2018 WILLAPA BAY PRE-SEASON FORECAST SUMMARY

updated 02.13.18

CHINOOK	NATURAL ORIGIN	HATCHERY	TOTAL
FORECAST	**3,838**	**40,258**	**44,096**
Goals	*4,350*	*3,525*	
Willapa/ North River	2,195	16,055	18,250
Nemah/Palix	490	19,580	20,070
Naselle/Bear	1,153	4,622	5,775

COHO Ocean Age 3 Estimates	NATURAL ORIGIN	HATCHERY	TOTAL
FORECAST	**20,645**	**44,542**	**65,187**
Goals	*13,600*	*6,100*	
Willapa/ North River	11,620	8,774	20,394
Nemah/Palix	2,972	0	2,972
Naselle/Bear	6,052	35,768	41,820

CHUM	NATURAL ORIGIN	HATCHERY	TOTAL
FORECAST	**39,136**	**796**	**39,932**
Goal			*35,400*

Commission Guidance on Implementation of Policy C-3622 in 2018

General Guidance

Policy implementation in 2018 to achieve priorities or goals for one fishing sector should not result in eliminating the opportunity of any fishing sector.

Chinook Fishery Management

Willapa Bay chinook fisheries should be actively managed to not exceed the 20% cap in 2018.

Recreational Fishery

- In achieving a priority for the recreational fishery for chinook salmon, design the 2018 fishery
  - after exploring a reduction in the 4 adult salmon bag limit;
  - to curtail high catch periods in June, July and early August if necessary to conform to this guidance;
  - to focus on mark selective fishing where ever practical;
  - to not exceed 20% impacts after accounting for incidental impacts needed in commercial fisheries (see below); and
  - to include active monitoring of the bay fishery prior to September 30 and active management of the bay fishery if the total fisheries impact ceiling of 20% on natural origin fish is in reasonable jeopardy of being exceeded.

Commercial Fishery

- The natural origin chinook salmon 6% impact "set-aside" for commercial fishing with alternative gear, together with 3% impacts relating to historic impacts, shall be used in pre-season planning to cover chinook incidental impacts in all commercial fisheries-- targeting coho, chum, or hatchery chinook salmon. Active management is expected in-season, and it may be that more or less than the 9% level ultimately occurs--within the constraint of the 20% impact rate cap and the provisions of this guidance.

Status of Policy C-3622

- Policy C-3622 is to remain in effect in 2018, except as clarified or modified by this guidance; this guidance applies only to 2018.

2018 Willapa Bay Salmon Fisheries Management Objectives

Fall Chinook

Total Natural-Origin Escapement (NOR)

Year	North	Naselle	Willapa
	Goal=991	**Goal=1,547**	**Goal=1,181**
2012	168	581	1,191
2013	113	767	481
2014	99	975	784
2015	173	483	1,064
2016	194	597	575
2017*	206	1,172	1,219

- 20% Harvest Rate on Willapa and Naselle rivers natural-origin stocks
  - Enhanced recreational fishing season
    - Conservation actions shall be shared equally between marine and freshwater fisheries
  - Provide opportunities for commercial fisheries within remaining available impacts
- No commercial fisheries prior to Sept. 16th in areas 2T and 2U
- No commercial fisheries prior to Sept 3th in areas 2M, 2N, 2P and 2R

Coho

- Achieve the aggregate natural-origin spawner goal for Willapa Bay

Total Natural-Origin Escapement (NOR)

Goal	2012	2013	2014	2015	2016	2017*
13,600	18,880	22,638	47,154	10,790	25,290	9,753

- Prioritize commercial fishing opportunities during the Coho fishery management period
  - Sept. 16th – October 14th
- Provide recreational fishing opportunities

Chum

- Achieve the aggregate naturally spawning goal for Willapa Bay

Total Natural-Origin Escapement (NOR)

Goal	2012	2013	2014	2015	2016	2017*
35,400	26,343	24,516	26,382	44,960	80,284	21,749

- Provide commercial fishing opportunities
- Provide recreational fishing opportunities
- Goal was not achieved in two consecutive years or 3 of 5 years
  - 10% impact rate
  - Commercial fisheries ~~could~~ CAN NOT be scheduled Oct 15th – 31st

Issues

- Nemah River senior section
- Landowner issues, questionable sport ethics

**Data is preliminary and subject to change*

FISH AND WILDLIFE COMMISSION
POLICY DECISION

POLICY TITLE: Willapa Bay Salmon Management **POLICY NUMBER: C-3622**

Cancels or
Supersedes: NA

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

See Also: Policies C-3608, C-3619

Approved June 13, 2015 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 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, 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.

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.

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 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.

2) Rebuilding Program - Phase 1 (Years 1-4). 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.

   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:

      - 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.

   b. 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.

3) Rebuilding Program - Phase 2 (Years 5 – 21). The combination of fishery and harvest management actions is projected to result on average in the achievement of spawner goals for the North, Naselle, and 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.

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, and Willapa stocks of natural-origin Chinook and hatchery reform broodstock objectives through the two phase rebuilding program described above.

   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.

c. Provide opportunities for commercial fisheries within the remaining available fishery impacts.

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 will be managed with the following goal:

a. 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.

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%:

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.

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.

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

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

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

   c. No commercial Chinook fisheries shall occur in areas 2M, 2N, 2P and 2R until after September 7.

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.

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
   - 0.35 million at Forks Creek Hatchery

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:

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

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

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

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

   a. 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;

   b. Prioritize commercial fishing opportunities during the Coho fishery management period (September 16 through October 14); and

   c. 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:

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

	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.

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 3);

   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.

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 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.

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 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.

3) Review Spawner Goals. 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

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.

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.

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.

2018 PFMC Alternatives for Ocean Salmon Fisheries

Three alternatives for ocean salmon fisheries were approved by the Pacific Fishery Management Council (PFMC), which establishes fishing seasons in ocean waters 3 to 200 miles off the Pacific coast. A public hearing on the three alternatives is scheduled for March 26 in Westport. More details are available online at https://www.pcouncil.org/2017/12/51357/salmon-hearings/.

The three options are designed to protect the low numbers of wild coho and chinook expected to return to the Columbia River and other Washington rivers this year while still providing some fishing opportunities. This year's forecast of Columbia River fall chinook is down more than 50 percent from the 10-year average. About 112,500 hatchery chinook are expected to return to the lower Columbia River. Those fish, known as "tules" are the backbone of the recreational ocean chinook fishery. Fishery managers expect 286,200 Columbia River hatchery coho to return to the Washington coast, down about 100,000 fish from last year's forecast. Only 279,300 coho actually returned last year to the Columbia River, where some coho stocks are listed for protection under the federal Endangered Species Act.

The recreational fishing alternatives include the following quotas for fisheries off the Washington coast:

- **Alternative 1:** 32,500 chinook and 42,000 coho. Marine areas 1 (Ilwaco), 3 (La Push) and 4 (Neah Bay) would open June 23, while Marine Area 2 (Westport) would open July 1. All four areas would be open daily through Sept. 3. This option would have a fishery scheduled from Sept. 29-Oct. 14 in the La Push late-season area.

- **Alternative 2:** 27,500 chinook and 29,400 coho. Marine areas 1, 3 and 4 would be open daily June 30-Sept. 3, while Marine Area 2 would be open five days per week (Sunday through Thursday) June 24-Sept. 3. This option would also have a fishery scheduled from Sept. 29-Oct. 14 in the La Push late-season area.

- **Alternative 3:** 22,500 chinook and 16,800 coho. All four marine areas would be open July 1-Sept. 3. Marine Area 2 would be open Sundays through Thursdays while the other areas would be open daily. This option does not include a late fishery in the La Push area.

Each of the alternatives allows for varying levels of chinook and hatchery coho retention. Fisheries may close early if quotas a met. For more details about the options, visit PFMC's webpage at https://www.pcouncil.org/blog/.

The first alternative most closely resembles ocean fisheries last summer, when PFMC adopted recreational ocean fishing quotas of 45,000 chinook and 42,000 coho salmon.

Chinook and coho quotas approved by the PFMC will be part of a comprehensive 2018 salmon-fishing package, which includes marine and freshwater fisheries throughout Puget Sound, the Columbia River and Washington's coastal areas. State and tribal co-managers are currently developing those other fisheries.

State and tribal co-managers will complete the final 2018 salmon fisheries package in conjunction with PFMC during its April meeting in Portland, OR

Meanwhile, several public meetings are scheduled in March and April to discuss regional fisheries issues. The public can comment on the proposed ocean alternatives and provide their thoughts on other salmon fisheries through WDFW's website at https://wdfw.wa.gov/fishing/northfalcon/. A schedule of public meetings, as well as salmon run-size forecasts and more information about the salmon-season setting process can also be found on the webpage.

2018 Salmon Rule Simplification

Purpose of Rule Simplification:

To make the fishing regulations easier to understand by simplifying and minimizing regulations.

Basic Tenets:

- Consider implications at a population level versus individual fish level
- Decouple salmon and steelhead limits
- Eliminate layered gear restrictions, where possible
- Reduce number of stream reaches by combining sections, where possible
- Standardize opening and closing dates, at least within the harbor
- Standardize daily limit, where possible (recognizing conservation needs)

Constraints:

- Tribal co-manager agreements
- Columbia River discussions with OR and the need to accommodate that process

Topics for Discussion:

- Daily limit of jacks allowed to be retained
- Barbless vs barbed hooks in freshwater
- Gear Restrictions – one gear restriction for all salmon fisheries?
- Boat Limit/Party fishing – allow everywhere?
- 2-Pole – allow everywhere except quota fisheries and most marine areas?
- Fish Handling Rules – eliminate or not?

Please provide any comments regarding Salmon Rule Simplification to WillapaBay@dfw.wa.gov

2018 Willapa Bay NOF Fishery Suggestions Received from the Public

As of March 21, 2018

Commercial

- In November, fishery is only every other day
- Evaluate lines in area 2N to curtail some of the area and reduce the area to the Nemah Channel, if necessary prior to September 15th. This would lower impacts on Willapa River stocks.
- Commercial openings should have some time after sunset and before sunrise.
- In-season management practice should be used to add commercial days not just subtract, due to a small fleet that is highly observed, if warranted.

Recreational

General

- Use barbed hooks and only hook gill plates forward
- If bag limits in freshwater are more than two Chinook then only one may be a female. Once a female is landed the fisher is done
- All rec limits should be mark selective, both for Chinook and Coho. Poor unmarked Coho predictions are common along the coast.

Marine Area

- Prior to August 15, the rec deadline should be channel marker 1 of the Willapa River to reduce high incidental catches of dip-in stocks. Forecasts are low for many areas.
- Marine limits for rec fishery should be two fish of which only one may be a Chinook and all are mark selective.
- North River closure area should remain closed entire salmon season
- North River closure area should start earlier to cover all of the Chinook run timing
- From Buoy 13 – 10 should be Chinook MSF

Willapa River

- Additional access areas for 70+ and under 16 below the hatchery
- Only one or two wild, late coho should be allowed to be retained
- Allow natural-origin Chinook harvest in November similar to the gillnet fishery
- The stationary gear in the first two sections do not allow for plunking

Naselle River

- Additional access areas for 70+ and under 16 below the hatchery
- Secure by grant from WDFW and RFEG as a Day Park for access to fish
- Possible white sturgeon retention below the Hwy 401 Bridge
- Only one or two wild, late coho should be allowed to be retained
- Re-evaluate fishing areas in the Nemah and Naselle rivers to restrict unethical fishing practices

Nemah River

- Additional access areas for 70+ and under 16 below the hatchery
- If boundaries stay the same, open the season August 15 and close Sept 15.
- Make regs state that all parts of the river is required to use a single barbless hook
- Add a bobber and bait gear rule up to the hatchery
- Only one or two wild, late coho should be allowed to be retained
- Re-evaluate fishing areas in the Nemah and Naselle rivers to restrict unethical fishing practices

Other

- Need to monitor habitat and the results of aerial spraying – need to work together with Habitat program in WDFW
- Limit guides to certain days/week and leave at least a few days for freshwater recreational fishers

2018 Willapa Bay Salmon Fishery Planning Model

Updated 2018 North of Falcon

PFMC # coho FRAM #

DRAFT

Name of model run: BASE
Last year's schedule, 2018 Abundances

Marine Area Rec:
Freshwater:
Commercial:

	Chinook Total Hatchery	Willapa North	Nemah Palix	Naselle Bear	Total Natural	Willapa North	Nemah Palix	Naselle Bear	Coho Total Hatchery	Willapa North	Nemah Palix	Naselle Bear	Total Natural	Willapa North	Nemah Palix	Naselle Bear	Chum Total
Pre-Season Runsize	40,257	16,055	19,580	4,622	3,838	2,195	490	1,153	37,415	7,370	0	30,045	19,365	10,900	2,788	5,677	39,932
Escapement Goal	3,525	200	1,950	1,375	4,353	2,172	328	1,853	2,500	1,000	0	1,500	13,600	9,679	1,294	2,628	35,400
Harvestable	36,732	15,855	17,630	3,247	-515	23	162	-700	34,915	6,370	0	28,545	5,765	1,221	1,494	3,049	4,532

Commercial Chinook Drop out	0.03	Sport hook & line drop off	0.05
Commercial Coho Drop out	0.02	Marine Hooking Mortality	0.14
Small mesh gear mortality	0.56	Freshwater Hooking Mortality	0.10
Tangle net mortality	0.31		
0.75	.25% Savings for 12 hr fishery using 24 hr rate		
	Based on 12-Hr rates		

Stat Week	2017 Dates	Days Fished T	U	N	R	M	MSF T	U	N	R	M	Chinook Catch Natural T	U	N	R	M
32	Aug 5 - Aug 11	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0
33	Aug 12 - 18	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0
34	Aug 19 - 25	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0
35	Aug. 26 - Sept 1	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0
36	Sept. 2 - 8	0.0	0.0	0.0	1.0	1.0	1.00	1.00	1.00	0.31	0.31	0	0	0	1	39
37	Sept. 9 - 15	0.0	0.0	2.0	2.0	2.0	1.00	1.00	0.31	0.31	0.31	0	0	26	5	78
38	Sept 16 - 22	1.0	4.0	5.0	4.0	3.0	0.31	0.31	0.31	0.31	0.31	3	52	10	0	11
39	Sept. 23 - 29	2.0	5.0	5.0	5.0	4.0	0.31	0.31	0.56	0.56	0.56	7	9	5	1	23
40	Sept 30 - Oct 6	5.0	5.0	4.0	5.0	4.0	0.56	0.31	0.56	0.56	0.56	13	21	1	1	8
41	Oct. 7 - 13	2.0	5.0	5.0	5.0	4.0	0.56	0.31	0.56	0.56	0.56	9	4	0	0	4
42	Oct. 14 - 20	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0
43	Oct. 21 - 27	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0
44	Oct. 28 - Nov 3	1.0	1.0	1.0	1.0	1.0	1.00	1:00	1.00	1.00	1.00	0	1	0	0	0
45	Nov. 4 - 10	5.0	5.0	5.0	5.0	5.0	1.00	1.00	1.00	1.00	1.00	3	3	0	0	1
46	Nov. 11 - 17	5.0	5.0	5.0	5.0	5.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0
47	Nov. 18 - 24	5.0	5.0	5.0	5.0	5.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0
48	Nov. 25 - Dec 1	5.0	5.0	5.0	5.0	5.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0
49		0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0
Commercial Catch Totals		31	40	42	43	39						34	90	43	8	163
Commercial Harvest Rate																

Stat Week	Hatchery Chinook Total Hatchery	Total WB Origin	Willapa North	Nemah Palix	Naselle Bear	Natural Chinook Total Natural	Total WB Origin	Willapa North	Nemah Palix	Naselle Bear
32	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0
36	831	831	27	640	164	44	40	2	11	27
37	2,508	2,508	259	1,775	475	130	109	14	26	68
38	1,683	1683	1,157	383	144	88	77	55	5	16
39	481	481	253	171	56	53	44	17	7	20
40	442	442	345	65	32	53	44	32	3	9
41	149	149	103	32	14	22	17	12	1	4
42	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0
44	5	5	4	0	0	1	1	1	0	0
45	24	24	18	4	2	8	6	5	0	1
46	1	1	1	0	0	0	0	0	0	0
47	4	4	4	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0
Commercial Catch Totals	6,127	6,127	2,170	3,071	886	399	338	138	53	147
Commercial Harvest Rate		0.152	0.135	0.157	0.192		0.088	0.063	0.109	0.127

Stat Week	Hatchery Coho Total Hatchery	Willapa North	Nemah Palix	Naselle Bear	Natural Coho Total Natural	Willapa North	Nemah Palix	Naselle Bear	CHUM MSF	Chum Catch T	U	N	R	M	Total Chum
32	0	0	0	0	0	0	0	0	1.00	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	1.00	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	1.00	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	1.00	0	0	0	0	0	0
36	0	0	0	0	5	0	4	1	0.31	0	0	0	0	0	0
37	341	2	0	339	35	4	22	9	0.31	0	0	0	0	1	1
38	1,070	453	0	617	167	136	24	8	0.31	0	2	1	0	1	3
39	810	163	0	647	140	74	48	18	0.56	7	3	1	2	16	30
40	2,034	438	0	1595	636	452	133	51	0.56	120	4	21	83	100	329
41	522	90	0	432	347	271	53	23	0.56	297	33	58	83	384	855
42	0	0	0	0	0	0	0	0	1.00	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	1.00	0	0	0	0	0	0
44	42	27	0	15	149	142	7	0	0.56	24	58	23	13	143	260
45	377	215	0	162	823	751	63	8	0.56	158	386	151	85	950	1,730
46	32	21	0	11	54	51	2	0	0.56	15	111	57	42	244	469
47	128	81	0	47	224	207	15	1	0.56	2	20	57	42	13	134
48	13	8	0	5	28	25	2	0	0.56	2	1	57	0	13	72
49	0	0	0	0	0	0	0	0	1.00	0	0	0	0	0	0
Commercial Catch Totals	5,368	1,498	0	3,870	2,608	2,114	373	120	12	625	617	426	352	1,864	3,884
Commercial Harvest Rate	0.143	0.203		0.129	0.135	0.194	0.134	0.021							0.097

	Willapa R Natural Chinook Mortality Rate Projected	Cap	Naselle Natural Chinook Mortality Rate Projected	Cap	Chum Mortality Rate Projected	Cap
Harvest Rate	19.7%	20%	16.7%	20%	10.6%	10%

2018 Chinook Policy Guidance: Natural Chinook HR for Willapa River		
Commercial	6.3%	9%
Recreational	13.4%	11%
Marine	12.6%	
Freshwater	0.9%	

Coho Natural Escapement	Projected	Goal
	13,836	13,600

Alternative Gear	5.0%	9.9%

	Hatchery Chinook Total WB Origin	Willapa North	Nemah Palix	Naselle Bear	Natural Chinook Total WB Origin	Willapa North	Nemah Palix	Naselle Bear	Hatchery Coho Total Hatchery	Willapa North	Nemah Palix	Naselle Bear	Natural Coho Total Natural	Willapa North	Nemah Palix	Naselle Bear	Total Chum
Recreational Marine Catch	5,025	4,525	218	282	310	276	2	31	4,468	951		3,517	2,174	1,741	268	165	148
Harvest Rate	0.125	0.282	0.011	0.061	0.081	0.126	0.005	0.027	0.119	0.129		0.117	0.112	0.160	0.096	0.029	0.004
Recreational Freshwater Catch	7,953	827	6,641	485	55	19	22	14	1,937	274		1,662	747	342	5	400	214
Harvest Rate	0.198	0.051	0.339	0.105	0.014	0.009	0.044	0.012	0.052	0.037		0.055	0.039	0.031	0.002	0.070	0.005
Total Recreational Catch	12,979	5,352	6,859	767	365	295	24	46	6,405	1,225		5,180	2,921	2,082	274	566	363
Harvest Rate	0.322	0.333	0.350	0.166	0.095	0.134	0.049	0.040	0.171	0.166		0.172	0.151	0.191	0.098	0.100	0.009
Expected Escapement	21,151	8,533	9,650	2,969	3,135	1,762	413	961	25,642				13,836				35,685
Goal													13,600				35,400
Total Harvest Rates	0.475	0.469	0.507	0.358	0.183	19.7%	0.158	16.7%	0.315				0.286				10.6%

2018 WILLAPA BAY FISHERY SUMMARY

CHINOOK

	Total Hatchery	Willapa North	Nemah Palix	Naselle Bear	Total Natural	Willapa North	Nemah Palix	Naselle Bear
2018 Pre-Season Runsize	40,257	16,055	19,580	4,622	3,838	2,195	490	1,153

	HATCHERY					NATURAL				
	Total Hatchery	Hatchery WB Origin	Willapa North	Nemah Palix	Naselle Bear	Total Natural	Natural WB Origin	Willapa North	Nemah Palix	Naselle Bear
Commercial Catch	6,127	6,127	2,170	3,071	886	8	6	5	0	1
Commercial Impacts						390	331	133	53	145
ommercial Harvest Rate (HR)		15.2%	13.5%	15.7%	19.2%		8.8%	6.3%	10.9%	12.7%
Recreational Marine Catch		5,025	4,525	218	282		310	276	2	31
Marine HR		12.5%	28.2%	1.1%	6.1%		8.1%	12.6%	0.5%	2.7%
ecreational Freshwater Catch		7,953	827	6,641	485		55	19	22	14
FW HR		19.8%	5.1%	33.9%	10.5%		1.4%	0.9%	4.4%	1.2%
Expected Escapement		21,151	8,533	9,650	2,969		3,135	1,762	413	961
Total Exploitation Rate		47.5%	46.9%	50.7%	35.8%		18.3%	19.7%	15.8%	16.7%

COHO

	Total Hatchery	Willapa North	Nemah Palix	Naselle Bear	Total Natural	Willapa North	Nemah Palix	Naselle Bear
2017 Pre-Season Runsize	37,415	7,370	0	30,045	19,365	10,900	2,788	5,677

Post Ocean Fisheries

	HATCHERY				NATURAL			
	Total Hatchery	Willapa North	Nemah Palix	Naselle Bear	Total Natural	Willapa North	Nemah Palix	Naselle Bear
Commercial Catch	5,368	1,498	0	3,870	2,608	2,114	373	120
ommercial Harvest Rate (HR)	14.3%	20.3%	0.0%	12.9%	13.5%	19.4%	13.4%	2.1%
Recreational Marine Catch	4,468	951	0	3517	2,174	1741	268	165
Marine HR	11.9%	12.9%	0.0%	11.7%	11.2%	16.0%	9.6%	2.9%
ecreational Freshwater Catch	1,937	274	0	1662	747	342	5	400
FW HR	5.2%	3.7%	0.0%	5.5%	15.1%	3.1%	0.2%	7.0%
Expected Escapement	25,642				13,836			
Total Exploitation Rate	31.5%				28.6%			

	TOTAL CHUM
2017 Pre-Season Runsize	39,932
Commercial Catch	3,884
ommercial Harvest Rate (HR)	9.7%
Recreational Marine Catch	148.485
Marine HR	0.4%
ecreational Freshwater Catch	214
FW HR	0.5%
Expected Escapement	35,685
Total Exploitation Rate	10.6%

Recreational Retention allowed

Total Commercial Days Scheduled

Stat Week	2T	2U	2N	2R	2M	
32	0	0	0	0	0	
33	0	0	0	0	0	
34	0	0	0	0	0	12 hr openings, CHK MSF and Chum Release required. 2M, N, R Tangle Net
35	0	0	0	0	0	
36	0	0	0	1	1	
37	0	0	2	2	2	
38	1	4	5	4	3	12 hr openings, CHK MSF & Chum Release required, 2U Tangle Net, 2M, N, & R Tangle Net wk 38, 2T Tangle Net wks 38-39
39	2	5	5	5	4	
40	5	5	4	5	4	
41	2	5	5	5	4	12 hr openings, CHK MSF wk 41, CHK Retention wk 44, Chum Release required, 2U Tangle Net wk 41
42	0	0	0	0	0	
43	0	0	0	0	0	
44	1	1	1	1	1	
45	5	5	5	5	5	24-hr days, Chinook Retention Allowed, Chum Release required, Gillnet, small mesh gear
46	5	5	5	5	5	
47	5	5	5	5	5	
48	5	5	5	5	5	
49	0	0	0	0	0	
Total	31	40	42	43	39	

Recreational Regulations

Area	Section	Season	Daily Limit	Adult Bag Limit	2-Pole	2-Pole Upper Extent	Natural CHK Retention	Natural Coho Retention
Marine Area 2.1	new outer boundary line	July 1 - July 31	Same as Marine Area 2					
		Aug. 1 - Jan. 31	6	3	Yes	-	0	3
Willapa River	mouth upstream to Hwy 6 Bridge	Aug. 1 - Jan. 31	6	4	Yes	2nd Bridge on Camp One Rd.	0	4
	Hwy 6 upstream to Fork Creek	Aug. 16 - Sept. 15	6	2	Yes		0	2
		Sept. 16 - Jan. 31	6	4	Yes		0	4
SF Willapa River	mouth to bridge on Pehl Rd	Aug. 1 Jan. 31	6	3	No	-	0	3
Fork Creek	Fork Crk Hatchery rack upstream 500' at the fishing boundary sign	Oct. 1 - Nov. 30	6	3	No	-	0	2
		Dec. 1 - Jan. 31	6	2	No		0	1
North River	mouth upstream to Fall River	Oct. 1 - Jan. 31	6	4	No	-	0	4
Smith Creek	mouth to Hwy 101 Bridge	Oct. 1 - Dec. 31	6	3	No		0	3
North Nemah River	Hwy 101 Br. to Nemah Valley Rd. Br.	Aug. 1 - Jan. 31	6	4	No	-	0	4
Nemah Valley Rd. Br. Upstream to Hancock Property Line approx. 1.66 M			Closed to Salmon					
Hancock Property Line upstream approx 900' to Nemah Hatchery Br.		Aug. 16 - Nov 15, Seniors Only*	6	4	No	-	0	4
Nemah Hatchery Bridge to Nemah Hatchery dam		Aug. 16 - Nov 15, Seniors Only*	6	4	No		0	4
Nemah Hatchery dam upstream to ~2.5 RM to N700 Rd		Oct. 1 - Jan. 31	6	4	No	-	0	4
	South and Middle forks	Sept. 1 - Jan. 31	6	4	No	-	0	4
Palix River	Hwy 101 to mouth of Middle Fork	Sept. 1 - Jan. 31	6	4	No	-	0	4
Niawiakum River	Hwy 101 Br. To the S. Bend/Palix Rd Br	Sept. 1 - Nov. 30	6	2	No	-	0	2
Naselle River	mouth (Hwy 101) upstream to Hwy 4 Br.	Aug. 1 - Oct. 31	6	4	Yes	Hwy 401	0	4
		Nov.1 - Jan. 31	6	4	Yes	Hwy 401	0	2
	Hwy 4 Bridge upstream to Hatchery Bobber language here	Aug. 16 - Sept. 15	6	2	No	-	0	2
		Sept. 16 - Oct. 31	6	4	No		0	4
		Nov. 1 - Jan. 31	6	4	No		0	2
	Hatchery upstream to Crown Bridge	Oct.16 - 31	6	4	No	-	0	4
		Nov.1 - Jan. 31	6	4	No	-	0	2
Bear River	mouth upstream to Lime Quarry Rd	Sept. 1 - Jan. 31	6	4	No	-	0	4

* Seniors defined as 70 years+