Willapa Bay Advisor Meeting, Montesano Timberland Library
125 S Main St, Montesano, WA 98563

March 21, 2014

Proposed Agenda

6:00 – 6:10 Process and Expectations – WDFW

6:10 – 6:30 Drop off and Drop out mortality. Advisors to provide recommendation.

6:30 – 6:45 Review release mortality rates, results from Independent Fishery Science Panel

6:45 – 7:00 Management Objectives – WDFW

7:00 – 7:15 Naselle and Nemah rivers request to open below hatcheries - Update.

7:15 – 8:45 Fishery Modeling Options. Advisors to provide recommended options to model.

8:45 – 9:00 Public Comment

FISH AND WILDLIFE COMMISSION
POLICY DECISION

POLICY TITLE: 2013-2014 North of Falcon **POLICY NUMBER: C-3608**

Supersedes: C-3608, 2011-2012

Effective Date: February 8, 2013
Termination Date: December 31, 2014

See Also: Policy C-3001
Policy C-3620

Approved by: Miranda Wecker Chair
Washington Fish and Wildlife Commission, 02/08/2013

North of Falcon Policy

This Policy will guide Department staff in considering conservation, allocation, in-season management, and monitoring issues associated with the annual salmon fishery planning process known as "North of Falcon." When considering management issues, Department staff will ensure that decisions are made consistent with: the Department's statutory authority; *U.S. v. Washington;* *U.S. v. Oregon*; the Endangered Species Act; the Puget Sound Chinook Harvest Management Plan; the Pacific Salmon Treaty; the Pacific Fishery Management Council's Framework Salmon Management Plan; pertinent state/tribal agreements; and the applicable Fish and Wildlife Commission policies.

The Department will implement this Policy consistent with the purposes and intended outcomes described in the 21st Century Salmon and Steelhead Planning Project including:

- Salmon and steelhead will be managed to recover and assure sustainability in a way that is science-based, well-documented, transparent, well-communicated, and accountable.

- Fisheries will be managed to meet or exceed ESA, recovery, and conservation goals; and harvest management measures will protect and promote the long-term well-being of the commercial and recreational fisheries.

Fishery Management

General

- On a statewide basis, fishing opportunities will be provided when they can be directed at healthy wild and hatchery stocks.
- Selective fishing methods and gears that maximize fishing opportunity and minimize impacts on depressed stocks will be utilized to the fullest extent possible taking into consideration legal constraints on implementation and budgetary limits associated with required sampling, monitoring and enforcement programs.
- When assessed from a statewide perspective, fishing directed at chinook, coho, pink, sockeye, or chum salmon will not be exclusively reserved for either sport or commercial users.
- When managing sport fisheries, meaningful recreational fishing opportunities will be distributed equitably across fishing areas and reflect the diverse interests of fishers, including retention and catch and release fisheries.
- The Department will seek non-treaty fishing access to unutilized portions of treaty harvest allocations through the implementation of pre-season agreements, taking into consideration changes in abundance, fishery conflicts, and factors that may influence attainment of spawning escapement objectives.

Sockeye, Chum, and Pink Salmon

- For fisheries directed at Fraser River-origin chum, pink, and sockeye stocks, the majority of harvest will be provided to the commercial fisheries.
- For fisheries directed at harvestable Puget Sound-origin chum stocks, the majority of harvest will be provided to the commercial fisheries.
- For fisheries directed at Lake Washington sockeye, the first 200,000 non-treaty harvest will be provided to recreational fishers. If the allowable non-treaty harvest is greater than 200,000, commercial harvest directed at this stock may be considered.
- For fisheries directed at harvestable Puget Sound origin pink salmon, seasons will be established that provide meaningful opportunities for both recreational and commercial fisheries while minimizing gear and other fishery conflicts.

Chinook and Coho Salmon

- The Puget Sound harvest management objectives for chinook and coho stocks, in priority order, are to: (1) provide meaningful recreational fishing opportunities; and (2) identify and provide opportunities for commercial harvest. When managing sport fisheries in this region, recreational opportunities will be distributed equitably across fishing areas, considering factors such as: the uniqueness of each area; the availability of opportunities for various species in each area throughout the season; the desire to provide high levels of total recreational opportunity; and the biological impacts.
- Grays Harbor harvest management objectives shall include opportunities for both the recreational and commercial fisheries.
- The Fish and Wildlife Commission's policy on Columbia River Salmon Management (POL-C3620) shall guide pre-season and in-season planning of Columbia River salmon fisheries. Columbia River harvest management regimes shall be developed in cooperation with Oregon Department of Fish and Wildlife representatives.
- Willapa Bay harvest management shall be consistent with Willapa Bay Framework management objectives. The following general intent shall apply: Willapa Bay harvest management objectives shall include meaningful opportunities for both recreational and commercial fisheries.
- Pacific Ocean harvest shall be managed consistent with the Pacific Fishery Management Council's Framework Salmon Management Plan and the National Standards that provide for fair and equitable allocation of fishing privileges among various fishers.

In-Season Management

- When in-season management actions are taken, they will be implemented in a manner that is consistent with pre-season conservation and harvest management objectives, and the fishery intent developed through the North of Falcon process.

Monitoring, Sampling and Enforcement

- Monitoring, sampling and enforcement programs will be provided to account for species and population impacts of all fisheries and to ensure compliance with state regulations.
- Fishery participants will be required to comply with fishery monitoring and evaluation programs designed to account for species and population impacts.

Gear and Fishery Conflicts

- Recreational and commercial fisheries shall be structured to minimize gear and other fishery conflicts. Unanticipated fishery interaction issues identified in-season, including conflicts with

fisheries directed at other species, shall be resolved by involving the appropriate sport and commercial representatives in a dispute resolution process managed by Department staff.

Incidental Mortalities

- The Department will manage fisheries to minimize mortalities on non-target species (e.g. rockfish, sea birds, etc.). Management regimes will include strategies to limit seabird mortalities consistent with the federal Migratory Bird Treaty Act.

Communications

- The Department shall strive to make ongoing improvements for effective public involvement during the North of Falcon planning process and annual salmon fishery implementation, incorporating the following intents:
    - North of Falcon participants will be included as observers during appropriate state/tribal discussions of fishery issues.
    - all decisions made during the North of Falcon process will be recorded in writing.
    - variety of tools will be used to effectively communicate with the public, to receive input on pre-season planning or in-season fishery issues, and to make available the record of decisions. Such tools will include: recreational and commercial advisory groups; public workshops to address key issues; the WDFW North of Falcon Web site; and in-season tele-conferences.

Other Species

- The Fish and Wildlife Commission's policy on Lower Columbia Sturgeon Management (POL-C3001) shall guide pre-season and in-season planning of Columbia River and coastal sturgeon fisheries and related incidental impacts. Management of Willapa Bay sturgeon fisheries will be further guided by Willapa Bay Framework management objectives.

Delegation of Authority

The Fish and Wildlife Commission delegates the authority to the Director to make harvest agreements with Northwest treaty tribes and other governmental agencies, and adopt permanent and emergency regulations resulting from the agreements made during the annual North of Falcon process.

FISH AND WILDLIFE COMMISSION
POLICY DECISION

POLICY TITLE: Washington Department of Fish and Wildlife Hatchery and Fishery Reform **POLICY NUMBER: C-3619**

Effective Date: November 6, 2009

Supersedes: N/A

See Also:

Approved by Miranda Wecker, Chair
Washington Fish and Wildlife Commission

Purpose

The purpose of this Washington Department of Fish and Wildlife policy is to advance the conservation and recovery of wild salmon and steelhead by promoting and guiding the implementation of hatchery reform.

Definition and Intent

Hatchery reform is the scientific and systematic redesign of hatchery programs to help recover wild salmon and steelhead and support sustainable fisheries. The intent of hatchery reform is to improve hatchery effectiveness, ensure compatibility between hatchery production and salmon recovery plans and rebuilding programs, and support sustainable fisheries.

General Policy Statement

The Washington Department of Fish and Wildlife (Department) shall promote the conservation and recovery of wild salmon and steelhead and provide fishery-related benefits by establishing clear goals for each state hatchery, conducting scientifically defensible-operations, and using informed decision making to improve management. Furthermore, it is recognized that many state operated hatcheries are subject to provisions under U.S. v. Washington and U.S. v. Oregon and that hatchery reform actions must be done in close coordination with tribal co-managers.

Artificial production programs will be designated as one of the following:

- Conservation Programs. Artificial production programs implemented with a conservation objective shall have a net aggregate benefit for the diversity, spatial structure, productivity, and abundance of the target wild population.

- Harvest Programs. Artificial production programs implemented to enhance harvest opportunities shall provide fishery benefits while allowing watershed-specific goals for the diversity, spatial structure, productivity, and abundance of wild populations to be met.

State commercial and recreational fisheries will need to increasingly focus on the

harvest of abundant hatchery fish. As a general policy, the Department shall implement mark-selective salmon and steelhead fisheries, unless the wild populations substantially affected by the fishery are meeting spawner and broodstock management objectives.

In addition, the Department may consider other management approaches provided they are as or more effective than a mark selective fishery in achieving spawner and broodstock management objectives.

Hatchery reform should be implemented as part of an "all-H" strategy that integrates hatchery, harvest, and habitat actions. Although this policy focuses on hatchery and harvest reform, in no way does it diminish the significance of habitat protection and restoration.

In implementing the policy guidelines the Department shall work with the tribes in a manner that is consistent with U.S. v. Washington and U.S. v. Oregon and other applicable state laws and agreements or federal laws and agreements.

Policy Guidelines

1. Use the principles, standards, and recommendations of the Hatchery Scientific Review Group (HSRG) to guide the management of hatcheries operated by the Department. In particular, promote the achievement of hatchery goals through adaptive management based on a structured monitoring, evaluation, and research program.

2. The Department will prioritize and 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 natural production working toward a goal of achieving the HSRG broodstock standards for 100% of the hatchery programs by 2015.

3. Develop watershed-specific action plans that systematically implement hatchery reform as part of a comprehensive, integrated (All-H) strategy for meeting conservation and harvest goals at the watershed and Evolutionarily Significant Unit (ESU)/Distinct Population Segment (DPS) levels. Action Plans will include development of stock (watershed) specific population designations and application of HSRG broodstock management standards. In addition, plans will include a time-line for implementation, strategies for funding, estimated costs including updates to cost figures each biennium.

4. Externally mark all Chinook, coho and steelhead artificial production that is intended to be used for harvest except as modified by state-tribal agreements or for conservation or research needs.

5. Secure necessary funding to ensure that Department-operated hatchery facilities comply with environmental regulations for passage facilities, water intake screening, and pollutant control systems.

6. Implement hatchery reform actions on a schedule that meets or exceeds the benchmarks identified in the 21st Century Salmon and Steelhead Framework.
7. Provide an annual report to the Fish and Wildlife Commission on progress of implementation.

8. Develop, promote and implement alternative fishing gear to maximize catch of hatchery-origin fish with minimal mortality to native salmon and steelhead.

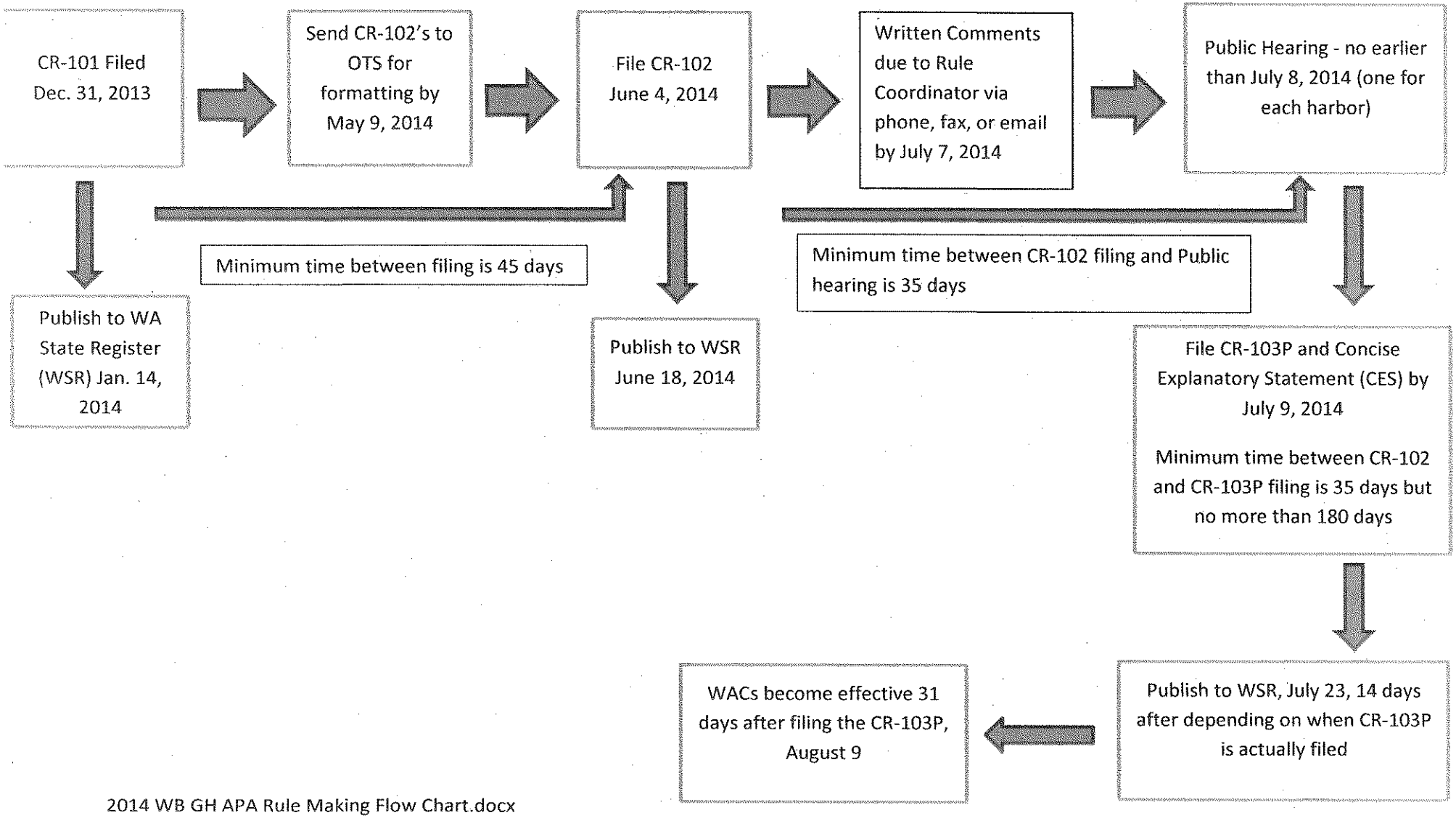
9. Seek funding from all potential sources to implement hatchery reform and selective fisheries.

10. Define "full implementation" of state-managed mark selective recreational and commercial fisheries and develop an implementation schedule.

11. Work with tribal co-managers to establish network of Wild Salmonid Management Zones (WSMZ)1 across the state where wild stocks are largely protected from the effects of same species hatchery programs. The Department will have a goal of establishing at least one WSMZ for each species in each major population group (bio-geographical region, strata) in each ESU/DPS. Each stock selected for inclusion in the WSMZ must be sufficiently abundant and productive to be self-sustaining in the future. Fisheries can be conducted in WSMZ if wild stock management objectives are met as well as any necessary federal ESA determinations are received.

1 Wild Salmonid Management Zone is equal in meaning and application to the term of 'Wild Stock Gene Bank' as used and defined in the Statewide Steelhead Management Plan.

2014 Willapa Bay and Grays Harbor APA Rule Making Process



2014 - North of Falcon (NOF) and Grays Harbor and Willapa Bay Advisors Meeting Schedule

Area	Date/Location	AGENDA
Grays Harbor Advisors (public comment at end)	March 4th Grays Harbor Advisors from 5:30 pm to 7:00 pm. Montesano DFW Office	Advisory Group function APA Process Review Pre-season forecasts Management Objectives Meeting Coordination Public Comment
Willapa Bay Advisors (public comment at end)	March 4th Willapa Bay Advisors from 7:00 pm to 8:30 pm. Montesano DFW Office	Advisory Group function APA Process Review Pre-season forecasts Management Objectives Meeting Coordination Public Comment
Grays Harbor Advisors (public comment at end)	March 14th 6 pm to 9 pm Montesano DFW Office	APA Process Review Forecast Management Objectives Policy Implementation Fishery suggestions Public Comment
Grays Harbor NOF Public Workshop #1 (APA record testimony to immediately follow)	March 19th 6 pm to 8 pm Montesano City Hall	APA Process Review Forecast Management Objectives Policy Implementation Fishery suggestions
Grays Harbor Testimony For APA record	March 19th 8 pm to 9 pm Montesano City Hall	Individuals will be provided up to 3 minutes to go on the record relative to Grays Harbor Rule Making (Fishery Seasons Development)
Willapa Bay Advisors (public comment at end)	March 21st 6 pm to 9 pm Montesano Timberland Library 125 S Main St, Montesano, WA 98563	APA Process Review Forecast Management Objectives Policy Implementation Fishery suggestions Public Comment
Willapa Bay NOF Public Workshop #1 (APA record testimony to immediately follow)	March 25th 6 pm to 8 pm Raymond Elks	APA Process Review Forecast Management Objectives Management Plan Implementation Fishery suggestions

Willapa Bay Testimony For APA record	March 25th[th] 8 pm to 9 pm Raymond Elks	Individuals will be provided up to 3 minutes to go on the record relative to Grays Harbor Rule Making (Fishery Seasons Development)
Grays Harbor NOF Public Workshop #2 (APA record testimony to immediately follow)	April 4[th] 9 am to Noon NRB Room 172	APA Process Review Forecast Management Objectives Policy Implementation Fishery suggestions Fishery Structure
Grays Harbor Testimony For APA record	April 4[th] Noon to 1 pm NRB Room 172	Individuals will be provided up to 3 minutes to go on the record relative to Grays Harbor Rule Making (Fishery Seasons Development)
Willapa Bay NOF Public Workshop #2 (APA record testimony to immediately follow)	April 4[th] 1 pm to 3:30 pm NRB Room 172	APA Process Review Forecast Management Objectives Management Plan Implementation Fishery suggestions Fishery Structure
Willapa Bay Testimony For APA record	April 4th 3:30 pm to 4:30 NRB Room 172	Individuals will be provided up to 3 minutes to go on the record relative to Willapa Bay Rule Making (Fishery Seasons Development)

2014North of Falcon
APA Process Recreational and Commercial Fisheries

CR 101	Filed January 2, 2014
Preseason Forecast and Management Objectives Initiate Solicitation of Public input on fishery options	March 3r, 2014
PFMC Ocean Options Developed Sacramento, CA http://wdfw.wa.gov/fishing/northfalcon/	March 8 – 13, 2014
Continue to Solicit Public input on fishery options	March 13 – April 4, 2014
Final PFMC meeting for fishery completion Vancouver, WA http://wdfw.wa.gov/fishing/northfalcon/	April 5 – 10, 2014
CR 102 to Order Typing Services (OTS)	May 9, 2014
Written comments notice of CR 102	???
CR 102 Filing	June 4, 2014
Closing Written comment period CR 102	???
Public Hearing	July 8, 2014
CR 103 and Concise Explanatory Statement (CES)	July 9, 2014 (no sooner that this date)[1]
Effective Date	August 9, 2014

OTS is a cooperative effort between the office of the code reviser and state rule-making agencies to prepare new, amendatory, and repealed rules.

[1] With the public hearing the day prior we must be certain that due consideration was given in the CES See RCW 34.05.325 for specific language. http://apps.leg.wa.gov/rcw/default.aspx?cite=34.05.325

2014 WILLAPA BAY PRE-SEASON FORECAST SUMMARY

updated 03.20.14

CHINOOK

	NATURAL ORIGIN	HATCHERY	TOTAL
TOTAL FORECAST	**3,112**	**29,326**	**32,438**
Willapa/ North River	1,609	13,840	15,449
Nemah/Palix	158	11,337	11,495
Naselle/Bear	1,345	4,149	5,494

COHO Ocean Age 3 Estimates

	NATURAL ORIGIN	HATCHERY	TOTAL
FORECAST	**58,883**	**40,998**	**99,881**
Willapa/ North River	40,308	7,921	48,229
Nemah/Palix	6,786	0	6,786
Naselle/Bear	11,789	33,077	44,866

CHUM

	NATURAL ORIGIN	HATCHERY	TOTAL
FORECAST	**52,612**	**2,766**	**55,378**

VII C.

FRAM/TAMM fishery-related mortality rates for Chinook salmon used for Southern U.S. fisheries, and proposed for 2014 pre-season modeling.

Fishery: (designated by area, user group, and/or gear type)	Fishery Type	Comments	"Shaker" Release Mortality	"Adult" Release Mortality	"Other" Mortality[a]
PFMC Ocean Recreational[e]	Retention	N Point Arena	14.0%	n.a.	5.0%
	MSF	N Point Arena	14.0%	14.0%	5.0%
	Retention	N Point Arena	14.0%	14.0%	5.0%
	Retention	S Point Arena	23.0%[g]	n.a.	5.0%
PFMC Ocean Troll	Retention	barbless	25.5%	n.a.	5.0%
Area 5,6,7 T-Troll	Retention	barbless	25.5%	n.a.	5.0%
Puget Sound (PS) Recreational[f]	Retention	barbless	20.0%	n.a.	5.0%
	MSF	barbless	20.0%	10.0%	5.0%
	Non-Retention	barbless	20.0%	10.0% [b]	5.0% [b]
Buoy 10 Recreational	not modeled within FRAM		n.a.	n.a.	n.a.
Commercial Net					
PS Areas 4B,5,6,6C	PT[d] GN, SN		n.a.	n.a.	3.0%
WA Coastal & Col R. Net	PT[d] GN, SN		n.a.	n.a.	3.0%
PS Areas 6A,7,7A	PT[d] GN, SN, Purse S		n.a.	n.a.	1.0%
NT PS Areas: 6B,9,12,12B,12C	PT[d] GN, SN, Purse S		n.a.	n.a.	1.0%
T PS Areas:7B,7C,7D	PT[d] GN, SN, Purse S		n.a.	n.a.	1.0%
All other PS marine net	Terminal GN, SN		n.a.	n.a.	2.0%
PS Purse Seine	Non-Retention	immature	n.a.	45.0% [b]	0.0%
	Non-Retention	mature	n.a.	33.0% [b]	0.0%
PS Reef Net, Beach Seine	Non-Retention		n.a.	5% [h]	n.a.
Freshwater Net			n.a.	n.a.	n.a.
Tangle Net	MSF	mature	n.a.	40 to 52% [i]	n.a.
Freshwater Recreational	Retention		n.a.	n.a.	n.a.
	MSF	TAMM	n.a.	10.0% [b]	n.a.
	Non-Retention	TAMM	n.a.	10.0% [b]	n.a.

[a] The "other" mortality rates (which include drop-out and drop-off) are applied to landed fish (retention fisheries), thus FRAM does not assess "drop-off" in non-retention fisheries. Drop-off (and release mortality) associated with CNR fisheries are estimated outside the model and used as inputs to the model. For mark-selective fisheries (MSF), "other" mortality rates are applied to legal sized encounters of marked and unmarked fish.

[b] Rate assessed externally to FRAM.

[c] None assessed.

[d] PT = Pre-terminal.

[e] Source: Salmon Technical Team (2000).

[f] Source: WDF et al. (1993).

[g] Release Mortality rate variable between years, dependent upon gear regulations

[h] Nisqually Beach Seine release mortality rate

[i] Tangle Net release mortality rate range from 40% Bellingham Bay to 51% Nisqually River

FRAM/TAMM fishery-related mortality rates for coho salmon used for Southern U.S. fisheries, and proposed for 2014 pre-season modeling.

Fishery: (designated by area, user group, and/or gear type)	Fishery Type	Comments	Release Mortality	"Other" Mortality[a]
PFMC Ocean Recreational[d]	Retention		n.a.[c]	5.0%
	MSF	Barbless	14.0%	5.0%
	Non-Retention	N. Pt. Arena	14.0%[b]	5.0%[b]
	Non-Retention	S. Pt. Arena[f]	23.0%[b]	5.0%[b]
PFMC Ocean T-Troll	Retention		n.a.[c]	5.0%
	Non-Retention		26.0%[b]	5.0%[b]
PFMC Ocean NT-Troll	MSF	barbless	26.0%	5.0%
Area 5, 6C Troll	Retention		n.a.	5.0%
Puget Sound Recreational[e]	Retention		n.a.[c]	5.0%
	Non-Retention		7.0%[b]	5.0%
	MSF	barbless	7.0%	5.0%
WA Coastal Recreational	Retention		n.a.	5.0%
Buoy 10 Recreational	MSF	barbed	16.0%	5.0%
	MSF	barbless	14.0%	5.0%
Gillnet and Setnet			100%	2.0%
PS Purse Seine			26.0%[b]	2.0%
PS Reef Net			0.0%	0.0%
Beach Seine			???	n.a.
Round Haul			26.0%[b]	2.0%
Freshwater Net			???	2.0%
Freshwater Recreational	Retention		n.a.	5.0%
	Non-Retention		10.0%[b]	5.0%[b]
	MSF		10.0%[b]	5.0%[b]

[a] The "other" mortality rates (which include drop-out and drop-off) are applied to landed fish (retention fisheries), thus FRAM does not assess "drop-off" in non-retention fisheries. Drop-off (and release mortality) associated with CNR fisheries are estimated outside the model and used as inputs to the model. For mark-selective fisheries (MSF), "other" mortality rates are applied to encounters of marked and unmarked fish.

[b] Rate assessed externally to FRAM.

[c] None assessed.

[d] Source: Salmon Technical Team (2000).

[e] Source: WDF et al. (1993).

[f] Release Mortality rate variable between years, dependent upon gear regulations

Review of Release Mortality – Preliminary Finding of the IFSP

Question 1.

Table 1. ISFP recommended release mortality rates, "Fish Friendly" scenario.

	TANGLE NET	GILLNET large mesh	GILLNET small mesh
Columbia studies			
Immediate survival	99%	99%	99%
Long-term survival	80%	53%	57%
Post release survival	81%	53%	58%
Willapa (and Grays Harbor by inference) all time periods; all locations			
Immediate survival	95%	84%[1]	84%
"Actual Practice" survival adjustment	100%	100%	100%
Post release survival	81%	53%[2]	58%[2]
Long-term survival	77%	45%	50%
Long-term mortality	**22%**	**55%**	**51%**

Assumptions and conclusions:

1. Weighted averages for immediate and long-term survival rates were calculated using 1/SE as the weighting factor (1/SE) for each estimate.
2. We assumed that post release mortalities in the Willapa Bay/Grays Harbor fisheries are the same as those estimated for the Columbia River studies. Data were insufficient to conclude otherwise.
3. We found no significant difference in immediate mortality between small and large mesh studies due to lack of data.
4. Estimates in Table 1 are likely to be minimum estimates of mortality rates in the actual fisheries. They are based on mortality rates associated with researchers utilizing short soak times, gentle handling, and appropriate use of recovery boxes; thus they assume perfect compliance with "fish-friendly" techniques.
5. These estimates are based on immediate and delayed mortality studies for Chinook salmon. We are still considering how these rates should be applied to non-retention of chum salmon.

[1] Assumes large and small mesh are the same for gillnets

[2] Assumed to be the same as in the Columbia River studies

Question 2.

Evidence presented to the panels indicate that Fish Friendly handling procedures may, or perhaps cannot, always be followed; consequently release mortalities will be higher in actual practice. The "Actual Practices" factor in Table 2 below is used to capture a) evidence of deviations from techniques used in research studies, and b) qualitative information regarding the possible impacts of different environmental conditions in Willapa Bay and Grays Harbor relative to Columbia River conditions.

The adjustments used in Table 2 are the Panel's preliminary recommendations for these rates, but are under continuing evaluation.

Table 2. IFSP recommendations for actual practice scenario.

	TANGLE NET	GILLNET large mesh	GILLNET small mesh
Columbia studies			
Immediate survival	99%	99%	99%
Long-term survival	80%	52%	57%
Post release survival	81%	53%	58%
Willapa (and Grays Harbor by inference) all time periods			
Immediate survival	95%	84%[3]	84%
"Actual Practice survival adjustment "	90%	80%	80%
Post release survival	81%	53%[4]	58%2
Long-term survival	70%	36%	39%
Long-term mortality	**30%**	**64%**	**61%**

[3] Assumes large and small mesh are the same for gillnets

[4] Assumed to be the same as in the Columbia River studies

Question 3.

Factors contributing to differences between study conditions and actual practice.
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1. Evidence was presented to the Panel that at least in some instances, fishery operations do not fully comply with the fish-friendly prescriptions for non-retention mortality. This evidence included submitted statements, video documentation, and testimony at the workshop. Reported deviations from fish-friendly operations included longer soak times, rough handling and handling fish by gills, non-functioning recovery tanks, and underuse of recovery tanks.

2. Enforcement personnel have issued citations for non-compliance.

3. At high catch rates of target species, soak times will increase due to the time it takes to work the net; as soak time increases, so does mortality (Buchanan et al. 2002). The Panel also understands that soak times can increase when fishers need to remove grass from their nets.

4. Recovery tanks will become over-crowded if encounter rates of salmon that must be released, e.g. wild Chinook and chum salmon, are high.

5. Testimony and presentations from commercial fishermen asserted high compliance by a large majority of the fleet and an understanding of the necessity and value of compliance.

6. Observer data indicate that soak times are shorter than those that were used historically or required by regulation (45 minutes) and that mandated recovery tanks are utilized by the fleet, indicating that there is some degree of compliance with the regulations.

DRAFT 03-21-14

2014 WILLAPA BAY FISHERY MANAGEMENT OBJECTIVES

Salmon:

- **Chinook**
  - See attachment

- **Coho**
  - Management period is September 10th – October 15th.
  - Maximize harvest opportunity on hatchery fish, in a manner that is consistent with achieving objectives and goals for healthy, diverse and sustainable natural spawning populations.
  - Meet or exceed 13,090 escapement goal

- **Chum**
  - Management period October 16th – October 31st.
  - Continue moratorium on Chum directed fishing, i.e. closed.
  - Incidental impacts limited to a harvest rate of 10% or less.

Sturgeon: Closed due to conservation concerns.

2014 Willapa Bay Chinook Management Objectives
Draft March 21, 2014

Introduction

The draft 2010 Willapa Bay Management Plan (Plan) provides a framework for a transition in hatchery and fishery management strategies for salmon fisheries in Willapa Bay. Where the primary objective had been the harvest of hatchery-origin Chinook salmon, the Plan describes an enhanced focus on conservation consistent with the guidance of the Hatchery and Fishery Reform policy adopted by the Fish and Wildlife Commission in 2009. Achieving the conservation goals of the plan is anticipated to promote sustainable fisheries and reduce the likelihood of the listing of Washington coastal Chinook under the Endangered Species Act.

The Washington Department of Fish and Wildlife (Department) recognized that the Plan called for a significant shift in management, and that a period of transition would be needed to achieve the long-term conservation goals. Historical harvest rates on Willapa Bay Chinook salmon exceeded 90%, and hatchery-origin fish likely historically comprised most of the spawners in the Willapa and Naselle rivers.

Plan Components

The Plan includes the following components to initiate the transition toward improved hatchery and fishery management:

- Designated Viability Targets. The Plan established a hierarchy of viability using a classification system broadly used in recovery planning. Populations were classified as either *Primary*, which are targeted for restoration to high productivity and abundance; *Contributing,* where small to medium improvements are anticipated; or *Stabilizing,* populations that may be maintained at current levels. The Naselle was classified as a Primary Chinook population, the North/Smith as a Contributing population, and the Willapa, Palix, and Bear as Stabilizing populations.

- Reduced Naselle Hatchery Production. Consistent with the designation of the Naselle as a Primary Chinook population, the production of Chinook at the Naselle Hatchery was scheduled to transition from 3,000,000 to 500,000 smolts to reduce the number of hatchery-origin fish spawning in the Naselle River. The returns in 2013 were the first year when both age 4 and age 5 (the primary ages of return) fish were produced from a release of less than 900,000 smolts. Production was increased by 1,000,000 Chinook smolts at the Forks Creek Hatchery and 1,300,000 smolts at the Nemah Hatchery.

- Maintained 30% Harvest Rate Ceiling on the Naselle Population. The Plan maintains a 30% ceiling on the harvest rate of naturally produced Chinook salmon from the Naselle River.

- Identified Need for Mark-Selective Fisheries. The Plan recognizes that mark-selective fisheries would likely be needed to reduce harvest rates on natural-origin Chinook and the number of hatchery-origin Chinook salmon in natural spawning areas.

- Recognized Necessity of Adaptive Management. The Plan recognizes that there is significant uncertainty in our understanding of the abundance of naturally produced Chinook salmon and the impacts of fisheries in different subareas of Willapa Bay. Up through 2010, for example, our inability to distinguish hatchery and natural-origin salmon significantly limited our ability to assess the productivity of spawners and precluded the ability to focus fishery harvest on hatchery-origin Chinook salmon.

Plan Objectives

The draft Plan provides objectives to guide management during the transition in hatchery and fishery management. These include the following:

1) Managers will maximize harvest opportunity on hatchery fish in a manner that is consistent with achieving objectives and goals for healthy, diverse and sustainable natural spawning populations identified in Table 2 {of draft Plan}.

2) For Chinook programs, this will mainly be accomplished by shifting the location of large harvest augmentation programs away from the Chinook population in the Naselle River, which has been designated as a Primary population. The current 30% pre-season terminal harvest ceiling management will be maintained as the pre-season management objective for the Naselle Chinook population.

3) Other Chinook stocks will be managed to allow for higher harvest rates while achieving natural and hatchery escapement goals.

4) In an effort to address issues within the scope of this plan the WDFW will manage Willapa Bay Chinook to achieve stock specific escapement goal in conjunction with viability goals for each stock identified in Table 2 {of draft Plan}.

5) The WDFW will evaluate management success through fisheries and spawning.

6) Future evaluation of natural spawning success will assess individual river systems and their associated stocks within the Willapa Bay Region for whether or not they are achieving their system specific goals as identified in Table 2 {of draft Plan}.

7) For Primary and Contributing populations this assessment will evaluate the total number of spawners and the composition on spawning grounds in terms of natural or hatchery contribution. The proportion of hatchery origin spawners (pHOS) should not exceed 30% in rivers where hatchery production is integrated with the wild stock. The Naselle and North rivers

are designated as Primary and the Contributing respectively and will be managed to achieve this 30% pHOS standard.

The Department recognizes that the draft Plan provides a framework for a transition in hatchery and fishery management strategies for salmon hatchery and fishery management in Willapa Bay. All objectives may not be immediately attainable and – as might be expected during a transitional period - the Department acknowledges that we will be faced with the challenging task of balancing multiple trade-offs and objectives. For example, the Naselle has been designated as a Primary population, and we will be seeking to reduce the number of hatchery-origin fish in natural spawning areas. We will also be seeking to maintain sufficient natural spawners in the Naselle River to provide natural-origin production for the subsequent cycle. Since the majority of natural spawners in past years were of hatchery origin, it is likely that the productivity of natural spawners will be low relative to a locally adapted population.

The Department also recognizes that we will be moving through this transition with significant uncertainty in our understanding of natural production in tributaries to Willapa Bay. This uncertainty includes:

1) The number of spawners necessary to optimally seed tributaries to Willapa Bay. The current current estimates are based on an assumed value of 36 Chinook salmon spawners per mile.

2) The current productivity of natural spawners. We have limited understanding of the productivity of natural spawners due to the lack of an identifying mark for most hatchery-origin adults returning in years prior to 2010.

3) How the productivity of natural spawners will change as we transition to a management system that will reduce the fraction of hatchery-origin spawners in natural spawning areas.

The Department recognizes that we are in the early stages of the transition and that there is uncertainty in how the natural populations will respond to implementation of the draft Plan. Success will depend upon careful monitoring and adaptive management to achieve both short term and long term conservation objectives.

Evaluation of Plan Implementation

Implementation of the Plan can be evaluated relative to multiple criteria, including:

1) Have we maintained a harvest rate of less than 30% on the Naselle population (Primary population)?

   The run reconstruction estimates of harvest rates on Naselle natural-origin Chinook were less than 30% in each year since implementation of the plan was initiated (29% in 2010, 14% in 2011, 23% in 2012, and 28% in 2013).

2) Have we reduced the proportion of hatchery-origin spawners for the Naselle population?

Returns in 2013 were the first to originate from a reduced production level of less than 900,000 smolts. The proportion of hatchery-origin spawners dropped to the lowest level (0.81) since marking was initiated but remained substantially higher than our long term objective of 0.30.

Table 1. Summary of natural-origin spawners (NOS), hatchery-origin spawners (HOS), total natural spawners, and proportion of hatchery-origin spawners (pHOS) for the Naselle population.

Year	NOS	HOS	Total	pHOS
2010	1,648	9,100	10,748	0.85
2011	1,433	9,609	11,042	0.87
2012	1,043	9,923	10,966	0.90
2103	564	2,417	2,981	0.81

3) Have we increased the number of natural-origin spawners (NOS) for the Naselle population?

The number of natural-origin spawners for the Naselle population has declined in each year since 2010, reaching a low of 564 spawners in 2013 (Table 1).

4) Have we maintained or increased the number of natural-origin spawners (NOS) in the North River/Smith Creek (Contributing population)?

The number of natural-origin spawners in the North River/Smith Creek was 315 in 2010, 298 in 2011, 168 in 2012, and 196 in 2013.

5) Have we maintained the viability of the Willapa, Palix, and Bear populations (Stabilizing populations)?

The number of spawners has remained above the spawner capacity estimate for the Willapa population, declined and remained below the capacity estimate for the Palix population, and remained low and below the spawner capacity estimate for the Bear population.

Table 2. Natural-origin (NOS) and total spawners for the Willapa, Palix, and Bear populations.

Year	Willapa		Palix		Bear	
	NOS	Total	NOS	Total	NOS	Total
2010	1,173	6,725	71	71	20	20
2011	1,219	7,043	23	23	25	25
2012	688	4,653	11	11	15	15
2013	551	2,294	17	17	40	40
Spawner Capacity Estimate	1,181		104		306	

This review of plan implementation suggests that additional management actions may be necessary to promote achievement of our management objectives during this transition period.

2014 Forecast and Management Objectives

The 2014 forecast is for 3,112 natural-origin Chinook and 29,327 hatchery-origin Chinook (Table 3). The relatively small return of natural-origin Chinook, the smallest in the last four years, will clearly make it difficult to achieve substantial progress in meeting our management objectives for this transitional period.

Table 3. Forecasted returns, estimated capacity for natural spawners, and hatchery spawner goal for Willapa Bay.

Component	Forecast	Natural Spawner Estimated Capacity	Hatchery Spawner Goal
Willapa/North Rivers		2,172	
Natural-Origin	1,609		
Hatchery-Origin	13,840		4,537
Nemah/Palix Rivers		328	
Natural-Origin	158		
Hatchery-Origin	11,337		4,679
Naselle/Bear Rivers		1,853	
Natural-Origin	1,345		
Hatchery-Origin	4,149		709
Total		4,353	
Natural-Origin	3,112		
Hatchery-Origin	29,327		9,925

The review of the performance of the plan over the last four years, and the forecast for natural-origin Chinook returns, indicate that additional conservation actions should be implemented in 2014. These actions should be directed at enhancing conservation actions for the Primary (Naselle) and Contributing (North) populations. Fishery and hatchery management actions will be developed to achieve the following objectives:

1) Address the declining trend in natural-origin spawners for the Naselle population by targeting a harvest rate of no more than 20% on the Naselle population. The projected natural-origin escapement will exceed the 2012 spawner level (> 1,050 fish).

2) Implement time and area closures that may provide additional protection for the Naselle population, including the closure of sub-areas 2P, 2R, and 2M through Sept. 15.

3) Continue to reduce the proportion of hatchery-origin spawners in the Naselle River by placing no more than 500 adult hatchery-origin Chinook above the weir.

4) Explore with the commercial fishing industry opportunities to implement alternative gear (purse seine, beach seine, or tangle net) to increase the catch of abundant hatchery fish while minimizing impacts to natural-origin Chinook.

5) Increase protection for the North Chinook population by delaying the recreational fishery in North Bay and the North River until October 1.