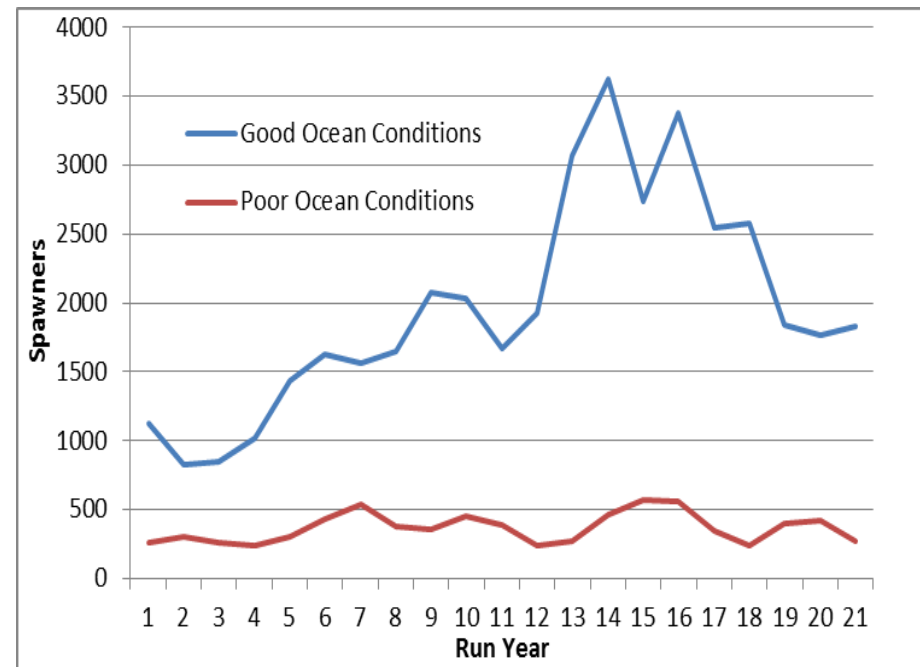


Fisheries Management

Rebuilding Timeframe

- Policy actions intended to meet management objectives in 16-21 years
- Developed from public feedback
- AHA model used in development of harvest control rules
 - 20% Phase One
 - 14% Phase Two
 - 100 years out – 25 generations
 - No new informative data
 - Better understanding of river specific harvest/impact rates
 - Cannot predict environmental conditions
 - Adaptive management necessary given uncertainty

Estimates of Naselle River Fall Chinook Natural Origin Spawner Escapement per Policy Implementation Year



Fisheries Management

- **Species Harvest Prioritization**
 - Chinook for recreational sector; coho and chum for commercial sector
 - Only allows for harvest if impacts remain
 - Mixed stock fisheries
 - Area and time restrictions for commercial fisheries
 - Very little access to Chinook
 - Coho run sizes highly variable
 - Development of fishery management tools
 - Runsize update model for Chinook based on commercial fisheries





Staff Recommendations

Policy C-3622 Staff Recommended Revisions

Purpose

- No change

Definition and Goals

- No change

General Policy Statement

- Strike steelhead from language

General Policy Statement

This policy provides a cohesive set of principles and guidance to promote the conservation of wild salmon ~~and steelhead~~ and improve the Department's management of salmon in the Willapa Bay Basin. The Washington Fish and Wildlife Commission (Commission) recognizes that management decisions must be informed by fishery monitoring (biological and economic), and that innovation and adaptive management will be necessary to achieve the stated purpose of this policy. By improving communication, information sharing, and transparency, the Department shall promote improved public support for management of Willapa Bay salmon fisheries.



Policy C-3622 Staff Recommended Revisions

FISH AND WILDLIFE COMMISSION POLICY DECISION

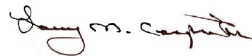
POLICY TITLE: Anadromous Salmon and
Steelhead Hatchery Policy

POLICY NUMBER: C-3624

Effective Date: April 9, 2021
Termination Date: N/A

Supersedes: Policy C-3619 Adopted November 5, 2009

Approved by:



Chair, Washington Fish and Wildlife Commission

Guiding Principle 3: Hatcheries

- The new Commission **Anadromous Salmon and Steelhead Hatchery Policy C-3624** will provide the management path.
- Hatchery Management Plans (HMPs) will detail the scientific framework behind production levels.
- Department will prioritize the development of Willapa Bay-specific HMPs.



Anadromous Salmon and Steelhead Hatchery Policy (C-3624)

1. HMPs developed in priority order

- a) Hatcheries with approved HGMPs
- b) Hatcheries associated with SRO prey initiative
- c) Other hatcheries

2. Until HMPs are developed

- a) Hatchery operational plans, goals and objectives in effect June 14, 2018
- b) Exceptions:
 - Columbia River Salmon Fishery Management Policy
 - 2018 SRO prey initiative
 - Willapa Bay Salmon Fishery Management Policy



Anadromous Salmon and Steelhead Hatchery Policy (C-3624)

Establish overarching goals

- Allows interim production levels while HMPs are developed
- Jumpstarts HMP process

HMPs are required for Fall Chinook, Coho, and Chum from:

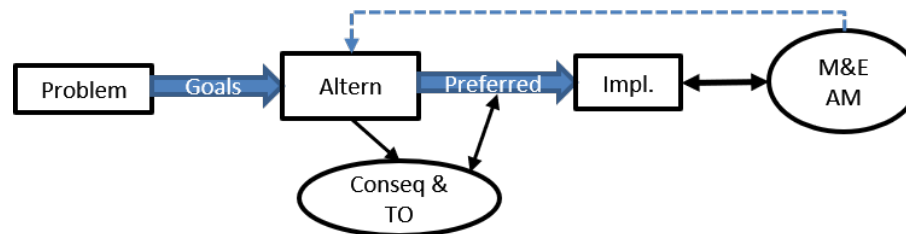
- Forks Creek Hatchery
- Naselle Hatchery
- Nemah Hatchery



Anadromous Salmon and Steelhead Hatchery Policy (C-3624)

Proposed approach to WB broodstock management

- Until HMPs are developed
 - Production levels set based on existing program goals and objectives
- Development of HMPs
 - Priority set by FW Commission
 - Staff recommendation: high priority
 - Consistent with intent of both C-3622 and C-3624
 - Foundational: Process is simplified without HGMPs or ESA
 - Overarching hatchery goals and objectives *a priori* set



Fall Chinook



Staff Recommendations

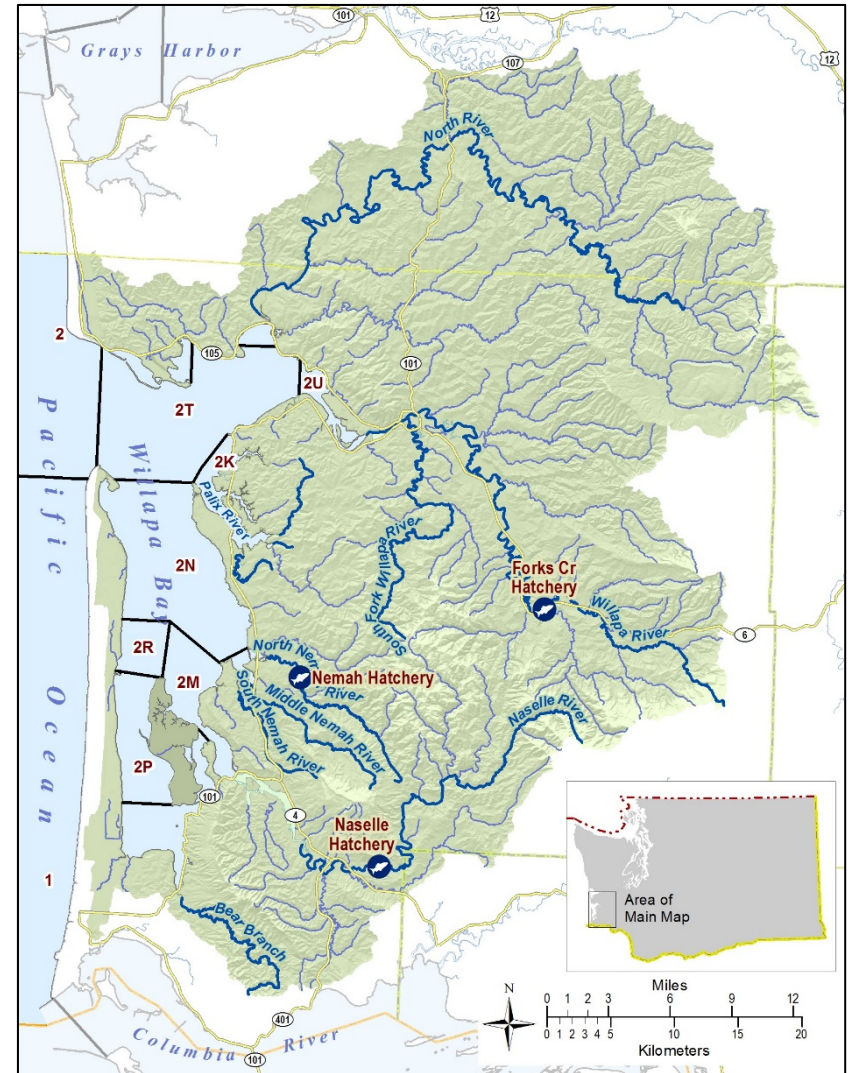
- Continue rebuilding program & maintain rebuilding trajectory (16-21 years)
 - maintain harvest control rules
- Broodstock management consistent with HMPs formulated from science-based risk management (TDP)
- Willapa, Naselle, Nemah managed with current operational plans, goals, and objectives until WB HMPs are developed
- No releases of any hatchery fish in North River



Fall Chinook

Staff Recommendations

- Manage adaptively for stocks meeting spawner objectives:
 - Meeting escapement goals consistently + preseason forecasts
 - 3 out of 5 years
 - If conditions are not met, manage to impact rate of 20%
- Allow commercial Chinook fisheries in 2M, 2N, 2P, and 2R before Labor Day
- Continue with no Commercial fisheries in 2T and 2U before Sept. 16



Coho & Chum Salmon



Staff Recommendations



- Manage adaptively for stocks meeting spawner objectives:
 - Meeting escapement goals consistently + preseason forecasts
 - 3 out of 5 years
 - If conditions are not met, manage to impact rate of 10%
- Prioritize commercial fishing opportunities during the Coho fishery management period (September 16 through October 14)
- Prioritize commercial fishing opportunities during the Chum fishery management period (October 15-31)
- Provide recreational fishing opportunities.



Revision Calendar

Date	Event	Purpose
November 2, 2021	Fish Committee	Provide markup draft of revisions to Policy
November 19, 2021	Fish Committee	Hear Fish Committee feedback on markup version
December 2-4, 2021	Fish Committee & FWC Commission	Briefing for Fish Committee meeting and full Commission (if approved-send out for public comment)
Mid-December 2021	Public Meeting	Take public comments on draft revisions
January 2022	FWC Commission	Brief Commission on public comment and ask for decision



Questions?



FISH AND WILDLIFE COMMISSION POLICY DECISION

POLICY TITLE: Willapa Bay Salmon Management **POLICY NUMBER:** C-XXXX-

Cancels or
Supersedes: NA

Effective Date: June 13, 2015
Termination Date: December 31, 2023

See Also: Policies C-3608, C-3619

Approved _____ [date]
by: _____ Chair
Washington Fish and Wildlife Commission

Purpose

The objective of this policy is to achieve the conservation and restoration of wild salmon in Willapa Bay and avoid ESA designation of any salmon species. Where consistent with this conservation objective, the policy also seeks to maintain or enhance the economic well-being and stability of the commercial and recreational fishing industry in the state, provide the public with outdoor recreational experiences, and an appropriate distribution of fishing opportunities throughout the Willapa Bay Basin. Enhanced transparency, information sharing, and improved technical rigor of fishery management are needed to restore and maintain public trust and support for management of Willapa Bay salmon fisheries.

Definition and Goal

This policy sets a general management direction and provides guidance for Washington Department of Fish and Wildlife (Department) management of all Pacific salmon returning to the Willapa Bay Basin. The Willapa Bay Basin is defined as Willapa Bay and its freshwater tributaries.

General Policy Statement

This policy provides a cohesive set of principles and guidance to promote the conservation of wild salmon ~~and steelhead~~¹ and improve the Department's management of salmon in the Willapa Bay Basin. The Washington Fish and Wildlife Commission (Commission) recognizes that management decisions must be informed by fishery monitoring (biological and economic), and that innovation and adaptive management will be necessary to achieve the stated purpose of this policy. By improving communication, information sharing, and transparency, the Department shall promote improved public support for management of Willapa Bay salmon fisheries.

State commercial and recreational fisheries will need to increasingly focus on the harvest of abundant hatchery fish. Mark-selective fisheries are a tool that permits the harvest of abundant hatchery fish while reducing impacts on wild stocks needing protection. As a general policy, the Department shall implement mark-selective salmon fisheries, unless the wild populations substantially affected by the fishery are meeting spawner (e.g., escapement goal) and broodstock management objectives. In addition, the Department may consider avoidance,

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alternative gears, or other selective fishing concepts along with other management approaches provided they are as or more effective than a mark-selective fishery in achieving spawner and broodstock management objectives.

Fishery and hatchery management measures should be implemented as part of an “all-H” strategy that integrates hatchery, harvest, and habitat systems. Although the policy focuses on fishery management, this policy in no way diminishes the significance of habitat protection and restoration.

Guiding Principles

The Department shall apply the following principles in the management of salmon in the Willapa Bay Basin:

- 1) Prioritize the restoration and conservation of wild salmon through a comprehensive, cohesive, and progressive series of fishery, hatchery, and habitat actions.
- 2) Work with our partners (including Regional Fishery Enhancement Groups, nonprofit organizations, the public and Lead Entities) to protect and restore habitat productivity.
- 3) Implement improved broodstock management (including selective removal of hatchery fish) to reduce the genetic and ecological impacts of hatchery fish and improve the fitness and viability of salmon produced from Willapa Bay rivers ~~(see Hatchery and Fishery Reform Policy C-3619). Achieve Hatchery Scientific Review Group (HSRG) broodstock management standards for Coho and Chum salmon by 2015, and work toward a goal of achieving standards for Chinook salmon by 2020.~~ This management path will be informed by the Anadromous Salmon and Steelhead Hatchery Policy C-3624 and use Hatchery Management Plans (HMP) to detail the scientific framework behind production levels. The Department will prioritize the development of Willapa Bay-specific HMPs for Fall Chinook, Coho, and Chum for each of the three hatcheries in the bay.²
- 4) Investigate and promote the development and implementation of alternative selective gear. The development of alternative selective gear may provide an opportunity to target fishery harvests on abundant hatchery fish stocks, reduce the number of hatchery-origin fish in natural spawning areas, limit mortalities on non-target species and stocks, and provide commercial fishing opportunities.
- 5) Work through the Pacific Salmon Commission to promote the conservation of Willapa Bay salmon and, in a manner consistent with the provisions of the Pacific Salmon Treaty, pursue the implementation of fishery management actions necessary to achieve agreed conservation objectives.
- 6) Within the Pacific Fishery Management Council (Council) process, support management measures that promote the attainment of Willapa Bay conservation objectives consistent with the Council's Salmon Fishery Management Plan.

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- 7) Monitoring, sampling, and enforcement programs will adequately account for species and population impacts (landed catch and incidental fishing mortality) of all recreational and commercial fisheries and ensure compliance with state regulations. Develop and implement enhanced enforcement strategies to improve compliance with fishing regulations and ensure orderly fisheries.
- 8) If it becomes apparent that a scheduled fishery will exceed the aggregated pre-season natural-origin Chinook mortality (impact) expectation, the Department shall implement in-season management actions in an effort to avoid cumulative mortalities of natural-origin Chinook in excess of the aggregated pre-season projection.
- 9) Salmon management and catch accounting will be timely, well documented, transparent, well-communicated, and accountable. The Department shall strive to make ongoing improvements in the transparency of fishery management and for effective public involvement in planning Willapa Bay salmon fisheries, including rule-making processes. These shall include: a) clearly describing management objectives in a document available to the public prior to the initiation of the preseason planning process; b) enhancing opportunities for public engagement during the preseason fishery planning process; c) communicating in-season information and management actions to advisors and the public; and d) striving to improve communication with the public regarding co-management issues that are under discussion.
- 10) Seek to improve fishery management and technical tools through improved fishery monitoring, the development of new tools, and rigorous assessment of fishery models and parameters.
- 11) When a mark-selective fishery occurs, the mark-selective fishery shall be implemented, monitored, and enforced in a manner designed to achieve the anticipated conservation benefits.

Fishery and Species-Specific Guidance

Subject to the provisions of the Adaptive Management section, the following fishery-and species-specific sections describe the presumptive path for achieving conservation objectives and an appropriate distribution of fishing opportunities.

Fall Chinook Salmon

Subject to the adaptive management provisions of this policy, the Department will manage fall Chinook salmon fisheries and hatchery programs consistent with the Guiding Principles and the following additional guidance:

- 1) The Department shall ~~initiate a two-phase~~ **continue the** rebuilding program to conserve and restore wild Chinook salmon in Willapa Bay. ~~The progressive series of actions is~~

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~~intended to result in achieving Chinook salmon broodstock management standards by 2020 will be consistent with HMPs formulated from science-based risk management described in a Technical Procedures Document (TDP). Wild Chinook and spawner goals by years will maintain the trajectory of recovery by years 16-21. Within the conservation constraints of the rebuilding program, Chinook salmon will be managed to provide for a full recreational fishing season with increased participation and/or catch anticipated in future years.³~~

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2) ~~Rebuilding Program – Phase 1 (Years 1–4).~~ The objectives of ~~Phase 1~~ **the rebuilding program** shall be to increase the number of natural-origin spawners and implement ~~hatchery program modifications~~ **broodstock management strategies** designed to meet broodstock **risk** management standards in the subsequent cycle.⁴

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a. Implement ~~hatchery broodstock management~~ actions to promote re-adaptation to the natural environment and enhance productivity of natural-origin Chinook salmon in ~~the North/Smith, Willapa, and Naselle rivers~~ **Willapa Basin Rivers:**

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- North/Smith – Manage as Wild Salmon Management Zone with no hatchery releases of ~~Chinook-any~~ salmon.
- ~~Willapa – Implement an integrated program with hatchery broodstock management strategies designed to achieve broodstock management standards consistent with a Primary designation in the subsequent cycle.~~
- ~~Naselle – Implement hatchery broodstock strategies designed to achieve broodstock management standards consistent with a Contributing designation in the subsequent cycle.~~
- **Willapa, Naselle, and Nemah Hatcheries will be managed based on existing hatchery operational plans, goals, and objectives until the development of Willapa Bay HMPs which will proceed as a state-wide priority.⁵**

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b. ~~Pursue~~ **Continue** implementation of additional mark-selective commercial fishing gear to enhance conservation and provide harvest opportunities. ~~The Department shall provide to the Commission by January 2017 a status report and by January 2018 an assessment of options to implement additional mark-selective commercial fishing gear in Willapa Bay. The assessment shall identify the likely release mortality rates for each gear type, the benefits to rebuilding naturally spawning populations, and the benefits and impacts to the commercial fishery.⁶~~

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3) ~~Rebuilding Program – Phase 2 (Years 5 – 21).~~ **Rebuilding Timeframe:** The combination of fishery and harvest management actions is projected to result on average in the

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achievement of spawner goals for the North, Naselle, & Willapa populations in the years 16-21. Additional fishery and hatchery management actions will be considered during this time period if the progress toward the spawner objectives is inconsistent with expectations.⁷

4) Fishery Management Objectives. The fishery management objectives for fall Chinook salmon, in priority order, are to:

- a. Achieve spawner goals for the North, Naselle, & Willapa stocks of natural-origin Chinook and hatchery ~~reform~~ broodstock objectives, ~~through the two phase rebuilding program described above.~~⁸
- b. Provide for an enhanced recreational fishing season. ~~The impact rate of the recreational fishery is anticipated to be 3.2% during the initial years of the policy, but may increase in subsequent years to provide for an enhanced recreational season as described below:~~
 - ~~Manage Chinook salmon for an enhanced recreational fishing season to increase participation and/or catch including consideration of increased daily limits, earlier openings, multiple rods, and other measures.~~
 - Conservation actions, as necessary, shall be shared equally between marine and freshwater fisheries.⁹
- c. Provide opportunities for commercial fisheries within the remaining available fishery impacts.

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5) Fishery Management in 2015-2018. ~~To facilitate a transition to the Willapa River as the primary Chinook salmon population, fisheries during the transition period~~ Fisheries will be managed with the following goals:¹⁰

- a. Management will be flexible for stocks achieving spawner objectives. The achievement of management objectives will be based on meeting spawner goals consistently over time and coupled with positive pre-season forecasts. If the number of natural-origin spawners is less than the goal in 3 out of 5 years, the impact rate on Willapa and Naselle river natural-origin fall Chinook in Willapa Bay fisheries shall not exceed 20%. Within this impact rate cap, the priority shall be to maintain a full season of recreational fisheries for Chinook salmon in the Willapa Bay Basin.¹¹
- b. ~~To promote the catch of hatchery origin Chinook salmon and increase the number of natural origin spawners, within the 20% impact rate cap the following impact rates shall be set aside for mark selective commercial fishing gear types with an anticipated release mortality rate of less than 35%:~~

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Fishing Year	Mark Selective Commercial Fishing Gear Set-Aside
2015	1%
2016	2%
2017	6%
2018	6%

The Commission may consider adjustments to the set-asides for 2017 and 2018 based upon the Department's reports to the Commission on commercial mark-selective fishing gear (paragraph 2(b)) or other adaptive management considerations.¹²

c. No commercial Chinook fisheries shall occur in areas 2T and 2U prior to September 16.

d. No commercial Chinook fisheries shall occur in areas 2M, 2N, 2P and 2R until after Labor Day.¹³

6) Fishery Management After 2018. Fisheries in the Willapa Bay Basin will be managed with the goal of:¹⁴

a. Limiting the fishery impact rate on Willapa and Naselle river natural-origin fall Chinook salmon to no more than 14%.¹⁵

b. No commercial fisheries shall occur within areas 2T and 2U prior to September 16.

e. No commercial Chinook fisheries shall occur in areas 2M, 2N, 2P and 2R until after September 7.¹⁶

7) Maintaining Rebuilding Trajectory. If the postseason estimate (as presented at the annual Commission review) of aggregated natural-origin Chinook salmon mortality (impacts) exceeds the preseason projection, the Department staff shall make a recommendation to the Commission regarding an adjustment to the allowable impacts for the subsequent year. The recommendation shall be based upon the percentage by which the postseason estimate of impacts exceeded the preseason projection, but may consider other factors such as the predicted abundance or other relevant factors.¹⁷

8) Hatchery Production. Within budgetary constraints, and at the earliest feasible date, the Department shall seek to implement the following hatchery production of fall Chinook salmon:

- 0.80 million at Naselle Hatchery
- 3.30 million at Nemah Hatchery

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- ~~0.35 million at Forks Creek Hatchery~~¹⁸

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Coho Salmon

Subject to the adaptive management provisions of this policy, the Department will manage Coho salmon fisheries and hatchery programs consistent with the Guiding Principles and the following objectives:

- 4) ~~Broodstock Management Strategies. Manage Coho salmon with the following designations and broodstock management strategies:~~

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	North/Smith	Willapa	Naselle
Designation	Primary	Primary	Stabilizing
Broodstock Strategy	No Hatchery Program	Integrated	Integrated

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~~Coho salmon returning to all other watersheds will be managed consistent with a Contributing designation.~~¹⁹

- 2) ~~Fishery Management Objectives.~~ The fishery management objectives for Coho salmon, in priority order, are to:
- Manage fisheries with the goal of achieving the aggregate spawner goal for Willapa Bay natural-origin Coho salmon. When the pre-season forecast of natural-origin adult Coho is less than the aggregate goal, ~~or the number of natural-origin spawners was less than the goal in 3 out of the last 5 years~~, fisheries in the Willapa Bay Basin will be scheduled to result in an impact of no more than 10% of the adult return;²⁰
 - Prioritize commercial fishing opportunities during the Coho fishery management period (September 16 through October 14); and
 - Provide recreational fishing opportunities.

Chum Salmon

Subject to the adaptive management provisions of this policy, the Department will manage Chum salmon fisheries and hatchery programs consistent with the Guiding Principles and the following objectives:

- 4) ~~Broodstock Management Strategies. Manage Chum salmon with the following designations and broodstock management strategies:~~

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	North/Smith	Palix	Bear
Designation	Primary	Contributing	Primary

Broodstock Strategy	No Hatchery Program	No Hatchery Program	No Hatchery Program
--------------------------------	--------------------------------	--------------------------------	--------------------------------

~~Chum salmon returning to all other watersheds will be managed consistent with a Contributing designation.²¹~~

2) **Fishery Management Objectives.** The fishery management objectives for Chum salmon, in priority order, are to:

- a. Achieve the aggregate goal for naturally spawning Chum salmon and meet ~~hatchery reform~~ broodstock objectives (see ~~bullet item 3~~);²²
- b. Provide commercial fishing opportunities during the Chum salmon fishery management period (October 15 through October 31); and
- c. Provide recreational fishing opportunities. Recreational fisheries will be allowed to retain Chum salmon.

3) Fisheries will be managed with the goal of achieving the aggregate goal for Willapa Bay naturally spawning Chum salmon. Until the spawner goal is achieved 2 consecutive years, the maximum fishery impact shall not exceed a 10% impact rate and no commercial fisheries will occur in the period from October 15-31. If the number of natural-origin spawners was less than the goal in 3 out of the last 5 years, the Department shall implement the following measures:

- a. The predicted fishery impact for Chum in Willapa Bay Basin will be scheduled to result in an impact of no more than 10% of the adult return.
- b. When the Chum pre-season forecast is 85% or less of the escapement goal, the predicted fishery impact for Chum in Willapa Bay Basin will be scheduled to result in an impact of no more than 5% of the adult return.

4) ~~The Department shall evaluate opportunities to increase hatchery production of Chum salmon. If Chum salmon hatchery production is enhanced, beginning as early as 2018, fisheries in the Willapa Bay Basin may be implemented with a fishery impact limit of no more than 33% of the natural origin Chum salmon return.²³~~

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Adaptive Management

The Commission recognizes that adaptive management will be essential to achieve the purpose of this policy. Department staff may implement actions to manage adaptively to achieve the objectives of this policy and will coordinate with the Commission, as needed, in order to implement corrective actions.

The Commission will also track implementation and results of the fishery management actions and artificial production programs ~~in the transition period, with annual reviews beginning in 2016²² and a comprehensive review at the end of the transition period (e.g., 2019) with the 2021 fishery season.~~ Fisheries pursuant to this Policy will be adaptive and adjustments may be made. Department staff may implement actions necessary to manage adaptively to achieve the objectives of this policy and shall coordinate with the Commission, as needed, in order to implement corrective actions.²⁴

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Components of the adaptive management will be shared with the public through the agency web site and will include the following elements:

- 1) Conduct Annual Fishery Management Review. The Department shall annually evaluate fishery management tools and parameters and identify improvements as necessary to accurately predict fishery performance and escapement.
- 2) Improve In-season Management. The Department shall ~~continue to~~ develop, evaluate, and implement fishery management models, procedures, and management measures that are projected to enhance the effectiveness of fishery management relative to management based on preseason predictions.²⁵
- 3) Review Spawner Goals. The Department shall review spawner goals to ensure that they reflect the current productivity of Chum salmon, ~~within the following timelines:~~

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- a. ~~Chum: September 1, 2016~~
- b. ~~Coho: January 1, 2016~~
- c. ~~Chinook: January 1, 2020²⁶~~

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- 4) Comprehensive Hatchery Assessment. ~~The Department shall complete a comprehensive review of the hatchery programs in the Willapa Bay region by June 2016. The review shall identify the capital funding necessary to maintain or enhance current hatchery programs, identify changes in release locations or species that would enhance recreational and commercial fishing opportunities, identify improvements or new weirs to increase compliance with broodstock management, and the use of re-use water systems, water temperature manipulation to increase production hatchery capacity.~~²⁷

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- 5) Ocean Ranching Opportunities. ~~The Department shall complete by January 2016 a comprehensive review of opportunities and constraints to implement ocean ranching of salmon in Willapa Bay.~~²⁸

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Delegation of Authority

The Commission delegates the authority to the Director, through the North of Falcon stakeholder consultation process, to set seasons for recreational and commercial fisheries in the Willapa Bay Basin, and to adopt permanent and emergency regulations to implement these fisheries.

This guidance establishes a number of important conservation and allocation principles for the Director and agency staff to apply when managing the fishery resources of Willapa Bay. While this policy establishes a clear presumptive path forward with regard to many of the identified objectives, those principles and concrete objectives are intended to guide decision-making and are not intended to foreclose adaptive management based upon new information. Nor does this guidance preclude the need to gather and consider additional information during the annual process of developing fishery plans and the associated rule-making processes that open fisheries in Willapa Bay. The Commission fully expects that the Director and agency staff will continue to communicate with the public, and the Commission, to consider new information, evaluate alternate means for carrying out policy objectives, and consider instances in which it may make sense to deviate from the presumptive path forward. That is the nature of both adaptive management, and policy implementation, when faced with a dynamic natural environment.

Willapa Bay Salmon Policy Recommended Revisions

#	Original Language	Staff Recommended Revision	Justification
General Policy Statement			
1	This policy provides a cohesive set of principles and guidance to promote the conservation of wild salmon and steelhead and improve the Department’s management of salmon in the Willapa Bay Basin.	This policy provides a cohesive set of principles and guidance to promote the conservation of wild salmon and improve the Department’s management of salmon in the Willapa Bay Basin.	Steelhead are not mentioned anywhere else in document. We have a statewide steelhead plan and an upcoming coastal steelhead management plan that will include Willapa Bay.
Guiding Principles			
2	3) Implement improved broodstock management (including selective removal of hatchery fish) to reduce the genetic and ecological impacts of hatchery fish and improve the fitness and viability of salmon produced from Willapa Bay rivers (see Hatchery and Fishery Reform Policy C-3619). Achieve Hatchery Scientific Review Group (HSRG) broodstock management standards for Coho and Chum salmon by 2015, and work toward a goal of achieving standards for Chinook salmon by 2020.	3) Implement improved broodstock management (including selective removal of hatchery fish) to reduce the genetic and ecological impacts of hatchery fish and improve the fitness and viability of salmon produced from Willapa Bay rivers. This management path will be informed by the Anadromous Salmon and Steelhead Hatchery Policy C-3624 and use Hatchery Management Plans (HMP) to detail the scientific framework behind production levels. The Department will prioritize the development of Willapa Bay-specific HMPs for Fall Chinook, Coho, and Chum for each of the three hatcheries in the bay.	The new FWC Anadromous Salmon and Steelhead Hatchery Policy C-3624 will inform the future trajectory of production levels at WB facilities.

Fisheries and Species-Specific Guidance: Fall Chinook

3	<p>1) The Department shall initiate a two-phase rebuilding program to conserve and restore wild Chinook salmon in Willapa Bay. The progressive series of actions is intended to result in achieving broodstock management standards by 2020 and spawner goals by years 16-21. Within the conservation constraints of the rebuilding program, Chinook salmon will be managed to provide for a full recreational fishing season with increased participation and/or catch anticipated in future years.</p>	<p>1) The Department shall continue the rebuilding program to conserve and restore wild Chinook salmon in Willapa Bay. Chinook salmon broodstock management will be consistent with HMPs formulated from science-based risk management described in a Technical Procedures Document (TDP). Wild Chinook spawner goals will maintain the trajectory of recovery by years 16-21. Within the conservation constraints of the rebuilding program, Chinook salmon will be managed to provide for a full recreational fishing season with increased participation and/or catch anticipated in future years.</p>	<p>The need for a two-phase rebuilding program is no longer warranted. Broodstock management will be informed by Willapa Bay-specific HMPs, consistent with statewide policy.</p>
4	<p>2) <u>Rebuilding Program - Phase 1 (Years 1-4)</u>. The objectives of Phase 1 shall be to increase the number of natural-origin spawners and implement hatchery program modifications designed to meet broodstock management standards in the subsequent cycle.</p>	<p>2) <u>Rebuilding Program</u>. The objectives of the rebuilding program shall be to increase the number of natural-origin spawners and implement broodstock management strategies designed to meet broodstock risk management standards in the subsequent cycle.</p>	<p>Phase 1 is complete. Management will continue with the rebuilding program.</p>

5	<p>2a. Implement hatchery broodstock management actions to promote re-adaptation to the natural environment and enhance productivity of natural-origin Chinook salmon in the North/Smith, Willapa, and Naselle rivers:</p> <ul style="list-style-type: none"> • North/Smith – Manage as Wild Salmon Management Zone with no hatchery releases of Chinook salmon. • Willapa – Implement an integrated program with hatchery broodstock management strategies designed to achieve broodstock management standards consistent with a Primary designation in the subsequent cycle. • Naselle – Implement hatchery broodstock strategies designed to achieve broodstock management standards consistent with a Contributing designation in the subsequent cycle. 	<p>2a. Implement actions to promote re-adaptation to the natural environment and enhance productivity of natural-origin Chinook salmon in Willapa Basin Rivers:</p> <ul style="list-style-type: none"> • North/Smith – Manage as Wild Salmon Management Zone with no hatchery releases of any salmon. • Willapa, Naselle, and Nemah Hatcheries will be managed based on existing hatchery operational plans, goals, and objectives until the development of Willapa Bay HMPs which will proceed as a state-wide priority. 	<p>The FWC Anadromous Salmon and Steelhead Hatchery Policy C-3624 will inform the future trajectory of production levels at WB facilities. North/Smith Rivers will continue to operate as a Wild Salmon Management Zone, but without the release of any species of hatchery salmon to function as a control zone and provide the ability to pursue before-after, control-impact studies after HMP implementation.</p>
6	<p>2b. Pursue implementation of additional mark-selective commercial fishing gear to enhance conservation and provide harvest opportunities. The Department shall provide to the Commission by January 2017 a status report and by January 2018 an assessment of options to implement additional mark-selective commercial fishing gear in Willapa Bay. The assessment shall identify the likely release mortality rates for each gear type, the benefits to rebuilding naturally spawning populations, and the benefits and impacts to the commercial fishery.</p>	<p>2b. Continue implementation of additional mark-selective commercial fishing gear to enhance conservation and provide harvest opportunities.</p>	<p>Comprehensive Review completed and approved by FWC in December 2020.</p>

7	<p>3) <u>Rebuilding Program - Phase 2 (Years 5 – 21)</u>. The combination of fishery and harvest management actions is projected to result on average in the achievement of spawner goals for the North, Naselle, & Willapa populations in the years 16-21. Additional fishery and hatchery management actions will be considered during this time period if the progress toward the spawner objectives is inconsistent with expectations.</p>	<p>3) <u>Rebuilding Timeframe</u>: The combination of fishery and harvest management actions is projected to result on average in the achievement of spawner goals for the North, Naselle, & Willapa populations in the years 16-21. Additional fishery and hatchery management actions will be considered during this time period if the progress toward the spawner objectives is inconsistent with expectations.</p>	<p>Remove phases from Policy. Maintain rebuilding timeframe.</p>
8	<p>4a. Achieve spawner goals for the North, Naselle, & Willapa stocks of natural-origin Chinook and hatchery reform broodstock objectives through the two-phase rebuilding program described above.</p>	<p>4a. Achieve spawner goals for the North, Naselle, & Willapa stocks of natural-origin Chinook and hatchery broodstock objectives.</p>	<p>Remove phases from Policy. Maintain rebuilding timeframe.</p>
9	<p>4b. Provide for an enhanced recreational fishing season. The impact rate of the recreational fishery is anticipated to be ~3.2% during the initial years of the policy, but may increase in subsequent years to provide for an enhanced recreational season as described below:</p> <ul style="list-style-type: none"> • Manage Chinook salmon for an enhanced recreational fishing season to increase participation and/or catch including consideration of increased daily limits, earlier openings, multiple rods, and other measures. • Conservation actions, as necessary, shall be shared equally between marine and freshwater fisheries. 	<p>4b. Provide for a full recreational fishing season.</p> <ul style="list-style-type: none"> • Conservation actions, as necessary, shall be shared equally between marine and freshwater fisheries. 	<p>Fisheries directed at Chinook within Willapa Bay will be planned preseason to achieve a full recreational fishery season. Consideration of increased daily limits, earlier openings, multiple rods, and other measures has been completed and implemented.</p>

10	5) <u>Fishery Management in 2015-2018</u> . To facilitate a transition to the Willapa River as the primary Chinook salmon population, fisheries during the transition period will be managed with the following goals:	5) <u>Fishery Management</u> . Fisheries will be managed with the following goals:	Transition period has concluded. HMPs will guide management path moving forward.
11	5a. The impact rate on Willapa and Naselle river natural-origin fall Chinook in Willapa Bay fisheries shall not exceed 20%. Within this impact rate cap, the priority shall be to maintain a full season of recreational fisheries for Chinook salmon in the Willapa Bay Basin.	5a. Management will be flexible for stocks achieving spawner objectives. The achievement of management objectives will be based on meeting spawner goals consistently over time and coupled with positive pre-season forecasts. If the number of natural-origin spawners is less than the goal in 3 out of 5 years, the impact rate on Willapa and Naselle river natural-origin fall Chinook in Willapa Bay fisheries shall not exceed 20%. Within this impact rate cap, the priority shall be to maintain a full season of recreational fisheries for Chinook salmon in the Willapa Bay Basin.	Instead of managing to a flat impact rate, consistency in meeting spawner goals and pre-season forecasts should be used to manage to continue to achieve these escapement goals. Currently fisheries can be managed to a percent impact rate regardless of positive pre-season forecasts.
12	5b. To promote the catch of hatchery-origin Chinook salmon and increase the number of natural-origin spawners, within the 20% impact rate cap the following impact rates shall be set-aside for mark-selective commercial fishing gear types with an anticipated release mortality rate of less than 35%: [TABLE] The Commission may consider adjustments to the set-asides for 2017 and 2018 based upon the Department's reports to the Commission on commercial mark-selective fishing gear (paragraph 2(b)) or other adaptive management considerations.	Removed	Instead of managing to a flat impact rate, consistency in meeting spawner goals and pre-season forecasts should be used to manage to continue to achieve these escapement goals. Currently fisheries can be managed to a percent impact rate regardless of positive pre-season forecasts.

13	5d. No commercial Chinook fisheries shall occur in areas 2M, 2N, 2P and 2R until after Labor Day.	Removed	Commercial fisheries in south Willapa Bay (2M, 2N, 2P, and 2R) were enacted this year (2021) with positive outcomes. Recreational fishing for Chinook was highly successful despite concerns. Furthermore, this commercial fishery has the ability to catch SRKW hatchery fish from Naselle. SRKW do not feed in the bay and the fish are no longer useful as SRKW prey.
14	6) <u>Fishery Management After 2018.</u> Fisheries in the Willapa Bay Basin will be managed with the goal of:	Removed	This timeframe has passed.
15	6a. Limiting the fishery impact rate on Willapa and Naselle river natural-origin fall Chinook salmon to no more than 14%.	Removed	Instead of managing to a flat impact rate, consistency in meeting spawner goals and pre-season forecasts should be used to manage to continue to achieve these escapement goals. Currently fisheries can be managed to a percent impact rate regardless of positive pre-season forecasts.
16	6c. No commercial Chinook fisheries shall occur in areas 2M, 2N, 2P and 2R until after September 7.	Removed	Commercial fisheries in south Willapa Bay (2M, 2N, 2P, and 2R) were enacted this year (2021) with positive outcomes. Recreational fishing for Chinook was highly successful despite concerns. Furthermore, this commercial fishery has the ability to catch SRKW hatchery fish from Naselle. SRKW do not feed in the bay and the fish are no longer useful as SRKW prey.

17	<p>7) <u>Maintaining Rebuilding Trajectory</u>. If the postseason estimate (as presented at the annual Commission review) of aggregated natural-origin Chinook salmon mortality (impacts) exceeds the preseason projection, the Department staff shall make a recommendation to the Commission regarding an adjustment to the allowable impacts for the subsequent year. The recommendation shall be based upon the percentage by which the postseason estimate of impacts exceeded the preseason projection but may consider other factors such as the predicted abundance or other relevant factors.</p>	Removed	Remove phases from Policy. Maintain rebuilding timeframe.
18	<p>8) <u>Hatchery Production</u>. Within budgetary constraints, and at the earliest feasible date, the Department shall seek to implement the following hatchery production of fall Chinook salmon:</p> <ul style="list-style-type: none"> · 0.80 million at Naselle Hatchery · 3.30 million at Nemah Hatchery · 0.35 million at Forks Creek Hatchery 	Removed	Prescriptive production levels are removed from the policy to allow the FWC Anadromous Salmon and Steelhead Hatchery Policy C-3624 to provide the management path for the three hatchery facilities in WB.

Fisheries and Species-Specific Guidance: Coho

19	<p>1) <u>Broodstock Management Strategies</u>. Manage Coho salmon with the following designations and broodstock management strategies: [TABLE] Coho salmon returning to all other watersheds will be managed consistent with a Contributing designation.</p>	<p align="center">Removed</p>	<p>The FWC Anadromous Salmon and Steelhead Hatchery Policy C-3624 will inform the future trajectory of production levels at WB facilities. North/Smith Rivers will continue to operate as a Wild Salmon Management Zone, but without the release of any species of hatchery salmon to function as a control zone and provide the ability to pursue Before-after, control-impact studies with HMP implementation.</p>
20	<p>2a. Manage fisheries with the goal of achieving the aggregate spawner goal for Willapa Bay natural-origin Coho salmon. When the pre-season forecast of natural-origin adult Coho is less than the aggregate goal, or less than 10% higher than the aggregate goal, fisheries in the Willapa Bay Basin will be scheduled to result in an impact of no more than 10% of the adult return.</p>	<p>2a. Manage fisheries with the goal of achieving the aggregate spawner goal for Willapa Bay natural-origin Coho salmon. When the pre-season forecast of natural-origin adult Coho is less than the aggregate goal, or the number of natural-origin spawners was less than the goal in 3 out of the last 5 years, fisheries in the Willapa Bay Basin will be scheduled to result in an impact of no more than 10% of the adult return</p>	<p>Instead of managing to a flat impact rate, consistency in meeting spawner goals and pre-season forecasts should be used to manage to continue to achieve these escapement goals. Currently fisheries can be managed to a percent impact rate regardless of positive pre-season forecasts.</p>

Fisheries and Species-Specific Guidance: Chum

21	<p>1) <u>Broodstock Management Strategies</u>. Manage Chum salmon with the following designations and broodstock management strategies: [TABLE] Chum salmon returning to all other watersheds will be managed consistent with a Contributing designation.</p>	Removed	Remove prescriptive hatchery production numbers and designations to allow the FWC Anadromous Salmon and Steelhead Hatchery Policy C-3624 to guide broodstock management.
22	<p>2a. Achieve the aggregate goal for naturally spawning Chum salmon and meet hatchery reform broodstock objectives (see bullet 3);</p>	<p>2a. Achieve the aggregate goal for naturally spawning Chum salmon and meet broodstock objectives (See item 3);</p>	Removed hatchery reform language to allow the FWC Anadromous Salmon and Steelhead Hatchery Policy C-3624 to guide broodstock management.
23	<p>4) The Department shall evaluate opportunities to increase hatchery production of Chum salmon. If Chum salmon hatchery production is enhanced, beginning as early as 2018, fisheries in the Willapa Bay Basin may be implemented with a fishery impact limit of no more than 33% of the natural-origin Chum salmon return.</p>	Removed	Instead of managing to a flat impact rate, consistency in meeting spawner goals and pre-season forecasts should be used to manage to continue to achieve these escapement goals. Currently fisheries can be managed to a percent impact rate regardless of positive pre-season forecasts.

Adaptive Management			
24	The Commission will also track implementation and results of the fishery management actions and artificial production programs in the transition period, with annual reviews beginning in 2016 and a comprehensive review at the end of the transition period (e.g., 2019). Fisheries pursuant to this Policy will be adaptive and adjustments may be made. Department staff may implement actions necessary to manage adaptively to achieve the objectives of this policy and shall coordinate with the Commission, as needed, in order to implement corrective actions.	The Commission will also track implementation and results of the fishery management actions and artificial production programs, with annual reviews beginning in 2022 with the 2021 fishery season. Fisheries pursuant to this Policy will be adaptive and adjustments may be made. Department staff may implement actions necessary to manage adaptively to achieve the objectives of this policy and shall coordinate with the Commission, as needed, in order to implement corrective actions.	Comprehensive Review was completed and approved by FWC in December 2020. Dates changed to reflect current timing.
25	2) <u>Improve In-season Management</u> . The Department shall develop, evaluate, and implement fishery management models, procedures, and management measures that are projected to enhance the effectiveness of fishery management relative to management based on preseason predictions.	2) <u>Improve In-season Management</u> . The Department shall continue to develop, evaluate, and implement fishery management models, procedures, and management measures that are projected to enhance the effectiveness of fishery management relative to management based on preseason predictions.	Initial development has occurred. Staff will continue to improve in-season management.
26	3) <u>Review Spawner Goals</u> . The Department shall review spawner goals to ensure that they reflect the current productivity of salmon within the following timelines: a. Chum: September 1, 2016; b. Coho: January 1, 2016; c. Chinook: January 1, 2020	3) <u>Review Spawner Goals</u> . The Department shall review spawner goals to ensure that they reflect the current productivity of Chum salmon.	Review of spawner goals for Chinook and Coho have been completed. Review for Chum spawner goals forthcoming.

27	<p>4) <u>Comprehensive Hatchery Assessment</u>. The Department shall complete a comprehensive review of the hatchery programs in the Willapa Bay region by June 2016. The review shall identify the capital funding necessary to maintain or enhance current hatchery programs, identify changes in release locations or species that would enhance recreational and commercial fishing opportunities, identify improvements or new weirs to increase compliance with broodstock management, and the use of re-use water systems, water temperature manipulation to increase production hatchery capacity.</p>	Removed	<p>Agency staff delivered a briefing that reported the results of a comprehensive assessment of Willapa Bay hatchery facilities in August of 2016. The briefing provided background information, current production levels and opportunities, and infrastructure needs of the three Willapa Bay hatchery facilities. The presentation also covered issues related to hatchery reform for Willapa Bay salmonid production levels. A copy of the Department’s presentation to the FWC and a summary of results of the hatchery assessment can be found in the comprehensive review document. https://wdfw.wa.gov/publications/02157</p>
28	<p>5) <u>Ocean Ranching Opportunities</u>. The Department shall complete by January 2016 a comprehensive review of opportunities and constraints to implement ocean ranching of salmon in Willapa Bay.</p>	Removed	<p>The ocean ranching report was delivered by staff to the FWC during the June 2016 meeting. The briefing presentation contained an overview of background information with descriptions and overview of ocean ranching programs conducted around the world. The briefing also covered the applicable RCW’s and the potential benefits and concerns associated with operating ocean ranching programs. A copy of the Department’s presentation to the FWC and a summary of results of the hatchery assessment can be found in the comprehensive review document. https://wdfw.wa.gov/publications/02157</p>