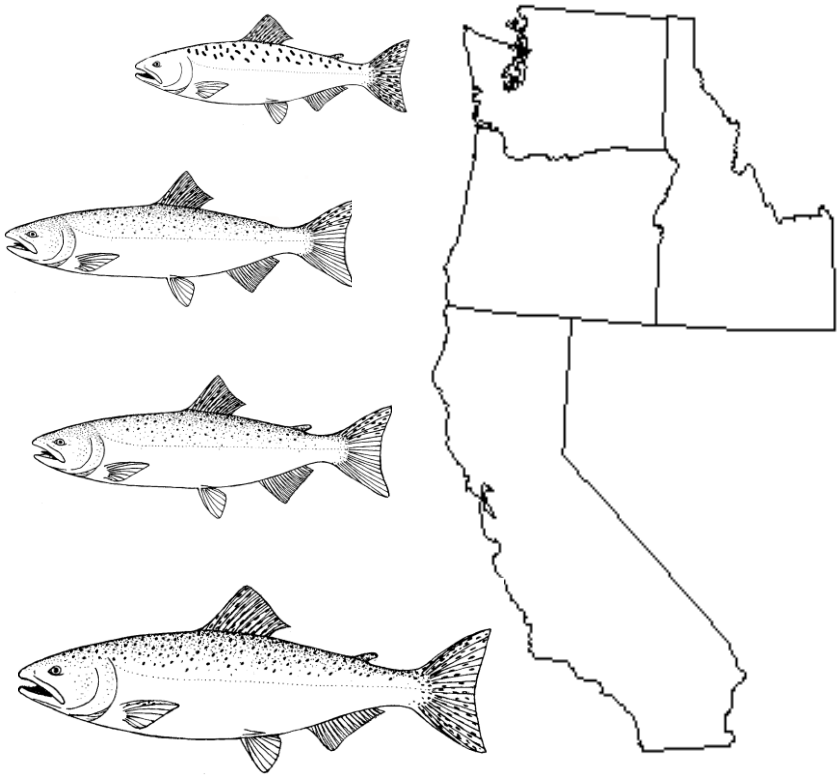
PRESEASON REPORT III

COUNCIL ADOPTED MANAGEMENT MEASURES
AND
ENVIRONMENTAL ASSESSMENT PART 3
FOR
2019 OCEAN SALMON FISHERY REGULATIONS

REGULATION IDENTIFIER NUMBER 0648-BI05



Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR 97220-1384
(503) 820-2280
www.pcouncil.org

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ACKNOWLEDGMENTS

SALMON TECHNICAL TEAM

DR. MICHAEL O'FARRELL, CHAIR
National Marine Fisheries Service, Santa Cruz, California

MR. JON CAREY, VICE CHAIR
National Marine Fisheries Service, Lacey, Washington

MS. WENDY BEEGHLEY
Washington Department of Fish and Wildlife, Olympia, Washington

MR. CRAIG FOSTER
Oregon Department of Fish and Wildlife, Clackamas, Oregon

DR. STEVE HAESEKER
U.S. Fish and Wildlife Service, Vancouver, Washington

MS. ASHTON HARP
Northwest Indian Fisheries Commission, Forks, Washington

MR. ALEX LETVIN
California Department of Fish and Wildlife, Santa Rosa, California

MS. MINDY ROWSE
National Marine Fisheries Service, Seattle, Washington

PACIFIC FISHERY MANAGEMENT COUNCIL STAFF

MS. ROBIN EHLKE
DR. JIM SEGER

The Salmon Technical Team and the Council staff express their thanks for the expert assistance provided by Mr. Kyle Van de Graaf, Washington Department of Fish and Wildlife; Mr. Eric Schindler, Oregon Department of Fish and Wildlife; Ms. Vanessa Gusman, California Department of Fish and Wildlife; Dr. Ed Waters, economist on contract with the Pacific Fishery Management Council, and numerous other agency and tribal personnel in completing this report.

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LIST OF ACRONYMS AND ABBREVIATIONS

AABM	Aggregate Abundance Based Management
AEQ	adult equivalent
BO	biological opinion
CDFW	California Department of Fish and Wildlife
Council	Pacific Fishery Management Council
CPUE	catch per unit effort
EEZ	Economic Exclusive Zone
EIS	Environmental Impact Statement
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
FMP	fishery management plan
FONSI	finding of no significant impact
FRAM	Fishery Regulation Assessment Model
GSI	genetic stock identification
IPHC	International Pacific Halibut Commission
ISBM	Individual Stock Based Management
KMZ	Klamath Management Zone (Humbug Mountain to Horse Mountain)
KRFC	Klamath River fall Chinook
LCN	Lower Columbia Natural (wild Columbia River coho below Bonneville Dam)
LCR	Lower Columbia River (wild Col. River tule fall Chinook below Bonneville Dam)
LRH	Lower River Hatchery (hatchery Col. River tule fall Chinook below Bonneville Dam)
LRW	Lower River Wild (Columbia River bright fall wild Chinook below Bonneville Dam).
MSY	maximum sustainable yield
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
ODFW	Oregon Department of Fish and Wildlife
OCN	Oregon coastal natural (coho)
OPI	Oregon Production Index
PSC	Pacific Salmon Commission
PST	Pacific Salmon Treaty
RER	rebuilding exploitation rate
RMP	Resource Management Plan
RK	Rogue/Klamath (hatchery coho)
SAS	Salmon Advisory Subpanel
SCH	Spring Creek Hatchery (Col. R. tule fall Chinook returning to Spring Creek Hatchery [above Bonneville Dam])
SONCC	Southern Oregon/Northern California Coast (coho ESU)
SRFC	Sacramento River fall Chinook
SRFI	Snake River fall (Chinook) index
SRW	Snake River wild fall Chinook
SRWC	Sacramento River winter Chinook
STT	Salmon Technical Team
SWO	State Waters Only (fisheries off Oregon south of Cape Falcon)
WCVI	West Coast Vancouver Island
WDFW	Washington Department of Fish and Wildlife

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1.0 INTRODUCTION

This is the last in an annual series of four reports prepared by the Salmon Technical Team (STT) of the Pacific Fishery Management Council (Council). The reports document and help guide salmon ocean fishery management off the coasts of Washington, Oregon, and California. This report describes the Council's 2019 ocean salmon management measures adopted for submission to the U.S. Secretary of Commerce, and characterizes the expected impacts on ocean salmon fisheries and the stocks which support them.

This report also constitutes the third and final part of an Environmental Assessment (EA) to comply with National Environmental Policy Act (NEPA) requirements for the 2019 ocean salmon regulations and includes a description and analysis of a Proposed Action. An EA is used to determine whether an action being considered by a Federal agency has significant environmental impacts. The second part of the EA (Preseason Report II) presented a statement of the purpose and need, a description of the affected environment, a description of 2019 ocean salmon regulation alternatives being considered, and an analysis of the effects of those alternatives on the affected environment. The first part of the EA (Preseason Report I) included a description of the No-Action alternative and an analysis of the effects of the No-Action alternative on salmon stocks managed under the Pacific Coast Salmon Fishery Management Plan (FMP), which is one component of the affected environment. Along with the description and analysis of the Proposed Action in this report, these three parts of the EA will provide the necessary components to determine if a finding of no significant impact (FONSI) or Environmental Impact Statement (EIS) is warranted.

The Council's recommendations for the 2019 ocean salmon fishery regulations meet all objectives of the FMP (Section 3), including Annual Catch Limits (ACLs) set according to the FMP and described in Preseason Report I; the level of protection required by all consultation standards for salmon species listed under the Endangered Species Act (ESA) (Section 4), and; the obligations under the Pacific Salmon Treaty (PST) (Section 5).

Under the Council's recommended salmon fisheries, salmon stocks originating from Washington, Oregon, and California meet all of the applicable conservation objectives in the FMP.

Sacramento River fall Chinook, Klamath River fall Chinook, Queets coho, Strait of Juan de Fuca coho, and Snohomish coho salmon stocks were classified as overfished in 2018, and remain in that category for 2019.

2.0 SELECTION OF FINAL MANAGEMENT MEASURES

The following figures and tables describe the Council-adopted management measures covering the period from May 1, 2019, to April 30, 2020:

Table 1 - Non-Indian commercial ocean salmon management measures;
Figure 1 - Geographic outline of commercial troll (non-Indian) ocean salmon seasons;
Table 2 - Recreational ocean salmon management measures;
Figure 2 - Geographic outline of recreational ocean salmon seasons;
Table 3 - Treaty Indian commercial ocean management measures; and
Table 4 - Allowable catch quotas for Chinook and coho.

In addition, Tables 5, 6, and 7 provide information on the biological impacts and landing estimates for the Council's management recommendations. Table 8 displays the expected mark (healed adipose fin-clip) rate for coho encountered in Council adopted mark-selective fisheries. Tables 9 and 10, and Figures 3 and 4, provide information on the economic impacts of the proposed fisheries. Table 11 summarizes environmental effects of the Proposed Action and Alternatives. The assessment of stock status with regard to overfished, overfishing, and approaching an overfished condition is described in Table 12.

The 2019 seasons are constrained primarily by: (1) Sacramento River fall Chinook (SRFC) and California coastal Chinook south Cape Falcon, (2) Oregon coastal natural coho and Columbia River summer Chinook north of the OR/CA border, and (3) and lower Columbia River natural tule and Puget Sound Chinook north of Cape Falcon.

Regulations and expected fishing patterns for the treaty Indian ocean fisheries were developed by the Hoh, S'Klallam, Makah, Quileute, and Quinault tribes for their respective fisheries.

2.1 Inseason Management

Inseason changes are made to meet the preseason intent of the management measures described in this document, but must also meet the Council's FMP goals, especially in regard to conservation and allocation goals, Federally-recognized Indian fishing rights, consultation standards for ESA-listed salmon stocks, and obligations under the PST.

Inseason actions that are anticipated for the 2019-2020 management season include, but are not limited to, the following possibilities:

1. Adjustments in landing limits and days open for non-Indian commercial fisheries.
2. Changing the days or number of days of fishing allowed per calendar week for recreational fisheries.
3. Transfer of coho quotas among recreational port areas north of Cape Falcon.
4. Trading portions of Chinook and coho quotas between recreational and non-Indian commercial sectors north of Cape Falcon.
5. Routine openings and closings, and other management measures associated with quota management, including modifying open areas, bag limits, species retention limits, and mark-selective retention restrictions.
6. Transferring unused or exceeded quota to subsequent fisheries on an impact neutral, fishery equivalent basis.
7. Closing or postponing Oregon recreational and commercial fisheries scheduled to open March 15, 2020, if necessary to meet 2020 management objectives.
8. Closing or postponing California recreational fisheries scheduled to open April 4, 2020, or commercial fisheries scheduled to open April 16, 2020, if necessary to meet 2020 management objectives.
9. Adjustments to incidental Pacific halibut catch regulations in commercial fisheries, including landing and possession ratios and landing and possession limits per trip.

Inseason action will generally be accomplished through National Marine Fisheries Service (NMFS) sponsored conference calls attended by representatives of affected state and tribal management agencies, the Council, the Salmon Advisory Subpanel (SAS), and the STT. The Council may also make recommendations for inseason actions at any of its regularly scheduled meetings.

2.2 State Waters Fisheries

In addition to the seasons shown in Tables 1 and 2, the Oregon Department of Fish and Wildlife (ODFW) may permit fall fisheries for salmon in certain areas within state marine waters. Potential seasons off the Oregon coast include commercial and recreational fisheries at the mouths of the Chetco, Elk, and other rivers. Washington may also establish limited recreational salmon fisheries in state marine waters if additional impacts on critical coho and/or Chinook stocks can be accommodated within management constraints. California will not establish any additional state marine water salmon fisheries in 2019.

3.0 SALMON FISHERY MANAGEMENT PLAN REQUIREMENTS

The Council's FMP includes objectives for setting annual management measures to regulate ocean salmon fisheries between the U.S./Canada border and the U.S./Mexico border. The objectives include biological, administrative, and allocation requirements. In recommending final management measures, the Council attempts to meet all objectives in a fair and balanced manner, while maintaining established priorities.

Biological objectives for stocks originating in the three west coast states and impacted by Council area ocean fisheries are listed in Table 3-1 of the FMP. The objectives generally consist of meeting spawning escapement numbers associated with maximum sustainable yield (S_{MSY}), overfishing limits (OFL), acceptable biological catch (ABC), and annual catch limits (ACL), or exploitation rate limits designed to support recovery of depressed stocks or to rebuild overfished stocks, while encompassing a long-term average harvest approximating MSY. Impacts on these stocks relative to the applicable objectives are described in Table 5.

Administrative objectives are requirements for meeting other applicable law outside of the FMP. These requirements include ESA consultation standards, international treaties, and tribal trust responsibilities. The FMP defers to NMFS consultation standards for salmon stocks listed under the ESA in regards to biological conservation objectives. Section 4.0 of this document provides greater detail on ESA-listed stocks, while impacts of the Council-adopted salmon management measures on ESA-listed stocks are included in Table 5.

The FMP requires compliance with relevant terms of the PST. Section 5.0 of this document provides greater detail on PST provisions and stocks, while impacts of the Council-adopted salmon management measures on those stocks are included in Table 5.

The FMP also requires compliance with treaty fishing rights as described in Court orders in the *U.S. v. Washington* (Puget Sound), *Hoh v. Baldrige* (Washington coast), and *U.S. v. Oregon* (Columbia River) cases, and the Solicitor General opinion (Klamath River) governing allocation and management of shared salmon resources. Much of the North of Falcon forum is dedicated to annual negotiations establishing allocation among the tribes, non-Indian fishing sectors, and ocean and inside interests. The results of these negotiations inform the Council's adoption of final management measure recommendations while meeting its biological, administrative, and allocation objectives.

The Columbia River treaty tribes establish periodic management agreements with the state comanagers and Federal agencies. These agreements are approved pursuant to provisions of *U.S. v. Oregon* procedures. Recent agreements have included an entitlement for the treaty tribes of 50 percent of the coho return destined for areas upstream from Bonneville Dam. Council area fisheries are shaped in order to meet this requirement in some years.

The Yurok and Hoopa Valley tribes are entitled to 50 percent of the total KRFC harvest, which is calculated as a harvest of KRFC equal to that taken in all non-tribal fisheries. The Council must account for all harvest impacts when assessing the achievement of KRFC conservation objectives.

In addition to the allocation objectives associated with sharing between treaty Indian and non-Indian sectors, the Salmon FMP includes formulas for sharing Chinook and coho quotas north of Cape Falcon between commercial and recreational sectors, and among recreational port subareas, and for coho south of Cape Falcon between commercial and recreational sectors. The 2019 salmon management measures adopted by the Council meet all these allocation requirements.

4.0 SPECIES LISTED UNDER THE ENDANGERED SPECIES ACT

Since 1989, NMFS listed 17 Evolutionarily Significant Units (ESUs) of salmon under the ESA:

Species	ESU	Status	Most Recent		Original Listing	
	Chinook					
Chinook Salmon	Sacramento River Winter	Endangered	83 FR 18233	4/26/2018	54 FR 32085	8/1/1989
(*O. tshawytscha*)	Snake River Fall	Threatened	76 FR 50448	8/15/2011	57 FR 14653	4/22/1992
	Snake River Spring/Summer	Threatened	76 FR 50448	8/15/2011	57 FR 14653	4/22/1992
	Puget Sound	Threatened	76 FR 50448	8/15/2011	64 FR 14308	3/24/1999
	Lower Columbia River	Threatened	76 FR 50448	8/15/2011	64 FR 14308	3/24/1999
	Upper Willamette River	Threatened	76 FR 50448	8/15/2011	64 FR 14308	3/24/1999
	Upper Columbia River Spring	Endangered	76 FR 50448	8/15/2011	64 FR 14308	3/24/1999
	Central Valley Spring	Threatened	76 FR 50447	8/15/2011	64 FR 50394	9/16/1999
	California Coastal	Threatened	76 FR 50447	8/15/2011	64 FR 50394	9/16/1999
	Chum					
Chum Salmon	Hood Canal Summer-Run	Threatened	76 FR 50448	8/15/2011	64 FR 14508	3/25/1999
(*O. keta*)	Columbia River	Threatened	76 FR 50448	8/15/2011	64 FR 14508	3/25/1999
	Coho					
Coho Salmon	Central California Coastal	Endangered	76 FR 50447	8/15/2011	61 FR 56138	10/31/1996
(*O. kisutch*)	S. Oregon/ N. California Coastal	Threatened	76 FR 50447	8/15/2011	62 FR 24588	5/6/1997
	Oregon Coastal	Threatened	76 FR 50448	8/15/2011	63 FR 42587	8/10/1998
	Lower Columbia River	Threatened	76 FR 50448	8/15/2011	70 FR 37160	6/28/2005
	Sockeye					
Sockeye Salmon	Snake River	Endangered	76 FR 50448	8/15/2011	56 FR 58619	11/20/1991
(*O. nerka*)	Ozette Lake	Threatened	76 FR 50448	8/15/2011	64 FR 14528	3/25/1999

As the listings have occurred, NMFS has initiated formal consultations and issued biological opinions (BOs) that consider the impacts resulting from implementation of the FMP, or from annual management measures, to listed salmonid species. NMFS has also reinitiated consultation on certain ESUs when new information has become available on the status of the stocks or on the impacts of the FMP on the stocks. The consultation standards referred to in this document include (1) reasonable and prudent alternatives, (2) conservation objectives for which NMFS conducted Section 7 consultations and arrived at a no-jeopardy conclusion, and (3) NMFS requirements under Section 4(d) determinations. A list of current BOs in effect, the species they apply to, and their duration follows:

Date	Evolutionarily Significant Unit covered and effective period
3/8/1996	Snake River spring/summer and fall Chinook and sockeye (until reinitiated)
4/28/1999	Oregon Coastal natural coho, Southern Oregon/ Northern California coastal coho, Central California coastal coho (until reinitiated)
4/28/2000	Central Valley spring Chinook (until reinitiated)
4/27/2001	Hood Canal summer chum 4(d) limit (until reinitiated)
4/30/2001	Upper Willamette Chinook, Upper Columbia spring Chinook, Lake Ozette sockeye, Columbia River chum, and 10 steelhead ESUs (until reinitiated)
4/30/2004	Puget Sound Chinook (until reinitiated)
6/13/2005	California coastal Chinook (until reinitiated)
4/26/2012	Lower Columbia River Chinook (until reinitiated)
4/9/2015	Lower Columbia River natural coho (until reinitiated)
4/26/2018	Sacramento River winter Chinook (until reinitiated)

Amendment 12 to the Salmon FMP added the generic category "species listed under the ESA" to the list of stocks in the salmon management unit and modified respective escapement goals to include "manage consistent with NMFS jeopardy standards or recovery plans to meet immediate conservation needs and

long-term recovery of the species." Amendment 14 specified those listed ESUs and clarified which stocks in the FMP management unit were representative of the ESUs.

In a letter received by the Council on March 5, 2019, NMFS provided guidance on protective measures for species listed under the ESA during the 2019 fishing season. The letter summarized the requirements of NMFS' BOs on the effects of potential actions under the salmon FMP on listed salmon and provided the anticipated consultation standards of the BOs in preparation for the 2019 management season, as well as further guidance and recommendations for the 2019 management season. Additional guidance was provided during the April Council meeting.

The ESA consultation standards, exploitation rates, and other criteria in place for the 2019 management season are presented in Table 5. Some listed stocks are either rarely caught in Council area fisheries (e.g., spring Chinook from the upper Columbia River) or already receive sufficient protection from other salmon FMP and ESA standards (e.g., Central Valley spring Chinook). NMFS has determined that management actions designed to limit catch from these ESUs, beyond what will be provided by harvest constraints for other stocks, are not necessary.

Of the ESA-listed Chinook and coho, Council-managed fisheries have substantive impacts on Sacramento River winter Chinook (SRWC), Central Valley spring Chinook, California coastal Chinook, Snake River wild (SRW) fall Chinook, lower Columbia River (LCR) fall Chinook, and all of the coho stocks. Impacts to Puget Sound Chinook are relatively low in Council area ocean fisheries, but may be a constraining stock when structuring both ocean and inside fisheries during the North of Falcon process.

Additional listed salmonid ESUs found within the Council area, but not substantively impacted by Council managed fisheries, include:

Chinook	**Steelhead**
Snake River spring/summer (threatened)	Southern California (endangered)
Upper Willamette (threatened)	South-central California coast (threatened)
Puget Sound (threatened)	Upper Columbia River (endangered)
Upper Columbia River spring (endangered)	Middle Columbia River (threatened)
	Snake River Basin (threatened)
Sockeye	Puget Sound (threatened)
Snake River (endangered)	Central Valley, California (threatened)
Ozette Lake Sockeye (threatened)	Central California coast (threatened)
	Upper Willamette River (threatened)
Chum	Lower Columbia River (threatened)
Columbia River (threatened)	Northern California (threatened)
Hood Canal summer (threatened)	

5.0 OBLIGATIONS UNDER THE PACIFIC SALMON TREATY

In 1985 the PST was signed, setting long-term goals for the benefit of the shared salmon resources of the United States and Canada. The PSC is the body formed by the governments of Canada and the United States to implement the Pacific Salmon Treaty.

5.1 Chinook Salmon Management

A new agreement under the PST was negotiated in 2018 and formally accepted by both the U.S. and Canada. The U.S. and Canada began managing fisheries in accordance with this new agreement on January 1, 2019. The new agreement includes reductions to catch ceilings for SEAK and WCVI AABM fisheries relative to the prior 2009 agreement. These reductions for SEAK and WCVI range from 7.5 percent and 12.5 percent, respectively, in years of low abundances to 1.5 percent and 2.4 percent, respectively, in years of higher

abundances. Under the terms of the 2019 PST Agreement, Council fisheries for Chinook salmon will be subject to a new set of ISBM fishery limits, identified in Attachment I of Chapter 3. These provisions require the calendar year exploitation rate (CYER) by all U.S. fisheries south of the U.S./Canada border on specific indicator stocks to be below some level of the average 2009 – 2015 CYER if they do not achieve their management objectives (see Attachment I in Chapter 3 of the 2019 Agreement for specifics).

Many Chinook stocks of concern to the Council are affected by fisheries off Canada and Alaska. Maximum allowable catches by Canadian AABM fishery complexes off the WCVI and Northern British Columbia are determined through the annual calibration of the PSC Chinook Model. Under the new Agreement, catch ceilings for Southeast Alaskan (SEAK) fisheries will be determined prior to February 1 in each year using estimated catch per unit effort (CPUE) from the winter power troll fishery. Canadian fisheries that are not included in AABM complexes are managed under ISBM constraints, which, similar to U.S. ISBM fisheries, require the CYER by Canadian ISBM fisheries on specific indicator stocks to be below some level of the average 2009 – 2015 CYER if they do not achieve their management objectives. Expectations for Canadian and Alaskan fisheries harvest and stock abundance forecasts are incorporated into the Chinook Fishery Regulation Assessment Model (FRAM) to estimate total exploitation rate impacts from all marine fisheries (Table 5).

Key considerations for Canadian domestic fishery management for Chinook in 2019 include: (1) meeting domestic conservation obligations for WCVI, Lower Strait of Georgia, Fraser River Spring 4.2 and 5.2, Fraser Summer 5.2, Fraser Summer 4.1 and Fraser Fall 4.1 (Harrison River) stocks; (2) meeting First Nations Food, Social and Ceremonial and treaty obligations for Chinook harvests in native fisheries; and (3) monitoring of incidental impacts during commercial and native fisheries directed at sockeye, and chum salmon. It is anticipated that the details of the fishery regulatory package off WCVI and in the Juan de Fuca-Strait of Georgia areas will be driven by levels of allowable impact on WCVI, Lower Strait of Georgia and Fraser River Chinook stocks, Interior Fraser (Thompson River) coho, and potentially Thompson and/or Chilcotin River Steelhead (depending on a listing decision under Canada's Species at Risk Act). Increasing the availability of Chinook salmon in key foraging areas of Southern Resident Killer Whales in the southern BC region is an additional consideration which will be supported through conservation actions implemented for Fraser River and other Chinook salmon.

5.2 Coho Salmon Management

In 2002, the PSC adopted a management plan for coho salmon originating in Washington and Southern British Columbia river systems. The plan is directed at the conservation of key management units, four from Southern British Columbia (Interior Fraser, Lower Fraser, Strait of Georgia Mainland, and Strait of Georgia Vancouver Island) and nine from Washington (Skagit, Stillaguamish, Snohomish, Hood Canal, Strait of Juan de Fuca, Quillayute, Hoh, Queets, and Grays Harbor). Exploitation rate limits for intercepting fisheries are established for individual management units through formulas specified in the 2019 PST Southern Coho Management Plan, and are based on total allowable fishery exploitation rates.

The categorical status of U.S. coho management units is reported to comply with obligations pursuant to the 2019 PST Southern Coho Management Plan. Categorical status is employed by the PSC under the 2019 PST Southern Coho Management Plan to indicate general ranges of allowable total exploitation rates for U.S. and Canadian coho management units. Three categories are employed: low (total exploitation rate less than 20 percent), moderate (total exploitation rate 20 percent to 40 percent), and abundant (total exploitation rate greater than 40 percent). For the Puget Sound management units, the 2019 PST Southern Coho Management Plan uses the thresholds and stepped harvest rate goals from the Comprehensive Coho Agreement, developed by Washington and the Puget Sound tribes, and adopted by the Council as FMP conservation objectives in November 2009. Actual exploitation rate constraints for Canadian fisheries on U.S. coho management units are determined by formulas that specify sharing of allowable exploitation rates

and a "composite rule." The composite rule adjusts constraints for Canadian fishery exploitation rates based on the number of U.S. management units which fall in a given category. For example, if only one Washington coastal or Puget Sound coho management unit is in low status, Canadian fisheries are constrained to a total exploitation rate on that unit of 12 percent; if two or more Washington coastal management units are in low status, the constraint becomes 10 percent. The most restrictive exploitation rate limit for Canadian fishery impacts on U.S. coho management units is 10 percent.

For several Washington coastal coho management units, management objectives are expressed as a range of spawning escapements expected to produce MSY. Allowable exploitation rates are calculated from the forecast abundance and the lower end of the escapement range and used to classify the categorical status of the management units. This rate is the maximum allowed under the PST when the management unit is in the moderate or abundant status. If the management unit is in the low abundance status, exploitation rates up to 20 percent are allowed.

For 2019, Puget Sound and Washington coast coho constraints are as follows:

FMP

FMP Stock	Total Exploitation Rate Constraint[a/]	Categorical Status[a/]
Skagit	35%	Low
Stillaguamish	50%	Normal
Snohomish	40%	Low
Hood Canal	45%	Low
Strait of Juan de Fuca	20%	Critical
Quillayute Fall	59%	
Hoh	65%	
Queets	65%	
Grays Harbor	65%	

PST Southern Coho Management Plan

U.S. Management Unit	Total Exploitation Rate Constraint[b/]	Categorical Status[c/]
Skagit	35%	Moderate
Stillaguamish	50%	Abundant
Snohomish	40%	Moderate
Hood Canal	45%	Moderate
Strait of Juan de Fuca	20%	Low
Quillayute Fall[c/]	57%	Abundant
Hoh[c/]	71%	Abundant
Queets[c/]	48%	Abundant
Grays Harbor	51%	Abundant

a/ Preliminary. For Puget Sound stocks, the exploitation rate constraints and categorical status (Normal, Low, Critical) reflect application of Comprehensive Coho Agreement rules, as adopted in the FMP. For Washington Coast stocks, exploitation rate constraints represent MFMT. Note that under *U.S. v. Washington* and *Hoh v. Baldrige* case law, the management objectives can differ from FMP objectives provided there is an annual agreement among the state and tribal comanagers; therefore, the exploitation rates used to report categorical status do not necessarily represent maximum allowable rates for these stocks.

b/ Preliminary. For Puget Sound and Washington Coast management units, the exploitation rate constraints reflect application of the 2019 PST Southern Coho Management Plan.

c/ Categories (Abundant, Moderate, Low) correspond to the general exploitation rate ranges depicted in paragraph 8(b)(iii) of the 2019 PST Southern Coho Management Plan. For Washington Coast stocks, categorical status is determined by the exploitation rate associated with meeting the escapement goal (or the lower end of the escapement goal range). This also becomes the maximum allowable rate unless the stock is in the "Low" status. In that case, an ER of up to 20% is allowed.

Key considerations for Canadian fishery management for coho in 2019 are expected to include: (1) meeting domestic conservation obligations for Interior Fraser (including Thompson River) coho; (2) coho harvests by First Nations fisheries; (3) incidental impacts during commercial and First Nations fisheries

directed at pink, Chinook, sockeye, and chum salmon; and (4) the desire to provide increased opportunity for sport fisheries through mark-selective retention regulations. The Canadian fishery regimes affecting coho are expected to be driven by Canadian domestic allowable impacts on the Thompson River component of the Interior Fraser management unit.

In previous years prior to 2014, Canadian fisheries were managed so as not to exceed a three percent maximum exploitation rate. In May 2014, Canada decided to permit up to a 16% exploitation rate on upper Fraser coho in Canadian fisheries to allow for impacts in fisheries directed at a record Fraser sockeye forecast. Since 2015, upper Fraser coho in Canadian fisheries have been managed per low status limitations. The projected status of Canadian coho management units in 2019 indicates continuing concerns for the condition of Interior Fraser coho. The Interior Fraser coho management unit is anticipated to remain in low status, resulting in a requirement to constrain the total mortality fishery exploitation rate for 2019 Southern U.S. fisheries to a maximum of 10.0 percent.

6.0 CHINOOK SALMON MANAGEMENT

6.1 North of Cape Falcon

Abundance projections important to Chinook harvest management north of Cape Falcon in 2019 are:

- *Columbia River hatchery tules*. Combined production of Lower River Hatchery (LRH) and Spring Creek Hatchery (SCH) stocks returning to the Columbia River is forecasted to be 100,500, which is lower than the 2018 preseason expectation of 112,500. The 2019 LRH forecast is 54,500, compared to the 2018 forecast of 62,400. The 2019 SCH forecast is 46,000, compared to the 2018 forecast of 50,100.

6.1.1 Objectives

Key Chinook salmon management objectives shaping management measures north of Cape Falcon are:

- NMFS consultation standards and annual guidance for ESA listed stocks as provided in Section 4.0 above. Relevant stocks for the area north of Cape Falcon include LCR natural tule Chinook, Columbia Lower River Wild (LRW) fall Chinook, Snake River Wild (SRW) fall Chinook and Puget Sound Chinook.
- Fisheries north of Cape Falcon were shaped in 2019 to minimize impacts on Puget Sound Chinook.

6.1.2 Achievement of Objectives

Fishery quotas under the adopted management measures are presented in Table 4. Stock-specific management criteria and their forecast values are provided in Table 5. Projected fishery landings, bycatch, and bycatch mortality estimates are summarized in Table 6. Table 7 provides a breakdown of impacts by fishery and area for LCR tule Chinook. Descriptions pertaining to the achievement of key objectives for Chinook salmon management north of Cape Falcon are as follows:

- *LCR natural tule fall Chinook*. The projected exploitation rate in the adopted management measures is 36.0 percent, below the 38.0 percent maximum for 2019.
- *LRW fall Chinook.* The adopted management measures have a projected ocean escapement of 14,100 adults, which is projected to be sufficient to meet the ESA consultation standard of an adult spawning escapement of at least 5,700 in the North Fork Lewis River.

- *SRW fall Chinook*. The adopted management measures have an ocean exploitation rate that is 58.7 percent of the base period exploitation rate, which is less than the ESA consultation standard of no more than 70 percent of the 1988-1993 base period exploitation rate for all ocean fisheries.
- *Puget Sound Chinook*. The State of Washington and the Puget Sound treaty tribes reached agreement on a package of fisheries to be modeled prior to the Council's final adoption of the proposed action. The impacts of Council-area fisheries on Puget Sound stocks, combined with this package of inside fisheries, meet all the requirements for ESA-listed Puget Sound Chinook described in the March 5, 2019 letter from NMFS and supplemental NMFS guidance received during the April 2019 PFMC meeting, and the applicable Biological Opinion.

The adopted management measures for Council-area Chinook fisheries north of Cape Falcon satisfy NMFS ESA consultation standards and guidance, FMP conservation objectives, and all other objectives for relevant Chinook stocks (Table 5).

6.2 South of Cape Falcon

Status of Chinook stocks important to 2019 Chinook harvest management south of Cape Falcon are:

- *SRFC*. The Sacramento Index forecast is 379,632 adults, which is higher than last year's preseason forecast of 229,432.
- *KRFC*. The ocean abundance forecast for this stock is 167,504 age-3, 106,119 age-4, and 599 age-5 fish. Last year's preseason forecast was 330,049 age-3, 28,415 age-4, and 767 age-5 fish. The 2019 potential natural area spawner abundance forecast is 87,893 adults, which is higher than last year's preseason forecast of 59,733.
- *SRWC*. The forecast of age-3 escapement absent fishing is 1,924, which is higher than last year's forecast of 1,594.

6.2.1 Objectives

Key Chinook salmon management objectives shaping management measures south of Cape Falcon are:

- SRFC hatchery and natural area spawner escapement of at least 122,000 adults, which is produced, in expectation, by a maximum exploitation rate of 67.9 percent (FMP control rule). NMFS guidance provided at the March meeting included an escapement target around the upper end of the SRFC conservation objective range of 122,000–180,000 hatchery and natural area adults. NMFS provided more specific guidance at the April meeting to target a hatchery and natural area spawner escapement of at least 160,000 adults.
- KRFC natural area spawner escapement of at least 40,700 adults, which is produced, in expectation, by a maximum exploitation rate of 53.7 percent (FMP control rule). NMFS guidance provided at the March meeting included targeting spawner escapement levels greater than 40,700 (S_{MSY}). At the April meeting, NMFS modified its guidance to target the control-rule defined minimum spawner objective rather than exceeding it.
- NMFS consultation standards and annual guidance for ESA-listed stocks as provided in Section 4.0 above. Relevant stocks for the area south of Cape Falcon include SRWC, California coastal Chinook, SRW fall Chinook, and LCR natural tule Chinook.

6.2.2 Achievement of Objectives

Fishery quotas under the adopted management measures are presented in Table 4. Stock-specific management criteria and their forecast values under the adopted management measures are provided in

Table 5. Projected fishery landings, bycatch, and bycatch mortality estimates are summarized in Table 6. Table 7 provides a breakdown of impacts by fishery and area for LCR tule Chinook. Table 12 provides an assessment of stock status. Descriptions pertaining to the achievement of key objectives for Chinook salmon management south of Cape Falcon are found below.

- *SRFC.* The adopted management measures have a projected escapement of 160,159, which exceeds the control rule-defined minimum of 122,000 hatchery and natural area adult spawners and meets NMFS guidance provided at the April meeting to manage for an escapement of at least 160,000 adults.
- *KRFC.* The projected escapement is 40,700, which is consistent with the 2019 control rule-defined minimum of 40,700 natural area adult spawners.
- *SRWC.* The adopted management measures result in a projected age-3 impact rate of 14.8 percent, which is consistent with the ESA consultation standard that (1) limits the age-3 impact rate in 2019 fisheries south of Point Arena to a maximum of 15.7 percent and (2) specifies time/area closures and minimum size limit constraints south of Point Arena.
- *California coastal Chinook.* The adopted management measures result in a projected KRFC age-4 ocean harvest rate of 16.0 percent, which is consistent with the consultation standard limiting the KRFC age-4 ocean harvest rate to a maximum of 16.0 percent.
- *LCR natural tule fall Chinook*. The projected exploitation rate in the adopted management measures is 36.0 percent, below the 38.0 percent maximum for 2019.
- *SRW fall Chinook*. The adopted management measures have an ocean exploitation rate of 58.7 percent of the base period exploitation rate, which is less than the ESA consultation standard of no more than 70 percent of the 1988-1993 base period exploitation rate for all ocean fisheries.

The adopted management measures for Chinook fisheries south of Cape Falcon satisfy NMFS ESA consultation standards and guidance, FMP conservation objectives, and all other objectives for relevant Chinook stocks (Table 5).

7.0 COHO SALMON MANAGEMENT

Abundance projections relevant to coho harvest management in Council area fisheries are:

- *OPI Hatchery coho.* The 2019 forecast for hatchery coho from the Columbia River and the coast south of Cape Falcon of 933,500 is higher than the 2018 forecast of 294,100. The Columbia River early coho forecast is 545,000 compared to the 2018 forecast of 164,700, and the Columbia River late coho forecast is 360,600, compared to the 2018 forecast of 121,500.
- *OCN coho.* The 2019 OCN forecast is 76,100 compared to the 2018 forecast of 54,900.
- *LCN coho.* The 2019 LCN forecast is 36,900 compared to the 2018 forecast of 29,100.
- *Puget Sound coho.* Among Puget Sound natural stocks, Strait of Juan de Fuca coho are in the critical category in 2019. Skagit, Snohomish, and Hood Canal coho are in the low category. Stillaguamish coho are in the normal category.
- *Interior Fraser (Thompson River) coho.* This Canadian stock continues to be depressed, but will not constrain ocean coho fisheries north of Cape Falcon in 2019.
- *Washington coastal wild coho*. 2019 forecasts for most Washington coastal coho stocks are higher compared to 2018. Quileute fall, Hoh, Queets, and Grays Harbor coho are in the abundant category under the PST Southern Coho Management Plan.

7.1 Objectives

Key coho management objectives shaping management measures in 2019 Council area fisheries are:

- NMFS consultation standards and annual guidance for ESA-listed stocks are provided in Section 4.0. Relevant stocks include Central California Coast coho (south of the Oregon/California border), Southern Oregon/Northern California Coastal (SONCC) coho, OCN coho, and LCN coho. The maximum allowable exploitation rates for 2019 are: (1) a combined marine/freshwater exploitation rate not to exceed 15.0 percent for OCN coho, (2) a combined exploitation rate in marine-area and mainstem Columbia River fisheries not to exceed 23.0 percent for LCN coho, and (3) a marine exploitation rate not to exceed 13.0 percent for Rogue/Klamath hatchery coho, used as a surrogate for the SONCC coho ESU. Furthermore, coho retention is prohibited in all California ocean fisheries.
- FMP conservation objectives and obligations under Section 5.2 of the PST Southern Coho Management Plan for stocks originating along the Washington coast, Puget Sound, and British Columbia. The forecasts for some Puget Sound coho stocks and for Interior Fraser coho in 2019 are low; however, the majority of the exploitation on these stocks occurs in Puget Sound and were addressed in development of fishing seasons for inside waters during the North of Falcon co-management process by the state and tribes. Because of their abundance status, Interior Fraser coho are subject to an exploitation rate ceiling of 10.0 percent in southern U.S. fisheries under the PST Southern Coho Management Plan.

7.2 Achievement of Objectives

Fishery quotas under the adopted management measures are presented in Table 4. Stock-specific management criteria and their forecast values are provided in Table 5. Projected fishery landings, bycatch, and bycatch mortality are summarized in Table 6. Table 7 provides a breakdown of impacts by fishery and area for LCN, OCN, and RK coho. Table 8 provides expected coho mark rates for west coast fisheries by month. Table 12 provides an assessment of stock status.

- *LCN coho.* The adopted management measures satisfy the maximum 23.0 percent exploitation rate for combined marine and mainstem Columbia River fisheries, with a marine exploitation rate of 13.8 percent and a mainstem Columbia River exploitation rate of 4.2 percent.
- *OCN coho.* The adopted management measures satisfy the maximum 15.0 percent exploitation rate for combined marine and freshwater fisheries, with a marine exploitation rate of 12.3 percent and a freshwater exploitation rate of 1.4 percent.
- *Washington coastal wild coho.* The adopted management measures provide ocean escapement numbers of 65,900, 9,100, 5,800, and 13,700 for Grays Harbor, Queets, Hoh, and Quillayute natural coho respectively. These ocean escapement levels, when combined with scheduled in-river fisheries, meet FMP management objectives or objectives agreed to by WDFW and the treaty tribes for Grays Harbor, Queets, Hoh, and Quillayute.
- *Interior Fraser coho.* The Southern U.S. exploitation rates in the adopted management measures total 9.1 percent, which complies with the 10.0 percent maximum required by the PST Southern Coho Management Plan.

The adopted management measures for coho fisheries satisfy NMFS ESA consultation standards and guidance, FMP objectives, and all other objectives for relevant coho stocks other than and including those listed in Table 5.

8.0 PINK SALMON MANAGEMENT

Pink salmon merit management consideration in 2019. Impacts on Chinook and coho in pink-directed fisheries were part of negotiations to reach a final agreement in north of Cape Falcon ocean and Puget Sound fisheries.

9.0 IMPORTANT FEATURES OF THE ADOPTED MANAGEMENT MEASURES

Significant changes from recent seasons are highlighted below, but this section is not intended to be a comprehensive description of the adopted management measures. For detailed information on the adopted ocean salmon seasons see Table 1 (non-Indian commercial), Table 2 (recreational), and Table 3 (treaty Indian).

Adopted management measures in the area north of Cape Falcon were shaped to meet NMFS consultation standards and annual guidance for Chinook stocks of concern. The 2019 Chinook TAC is decreased relative to 2018 due to a slightly lower abundance of LCR natural tule Chinook and to help meet overall conservation objectives for Puget Sound Chinook. The 2019 coho TAC is increased relative to 2018 due to higher abundance forecasts for Columbia River and coastal Washington coho stocks.

Fisheries south of Cape Falcon are primarily constrained by SRFC and California coastal Chinook. The adopted management measures reflect NMFS guidance to achieve, in expectation, a minimum hatchery and natural area escapement of 160,000 SRFC adults.

9.1 Commercial

North of Cape Falcon, the non-Indian troll Chinook quota is split almost evenly between the spring (May-June) fishery and the summer fishery (July-September). Chinook subarea guidelines apply to the area between the U.S./Canada border and the Queets River, and to the area between Leadbetter Point and Cape Falcon during the spring fishery. Landing and possession limits per vessel per landing week (defined as Thursday through Wednesday) are in effect for some areas during the spring fishery. The non-Indian commercial Chinook quota of 26,250 is decreased slightly compared to 27,500 Chinook quota in 2018. The non-Indian commercial coho quota of 30,400 is increased relative to the 2018 quota of 5,600 coho.

The spring fishery in the area north of Cape Falcon will be open for Chinook seven days per week May 6 through June 28. Chinook landing and possession limits are in effect in the area between the U.S./Canada border and the Queets River and in the area between Leadbetter Point and Cape Falcon. Coho retention is not allowed during the spring fishery.

The summer fishery in the area north of Cape Falcon will be open for all salmon seven days per week July 1 through September 30. A landing and possession limit of 150 marked coho per vessel per landing week is in effect coastwide, and all landed coho must be marked with a healed adipose fin clip.

For the Oregon coast between Cape Falcon and Humbug Mountain, Chinook fisheries will be open beginning April 20, most of May and then continuously through late August. Weekly landing and possession limits will be in place for September and October.

For the Oregon portion of the KMZ, from Humbug Mountain to the Oregon/California border, the season will be open for portions of April and May, followed by monthly quotas in June, July, and August. The summer quota fisheries have weekly landing and possession limits. For the California portion of the KMZ, from the Oregon/California border to Humboldt South Jetty, there will be monthly quotas in June, July, and August. The quota fisheries will be open five days per week with daily landing and possession limits. The commercial fishery is closed between Humboldt South Jetty and Horse Mountain.

The fishery from Horse Mountain to Point Arena, the Fort Bragg management area, will be open for most of June, three weeks in July, and nearly all of August.

The San Francisco management area, from Point Arena to Pigeon Point, will open in mid-May. Season dates in June, July, and August are identical to the season dates in Fort Bragg. The fishery will also be open for the month of September, and the Monday through Friday fall area target zone fishery between Point Reyes and Point San Pedro will occur during the first half of October.

Fisheries south of Pigeon Point will be open for all of May, most of June, and three weeks in July.

9.2 Recreational

The recreational fishery north of Cape Falcon will open for all salmon on June 22 in all areas and will continue through September 30, or when Chinook subarea guidelines or coho subarea quotas are attained. All subareas are open seven days per week. Daily bag limits of two salmon include only one Chinook in subareas south of the Queets River; in subareas north of the Queets River, up to two Chinook are allowed. The recreational Chinook quota of 26,250 is decreased compared to 27,500 Chinook quota in 2018. The recreational coho quota of 159,600 is increased relative to the 2018 quota of 42,000 coho. All coho must be marked with a healed adipose fin clip.

For the north and central Oregon coast south of Cape Falcon, the Chinook fishery opened March 15 and will run uninterrupted through October. Coho fisheries consist of a mark-selective coho quota beginning on June 22 and a non-mark-selective coho quota beginning on August 31 in the area from Cape Falcon to Humbug Mountain.

For both the Oregon and California KMZ, the season will run from Saturday of the Memorial Day weekend through Labor Day. The minimum size limit will be 24 inches in the Oregon KMZ and 20 inches in the California KMZ.

The area from Horse Mountain to Pigeon Point, which includes the Fort Bragg and San Francisco management areas, will be open for the second half of April. After a closure during the first half of May, the fishery will re-open on May 18 and run continuously through the end of October. The minimum size limit in the Fort Bragg area will be 20 inches for the entire season. In the San Francisco area, the minimum size limit will be 24 inches through the end of April, then 20 inches for the rest of the season.

South of Pigeon Point, the season will be open from April 6 through August 28 with a 24 inch minimum size limit.

9.3 Treaty Indian

The adopted management measures for Chinook fisheries are generally similar in structure to recent years, and coho retention is allowed in the summer season. The Treaty Indian troll fishery opens on May 1 with a Chinook only fishery and runs through June 30 with a 17,500 sub-quota. The summer fishery opens on July 1 and runs through September 15 with a sub-quota of 17,500 Chinook and 55,000 coho. The Treaty Indian fishery management areas are located between the U.S./Canada border and Pt. Chehalis, Washington (Table 3, C.1).

10.0 SOCIOECONOMIC IMPACTS OF THE ADOPTED MANAGEMENT MEASURES

10.1 Economic Impacts

The short-term economic effects of the Council-adopted management measures for non-Indian fisheries are shown in Tables 9 and 10. Table 9 shows projected commercial troll impacts by management area expressed

in terms of estimated potential exvessel value. Table 10 shows projected recreational fishery impacts by management area in terms of the number of projected angler-trips and community personal income impacts generated by those activities. Note that exvessel revenue values shown for the commercial troll fishery in Table 9 and income impact values shown for the recreational fishery in Table 10 are not directly comparable. More directly comparable measures of short-term economic impacts from commercial and recreational salmon fisheries appear in Figures 3 and 4, which show estimated community income impacts under the Council-adopted commercial troll and recreational fishery management measures, respectively, compared to historic levels in real (inflation-adjusted) dollars. Income impacts indicate the amount of income generated by the economic linkages associated with commercial and recreational fishing. While a reduction in income impacts associated with commercial or recreational fishing activity may not necessarily reflect a net loss, it is likely to indicate losses to businesses and individuals in communities that depend on that activity for livelihood, depending on the availability of substitute activities.

Total economic effects may vary from what is indicated by the short-term impacts from ocean fisheries activities reported in Tables 9 and 10 and Figures 3 and 4. Salmon that remain unharvested in the ocean do not necessarily represent an economic loss, as they may augment inside harvest or provide additional spawning escapement that contributes to ocean abundance in subsequent years. Restricting ocean harvests may increase opportunities for inside harvesters (e.g., higher commercial revenue or more angler trips) or contribute to higher inside catch per unit effort (CPUE) representing lower costs for commercial harvesters and/or higher success rates for recreational fishers. Salmon that remain unharvested by both ocean fisheries and inside fisheries may impact future production, although the magnitude of this effect varies depending on the biology of the affected stocks, habitat, and environmental factors.

Exvessel revenues in Table 9 are based on estimated harvest by catch area, while commercial income impacts in Figure 3 are based on projected deliveries by landing area. Historically there has been a divergence between catch and deliveries (landings) associated with a particular area. The difference is due to salmon caught in certain management areas being delivered to ports in neighboring management areas. In an attempt to account for this effect and assign income impacts to the "correct" landing area, adjustments are made based on historical patterns. The patterns are typically inferred from the most recent year's catch and landings data. For example, in 2018 there were deliveries of salmon: (1) caught between Cape Falcon and Humbug Mountain to landing ports in the Oregon KMZ region, (2) caught between Point Arena and Pigeon Point to landing ports in the Fort Bragg region, and (3) caught south of Pigeon Point to landing ports in the San Francisco region.

The expected harvest levels used to model commercial fishery impacts are taken from Table 6. Estimated harvests include relatively small amounts occurring in state waters only (SWO) fisheries off central and southern Oregon. These total harvest estimates combined with the prior year's average Chinook weights per fish and exvessel prices per pound were assumed to be the best indicators of expected revenues in the coming season. Coastwide average Chinook weight per fish in 2018 was three percent higher than the prior year but slightly lower than the recent five-year average; while coastwide average Chinook exvessel prices in 2018 were 14 percent lower than the prior year but the fourth highest in inflation-adjusted terms since 1976. If this year's actual average weight per fish or exvessel prices diverge significantly from what was observed in 2018, then salmon exvessel revenues and resulting commercial fisheries income impacts projected in this document may prove to be correspondingly biased. Unless otherwise noted, the economic effects of the commercial and recreational fisheries summarized below are compared in terms of estimated community income impacts.

Fishing effort estimates for the recreational fishery south of Cape Falcon are based on measures developed by the STT for modeling biological impacts. STT estimates for south of Cape Falcon use multi-year averages to predict effort for the coming year. Consequently, if the multi-year average for a particular time period and area happens to be higher than last year's effort level, then the model may forecast an increase

in effort for the coming year even though management measures may actually be relatively more constraining, or *vice-versa*. Estimated effort includes relatively small amounts occurring in SWO fisheries off central and southern Oregon.

Recreational fishery effort north of Cape Falcon was estimated using historical CPUE estimates ("success rates") applied to salmon quotas and expected harvest levels. Adopted coho quotas north of Cape Falcon for the summer mark-selective coho fishery are much higher than last year's, which were lower than recent years' averages. The adopted quota for Chinook is slightly reduced from last year, and restrictive compared with the recent past. Projections of recreational catch north of Cape Falcon were made by multiplying the proposed quotas for the two species by the historic shares of the quotas that were actually caught. Effort and economic impacts were then estimated by summing recent year weighted average coho and Chinook angler success rates multiplied by the projected coho and Chinook catch under the Proposed Action.

10.2 Community Impacts

Projected income impacts under the Proposed Action in coastal communities adjacent to commercial and recreational salmon fishery management areas are shown in Figure 3 and Figure 4, and comparisons of impacts under the Proposed Action with impacts under Alternatives I, II and III are summarized in Table 11. Projected coastwide income impacts from commercial salmon landings and processing under the Proposed Action are near the top of the range analyzed under the Alternatives, and overall are approximately 96 percent higher than estimated total coastwide commercial fisheries income impacts last year (Figure 3 and Table 11). Regionally the picture is somewhat mixed, with income impacts from commercial salmon fisheries under the Proposed Action projected to be considerably above last year's levels in all regions except the California KMZ (Oregon/California Border to Horse Mountain) where they are projected to be 22 percent below last year's level. With respect to the 2014-2018 inflation-adjusted average, income impacts from commercial salmon fisheries under the Proposed Action are projected to be 42 percent higher overall coastwide and at least 23 percent above the 2014-2018 inflation-adjusted average in all regions along the coast, except 12 percent lower North of Cape Falcon and three percent lower between Cape Falcon and Humbug Mountain (Figure 3 and Table 11).

Projected income impacts from expenditures by recreational salmon anglers under the Proposed Action are near the top of the range analyzed under the Alternatives, and overall are about 67 percent above the estimated total coastwide recreational fisheries income impacts from last year's activity (Table 11 and Figure 4). Regionally the picture is mostly positive, with recreational fisheries income impacts under the Proposed Action projected to be 13 percent lower than last year's level in the area from Point Arena to Pigeon Point but at least 33 percent above last year's levels in all other regions, respectively. Compared with the 2014-2018 inflation-adjusted average, recreational fisheries income impacts under the Proposed Action are projected to be 56 percent higher overall coastwide, and higher in every region, although only five percent above the 2014-2018 inflation-adjusted average in the area from Point Arena to Pigeon Point (Figure 4 and Table 10, Table 11).

10.3 Social Impacts

The effect of the Proposed Action on other indicators of community social welfare (e.g., poverty, divorce rates, graduation/dropout rates, incidents of domestic violence, etc.) cannot be directly measured. Change in personal income in communities may be used as a rough proxy for other socioeconomic effects to the degree change in these indicators correlates with potential change in income. However, changes in the broader regional economy ("cumulative effects") and long-term trends in fishery-related employment are more likely to drive these indicators of social wellbeing than the short-term economic effects of the Proposed Action.

To the extent practicable, social impacts were considered when non-tribal commercial and recreational salmon seasons were shaped. To minimize regulatory complexity in recreational fisheries, season dates and regulations were kept as consistent as possible within major management areas. Bag limits allow a greater number of fishers to participate in the fishery. Minimum size limits remain consistent throughout the season in most areas, which, in addition to biological benefits, tend to increase regulatory compliance. Efforts were made to accommodate important cultural events such as the Independence Day and Labor Day holidays as well as traditional fishing derby events. Commercial fisheries often include vessel limits per trip or per open period in an effort to stretch quota attainment over a longer period of time. Doing so can provide greater access for smaller vessels, increase safety at sea by making it easier to avoid fishing in inclement weather, improve marketing opportunities, and extend the period during which consumers have access to fresh, wild caught salmon. Notification mechanisms by phone or email allow commercial vessels greater flexibility in choosing a port of landing to take advantage of better markets or to access better infrastructure.

Salmon are an important part of tribal culture and have been since time immemorial. Salmon provide economic, cultural, ceremonial, and subsistence benefits to west coast tribal communities. Under the Proposed Action, based on the adopted Chinook and coho quotas, Washington coastal treaty tribes are projected to have somewhat improved ocean salmon fishery opportunities compared with 2018 (Table 6). The Klamath River tribal share under the Proposed Action is 32,401 adult KRFC, a substantial increase from the 2018, 2017 and 2016 allocations of 18,122, 814 and 7,404 adult KRFC, respectively.

11.0 ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION

The Proposed Action, adoption of the 2019 ocean salmon regulations, was assessed relative to the environmental components and criteria established in Preseason Report II (Part 2 of this EA). The impacts of the Proposed Action on most target stocks and ESA-listed salmon fall within the range of impacts analyzed for the Alternatives in Preseason Report II. For stocks where the impacts of the Proposed Action fall outside the range of impacts under the Alternatives in Preseason Report II, such impacts result from shaping fisheries within Puget Sound, and are within the impact limitations of the FMP, ESA consultation standards, and PST (Table 11). Economic impacts of the Proposed Action fall within the range of impacts projected for the Alternatives in Preseason Report II as summarized in Table 11.

Under No Action, the seasons would be the same as in 2018. Although not true for all regions, relative to No Action (as represented by the 2018 values) the Proposed Action would provide greater overall coastwide income impacts from both commercial and recreational fishing (Table 11).

As stated in Preseason Report II, it was not possible to discern differences in the effects of the Alternatives or Proposed Action on other components of the environment (non-target fish species, marine mammals, other ESA-listed species, sea birds, biodiversity and ecosystem function, and public health and safety), and the effects were not expected to be significant.

TABLE 1. 2019 Commercial troll management measures for non-Indian ocean salmon fisheries - Council adopted. (Page 1 of 6)

A. SEASON DESCRIPTIONS

North of Cape Falcon

Supplemental Management Information

1. Overall non-Indian TAC: 52,500 Chinook and 190,000 coho marked with a healed adipose fin clip (marked).
2. Non-Indian commercial troll TAC: 26,250 Chinook and 30,400 marked coho

Model run: Coho1925, Chin2719

U.S./Canada Border to Cape Falcon

- May 6 through the earlier of June 28, or 13,200 Chinook. No more than 5,000 of which may be caught in the area between the U.S./Canada border and the Queets River, and no more than 1,800 of which may be caught in the area between Leadbetter Pt. and Cape Falcon (C.8).

Open seven days per week (C.1).

In the area between the U.S./Canada border and the Queets River: May 6-15 the landing and possession limit is 100 Chinook per vessel for the open period. May 16-June 28 the landing and possession limit is 50 Chinook per vessel per landing week (Thurs.-Wed.) (C.1, C.6).

In the area between Leadbetter Pt. and Cape Falcon: May 6-15 the landing and possession limit is 100 Chinook per vessel for the open period. During May 16-June 28 the landing and possession limit is 50 Chinook per vessel per landing week (Thurs.-Wed.) (C.1, C.6).

All salmon, except coho (C.4, C.7). Chinook minimum size limit of 28 inches total length (B). See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3).

When it is projected that approximately 60% of the overall Chinook guideline has been landed, approximately 60% of the Chinook subarea guideline has been landed in the area between the U.S./Canada border and the Queets River, or approximately 60% of the Chinook subarea guideline has been landed in the area between Leadbetter Pt. and Cape Falcon, inseason action will be considered to ensure the guideline is not exceeded.

U.S./Canada Border to Cape Falcon

- July 1 through the earlier of September 30, or 13,050 Chinook or 30,400 marked coho (C.8).

Open seven days per week. All salmon. Chinook minimum size limit of 28 inches total length. Coho minimum size limit of 16 inches total length (B, C.1). All coho must be marked with a healed adipose fin clip (C.8.d). No chum retention north of Cape Alava, Washington in August and September (C.4, C.7). See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3).

Landing and possession limit of 150 marked coho per vessel per landing week (Thurs.-Wed.) (C.1).

For all commercial troll fisheries north of Cape Falcon: Mandatory closed areas include: Salmon troll Yelloweye Rockfish Conservation Area, Cape Flattery and Columbia Control Zones, and beginning August 12, Grays Harbor Control Zone (C.5). Vessels must land and deliver their salmon within 24 hours of any closure of this fishery.

Vessels fishing or in possession of salmon north of Leadbetter Point must land and deliver all species of fish in a Washington port and must possess a Washington troll license. Vessels may not land fish east of the Sekiu River or east of the Megler-Astoria bridge. For delivery to Washington ports south of Leadbetter Point, vessels must notify the Washington Department of Fish and Wildlife at 360-249-1215 prior to crossing the Leadbetter Point line with area fished, total Chinook, coho, and halibut catch aboard, and destination with approximate time of delivery. During any single trip, only one side of the Leadbetter Point line may be fished (C.11).

Vessels fishing or in possession of salmon south of Leadbetter Point must land and deliver all species of fish within the area and south of Leadbetter Point, except that Oregon permitted vessels may also land all species of fish in Garibaldi, Oregon.

Under state law, vessels must report their catch on a state fish receiving ticket. Oregon State regulations require all fishers landing salmon into Oregon from any fishery between Leadbetter Point, Washington and Cape Falcon, Oregon must notify ODFW within one hour of delivery or prior to transport away from the port of landing by either calling 541-867-0300 ext. 271 or sending notification via e-mail to nfalcon.trollreport@state.or.us. Notification shall include vessel name and number, number of salmon by species, port of landing and location of delivery, and estimated time of delivery.
Inseason actions may modify harvest guidelines in later fisheries to achieve or prevent exceeding the overall allowable troll harvest impacts (C.8).

Vessels in possession of salmon north of the Queets River may not cross the Queets River line without first notifying WDFW at 360-249-1215 with area fished, total Chinook, coho, and halibut catch aboard, and destination.
Vessels in possession of salmon south of the Queets River may not cross the Queets River line without first notifying WDFW at 360-249-1215 with area fished, total Chinook, coho, and halibut catch aboard, and destination.

TABLE 1. 2019 Commercial troll management measures for non-Indian ocean salmon fisheries – Council adopted. (Page 2 of 6)

A. SEASON DESCRIPTIONS

South of Cape Falcon

Supplemental Management Information

1. Sacramento River fall Chinook spawning escapement of 160,159 hatchery and natural area adults.
2. Sacramento Index exploitation rate of 57.8%.
3. Klamath River recreational fishery allocation: 7,637 adult Klamath River fall Chinook.
4. Klamath tribal allocation: 32,401 adult Klamath River fall Chinook.
5. CA/OR share of Klamath River fall Chinook commercial ocean harvest: 70% / 30%.
6. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission.

Cape Falcon to Humbug Mt.

- April 20-30;
- May 6-30;
- June 1-August 29;
- September 1-October 31 (C.9.a).

Open seven days per week. All salmon except coho (C.4, C.7). Chinook minimum size limit of 28 inches total length (B, C.1). All vessels fishing in the area must land their salmon in the State of Oregon. See compliance requirements (C.1), and gear restrictions and definitions (C.2, C.3).

Beginning September 1 no more than 75 Chinook allowed per vessel per landing week (Thurs.-Wed.).

In 2020, the season will open March 15 for all salmon except coho. Chinook minimum size limit of 28 inches total length. Gear restrictions same as in 2019. This opening could be modified following Council review at its March 2020 meeting.

Humbug Mt. to OR/CA Border (Oregon KMZ)

- April 20-30;
- May 6-30;
- June 1 through the earlier of June 30, or a 3,200 Chinook quota;
- July 1 through the earlier of July 31, or a 2,500 Chinook quota;
- August 1 through the earlier of August 29, or a 1,200 Chinook quota (C.9.a).

Open seven days per week. All salmon except coho (C.4, C.7). Chinook minimum size limit of 28 inches total length (B, C.1). See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3). Prior to June 1, all salmon caught in this area must be landed and delivered in the State of Oregon.

June 1-August 29 weekly landing and possession limit of 50 Chinook per vessel per landing week (Thurs.-Wed.). Any remaining portion of Chinook quotas may be transferred inseason on an impact neutral basis to the next open quota period (C.8.b).

All vessels fishing in this area during June, July, and August must land and deliver all salmon within this area or into Port Orford within 24 hours of any closure of this fishery and prior to fishing outside of this area.

For all quota managed seasons (June, July, and August), Oregon state regulations require fishers to notify ODFW within one hour of landing and prior to transport away from the port of landing by calling 541-867-0300 Ext. 252 or sending notification via e-mail to kmzor.trollreport@state.or.us, with vessel name and number, number of salmon by species, location of delivery, and estimated time of delivery.

In 2020, the season will open March 15 for all salmon except coho. Chinook minimum size limit of 28 inches total length. Gear restrictions same as in 2019. This opening could be modified following Council review at its March 2020 meeting.

OR/CA Border to Humboldt South Jetty (California KMZ)

- June 1 through the earlier of June 30, or a 2,500 Chinook quota;
- July 1 through the earlier of July 30, or a 2,500 Chinook quota;
- August 2 through the earlier of August 31, or a 2,000 Chinook quota (C.9.b).

Open five days per week (Fri.-Tue.). All salmon except coho (C.4, C.7). Chinook minimum size limit of 27 inches total length (B, C.1).

Landing and possession limit of 20 Chinook per vessel per day (C.8.f).

Any remaining portion of Chinook quotas may be transferred inseason on an impact neutral basis to the next open quota period (C.8.b).

All fish caught in this area must be landed within the area, within 24 hours of any closure of the fishery, and prior to fishing outside the area (C.10). See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed (C.5.e). See California State regulations for additional closures adjacent to the Smith and Klamath rivers.

Humboldt South Jetty to Horse Mt.

- Closed.

When the fishery is closed between the OR/CA border and Humbug Mountain and open to the south, vessels with fish on board caught in the open area off California may seek temporary mooring in Brookings, Oregon prior to landing in California only if such vessels first notify the Chetco River Coast Guard Station via VHF channel 22A between the hours of 0500 and 2200 and provide the vessel name, number of fish on board, and estimated time of arrival (C.6).

TABLE 1. 2019 Commercial troll management measures for non-Indian ocean salmon fisheries – Council adopted. (Page 3 of 6)

A. SEASON DESCRIPTIONS

Horse Mt. to Point Arena (Fort Bragg)

- June 4-30;
- July 11-31;
- August 1-28 (C.9.b).

Open seven days per week. All salmon except coho (C.4, C.7). Chinook minimum size limit of 27 inches total length (B, C.1). See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3). All salmon must be landed in California.

All salmon caught in the area must be landed and offloaded no later than 11:59 p.m., August 30 (C.6).

When the CA KMZ fishery is open, all fish caught in the area must be landed south of Horse Mountain until the CA KMZ fishery has been closed for at least 24 hours (C.6).

In 2020, the season will open April 16-30 for all salmon except coho, with a 27 inch Chinook minimum size limit and the same gear restrictions as in 2019. All salmon caught in the area must be landed in the area. This opening could be modified following Council review at its March 2020 meeting.

Point Arena to Pigeon Point (San Francisco)

- May 16-31;
- June 4-30;
- July 11-31;
- August 1-28;
- September 1-30 (C.9.b).

Open seven days per week. All salmon except coho (C.4, C.7). Chinook minimum size limit of 27 inches total length (B, C.1). See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3). All salmon must be landed in California.

All salmon caught in the area prior to September 1 must be landed and offloaded no later than 11:59 p.m., August 30 (C.6).

When the CA KMZ fishery is open, all fish caught in the area must be landed south of Horse Mountain until the CA KMZ fishery has been closed for at least 24 hours (C.6).

Point Reyes to Point San Pedro (Fall Area Target Zone)

- October 1-4, 7-11, 14-15.

Open five days per week (Mon.-Fri.). All salmon except coho (C.4, C.7). Chinook minimum size limit of 27 inches total length (B, C.1). All salmon caught in this area must be landed between Point Arena and Pigeon Point (C.6). See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3).

Pigeon Point to U.S./Mexico Border (Monterey)

- May 1-31;
- June 4-30;
- July 11-31 (C.9.b).

Open seven days per week. All salmon except coho (C.4, C.7). Chinook minimum size limit of 27 inches total length (B, C.1). See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3). All salmon must be landed in California.

All salmon caught in the area must be landed and offloaded no later than 11:59 p.m., August 5 (C.6).

When the CA KMZ fishery is open, all fish caught in the area must be landed south of Horse Mountain until the CA KMZ fishery has been closed for at least 24 hours (C.6).

For all commercial troll fisheries In California: California State regulations require all salmon be made available to a CDFW representative for sampling immediately at port of landing. Any person in possession of a salmon with a missing adipose fin, upon request by an authorized agent or employee of the CDFW, shall immediately relinquish the head of the salmon to the State (California Fish and Game Code §8226).

B. MINIMUM SIZE (Inches) (See C.1)

Area (when open)	Chinook		Coho		Pink
	Total Length	Head-off	Total Length	Head-off	
North of Cape Falcon	28	21.5	16	12	None
Cape Falcon to Humbug Mt.	28	21.5	-	-	None
Humbug Mt. to OR/CA Border	28	21.5	-	-	None
OR/CA Border to Humboldt South Jetty	27	20.5	-	-	27
Horse Mt. to Pt. Arena	27	20.5	-	-	27
Pt. Arena to Pigeon Pt.	27	20.5	-	-	27
Pigeon Pt. to U.S./Mexico Border	27	20.5	-	-	27

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

C.1. Compliance with Minimum Size or Other Special Restrictions: All salmon on board a vessel must meet the minimum size, landing/possession limit, or other special requirements for the area being fished and the area in which they are landed if the area is open or has been closed less than 48 hours for that species of salmon. Salmon may be landed in an area that has been closed for a species of salmon more than 48 hours only if they meet the minimum size, landing/possession limit, or other special requirements for the area in which they were caught. Salmon may not be filleted prior to landing.

Any person who is required to report a salmon landing by applicable state law must include on the state landing receipt for that landing both the number and weight of salmon landed by species. States may require fish landing/receiving tickets be kept on board the vessel for 90 days or more after landing to account for all previous salmon landings.

C.2. Gear Restrictions:
- a. Salmon may be taken only by hook and line using single point, single shank, barbless hooks.
- b. Cape Falcon, Oregon, to the OR/CA border: No more than 4 spreads are allowed per line.
- c. OR/CA border to U.S./Mexico border: No more than 6 lines are allowed per vessel, and barbless circle hooks are required when fishing with bait by any means other than trolling.

C.3. Gear Definitions:
Trolling defined: Fishing from a boat or floating device that is making way by means of a source of power, other than drifting by means of the prevailing water current or weather conditions.
Troll fishing gear defined: One or more lines that drag hooks behind a moving fishing vessel engaged in trolling. In that portion of the fishery management area off Oregon and Washington, the line or lines must be affixed to the vessel and must not be intentionally disengaged from the vessel at any time during the fishing operation.
Spread defined: A single leader connected to an individual lure and/or bait.
Circle hook defined: A hook with a generally circular shape and a point which turns inward, pointing directly to the shank at a 90º angle.

C.4. Vessel Operation in Closed Areas with Salmon on Board:
- a. Except as provided under C.4.b below, it is unlawful for a vessel to have troll or recreational gear in the water while in any area closed to fishing for a certain species of salmon, while possessing that species of salmon; however, fishing for species other than salmon is not prohibited if the area is open for such species, and no salmon are in possession.
- b. When Genetic Stock Identification (GSI) samples will be collected in an area closed to commercial salmon fishing, the scientific research permit holder shall notify NOAA OLE, USCG, CDFW, WDFW, ODFW and OSP at least 24 hours prior to sampling and provide the following information: the vessel name, date, location and time collection activities will be done. Any vessel collecting GSI samples in a closed area shall not possess any salmon other than those from which GSI samples are being collected. Salmon caught for collection of GSI samples must be immediately released in good condition after collection of samples.

C.5. Control Zone Definitions:
- a. *Cape Flattery Control Zone* - The area from Cape Flattery (48º23'00" N. lat.) to the northern boundary of the U.S. EEZ; and the area from Cape Flattery south to Cape Alava (48º10'00" N. lat.) and east of 125º05'00" W. long.
- b. *Mandatory Yelloweye Rockfish Conservation Area* – The area in Washington Marine Catch Area 3 from 48°00.00' N. lat.; 125°14.00' W. long. to 48°02.00' N. lat.; 125°14.00' W. long. to 48°02.00' N. lat.; 125°16.50' W. long. to 48°00.00' N. lat.; 125°16.50' W. long. and connecting back to 48°00.00' N. lat.; 125°14.00' W. long.
- c. *Grays Harbor Control Zone* - The area defined by a line drawn from the Westport Lighthouse (46° 53'18" N. lat., 124° 07'01" W. long.) to Buoy #2 (46° 52'42" N. lat., 124°12'42" W. long.) to Buoy #3 (46° 55'00" N. lat., 124°14'48" W. long.) to the Grays Harbor north jetty (46° 55'36" N. lat., 124°10'51" W. long.).
- d. *Columbia Control Zone* - An area at the Columbia River mouth, bounded on the west by a line running northeast/southwest between the red lighted Buoy #4 (46°13'35" N. lat., 124°06'50" W. long.) and the green lighted Buoy #7 (46°15'09' N. lat., 124°06'16" W. long.); on the east, by the Buoy #10 line which bears north/south at 357° true from the south jetty at 46°14'00" N. lat.,124°03'07" W. long. to its intersection with the north jetty; on the north, by a line running

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

C.5. Control Zone Definitions (continued):

northeast/southwest between the green lighted Buoy #7 to the tip of the north jetty (46°15'48" N. lat., 124°05'20" W. long.), and then along the north jetty to the point of intersection with the Buoy #10 line; and, on the south, by a line running northeast/southwest between the red lighted Buoy #4 and tip of the south jetty (46°14'03" N. lat., 124°04'05" W. long.), and then along the south jetty to the point of intersection with the Buoy #10 line.

e. *Klamath Control Zone* - The ocean area at the Klamath River mouth bounded on the north by 41°38'48" N. lat. (approximately 6 nautical miles north of the Klamath River mouth); on the west by 124°23'00" W. long. (approximately 12 nautical miles off shore); and on the south by 41°26'48" N. lat. (approximately 6 nautical miles south of the Klamath River mouth).

f. Waypoints for the 40 fathom regulatory line from Cape Falcon to Humbug Mt. (50 CFR 660.71 (k) (12)-(70).

45°46.00′ N. lat., 124°04.49′ W. long.;	44°41.68′ N. lat., 124°15.38′ W. long.;	43°17.96′ N. lat., 124°28.81′ W. long.;
45°44.34′ N. lat., 124°05.09′ W. long.;	44°34.87′ N. lat., 124°15.80′ W. long.;	43°16.75′ N. lat., 124°28.42′ W. long.;
45°40.64′ N. lat., 124°04.90′ W. long.;	44°33.74′ N. lat., 124°14.44′ W. long.;	43°13.97′ N. lat., 124°31.99′ W. long.;
45°33.00′ N. lat., 124°04.46′ W. long.;	44°27.66′ N. lat., 124°16.99′ W. long.;	43°13.72′ N. lat., 124°33.25′ W. long.;
45°32.27′ N. lat., 124°04.74′ W. long.;	44°19.13′ N. lat., 124°19.22′ W. long.;	43°12.26′ N. lat., 124°34.16′ W. long.;
45°29.26′ N. lat., 124°04.22′ W. long.;	44°15.35′ N. lat., 124°17.38′ W. long.;	43°10.96′ N. lat., 124°32.33′ W. long.;
45°20.25′ N. lat., 124°04.67′ W. long.;	44°14.38′ N. lat., 124°17.78′ W. long.;	43°05.65′ N. lat., 124°31.52′ W. long.;
45°19.99′ N. lat., 124°04.62′ W. long.;	44°12.80′ N. lat., 124°17.18′ W. long.;	42°59.66′ N. lat., 124°32.58′ W. long.;
45°17.50′ N. lat., 124°04.91′ W. long.;	44°09.23′ N. lat., 124°15.96′ W. long.;	42°54.97′ N. lat., 124°36.99′ W. long.;
45°11.29′ N. lat., 124°05.20′ W. long.;	44°08.38′ N. lat., 124°16.79′ W. long.;	42°53.81′ N. lat., 124°38.57′ W. long.;
45°05.80′ N. lat., 124°05.40′ W. long.;	44°08.30′ N. lat., 124°16.75′ W. long.;	42°50.00′ N. lat., 124°39.68′ W. long.;
45°05.08′ N. lat., 124°05.93′ W. long.;	44°01.18′ N. lat., 124°15.42′ W. long.;	42°49.13′ N. lat., 124°39.70′ W. long.;
45°03.83′ N. lat., 124°06.47′ W. long.;	43°51.61′ N. lat., 124°14.68′ W. long.;	42°46.47′ N. lat., 124°38.89′ W. long.;
45°01.70′ N. lat., 124°06.53′ W. long.;	43°42.66′ N. lat., 124°15.46′ W. long.;	42°45.74′ N. lat., 124°38.86′ W. long.;
44°58.75′ N. lat., 124°07.14′ W. long.;	43°40.49′ N. lat., 124°15.74′ W. long.;	42°44.79′ N. lat., 124°37.96′ W. long.;
44°51.28′ N. lat., 124°10.21′ W. long.;	43°38.77′ N. lat., 124°15.64′ W. long.;	42°45.01′ N. lat., 124°36.39′ W. long.;
44°49.49′ N. lat., 124°10.90′ W. long.;	43°34.52′ N. lat., 124°16.73′ W. long.;	42°44.14′ N. lat., 124°35.17′ W. long.;
44°44.96′ N. lat., 124°14.39′ W. long.;	43°28.82′ N. lat., 124°19.52′ W. long.;	42°42.14′ N. lat., 124°32.82′ W. long.;
44°43.44′ N. lat., 124°14.78′ W. long.;	43°23.91′ N. lat., 124°24.28′ W. long.;	42°40.50′ N. lat., 124°31.98′ W. long.
44°42.26′ N. lat., 124°13.81′ W. long.;	43°20.83′ N. lat., 124°26.63′ W. long.;	

C.6. Notification When Unsafe Conditions Prevent Compliance with Regulations: If prevented by unsafe weather conditions or mechanical problems from meeting special management area landing restrictions, vessels must notify the U.S. Coast Guard and receive acknowledgment of such notification prior to leaving the area. This notification shall include the name of the vessel, port where delivery will be made, approximate number of salmon (by species) on board, the estimated time of arrival, and the specific reason the vessel is not able to meet special management area landing restrictions.

In addition to contacting the U.S. Coast Guard, vessels fishing south of the Oregon/California border must notify CDFW within one hour of leaving the management area by calling 800-889-8346 and providing the same information as reported to the U.S. Coast Guard. All salmon must be offloaded within 24 hours of reaching port.

C.7. Incidental Halibut Harvest: During authorized periods, the operator of a vessel that has been issued an incidental halibut harvest license may retain Pacific halibut caught incidentally in Area 2A while trolling for salmon. Halibut retained must be no less than 32 inches in total length, measured from the tip of the lower jaw with the mouth closed to the extreme end of the middle of the tail, and must be landed with the head on. When halibut are caught and landed incidental to commercial salmon fishing by an IPHC license holder, any person who is required to report the salmon landing by applicable state law must include on the state landing receipt for that landing both the number of halibut landed, and the total dressed, head-on weight of halibut landed, in pounds, as well as the number and species of salmon landed.

License applications for incidental harvest must be obtained from the International Pacific Halibut Commission (phone: 206-634-1838). Applicants must apply prior to mid-March 2020 for 2020 permits (*exact date to be set by the IPHC in early 2020*). Incidental harvest is authorized only during April, May, and June of the 2019 troll seasons, and after June 30 in 2019 if quota remains and if announced on the NMFS hotline (phone: 800-662-9825 or 206-526-6667). WDFW, ODFW, and CDFW will monitor landings. If the landings are projected to exceed the IPHC's 44,899 pound preseason allocation or the total Area 2A non-Indian commercial halibut allocation, NMFS will take inseason action to prohibit retention of halibut in the non-Indian salmon troll fishery.

May 1, 2019 until the end of the 2019 salmon troll season, and April 1-30, 2020, license holders may land or possess no more than one Pacific halibut per two Chinook, except one halibut may be possessed or landed without meeting the ratio requirement, and no more than 35 halibut may be possessed or landed per trip. Halibut retained must be no less than 32 inches in total length (with head on). Incidental Pacific halibut catch regulations in the commercial salmon troll fishery adopted for 2019, prior to any 2019 inseason action, will be in effect when incidental Pacific halibut retention opens on April 1, 2020 unless otherwise modified by inseason action at the March 2020 Council meeting.

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS *(continued)*

a. "C-shaped" yelloweye rockfish conservation area is an area to be voluntarily avoided for salmon trolling. NMFS and the Council request salmon trollers voluntarily avoid this area in order to protect yelloweye rockfish. The area is defined in the Pacific Council Halibut Catch Sharing Plan in the North Coast subarea (Washington marine area 3), with the following coordinates in the order listed:

48°18' N. lat.; 125°18' W. long.;
48°18' N. lat.; 124°59' W. long.;
48°11' N. lat.; 124°59' W. long.;
48°11' N. lat.; 125°11' W. long.;
48°04' N. lat.; 125°11' W. long.;
48°04' N. lat.; 124°59' W. long.;
48°00' N. lat.; 124°59' W. long.;
48°00' N. lat.; 125°18' W. long.;
and connecting back to 48°18' N. lat.; 125°18' W. long.

C.8. Inseason Management: In addition to standard inseason actions or modifications already noted under the season description, the following inseason guidance is provided to NMFS:
- a. Chinook remaining from the May through June non-Indian commercial troll harvest guideline north of Cape Falcon may be transferred to the July through September harvest guideline if the transfer would not result in exceeding preseason impact expectations on any stocks.
- b. Chinook remaining from May, June, and /or July non-Indian commercial troll quotas in the Oregon or California KMZ may be transferred to the Chinook quota for the next open period if the transfer would not result in exceeding preseason impact expectations on any stocks.
- c. NMFS may transfer salmon between the recreational and commercial fisheries north of Cape Falcon if there is agreement among the areas' representatives on the Salmon Advisory Subpanel (SAS), and if the transfer would not result in exceeding preseason impact expectations on any stocks.
- d. At the March 2020 meeting, the Council will consider inseason recommendations for special regulations for any experimental fisheries (proposals must meet Council protocol and be received in November 2019).
- e. If retention of unmarked coho (adipose fin intact) is permitted by inseason action, the allowable coho quota will be adjusted to ensure preseason projected impacts on all stocks is not exceeded.
- f. Landing limits may be modified inseason to sustain season length and keep harvest within overall quotas.

C.9. State Waters Fisheries: Consistent with Council management objectives:
- a. The State of Oregon may establish additional late-season fisheries in state waters.
- b. The State of California may establish limited fisheries in selected state waters.
- c. Check state regulations for details.

C.10. For the purposes of California Fish and Game Code, Section 8232.5, the definition of the Klamath Management Zone (KMZ) for the ocean salmon season shall be that area from Humbug Mountain, Oregon, to Horse Mountain, California.

C.11. Latitudes for geographical reference of major landmarks along the west coast. Source: 2018 West Coast federal salmon regulations.
https://www.govinfo.gov/content/pkg/FR-2018-05-01/pdf/2018-09164.pdf

Cape Flattery, WA	48°23′00″ N lat.	Humboldt South Jetty, CA.	40°45′53″ N lat.
Cape Alava, WA	48°10′00″ N lat.	Horse Mountain, CA	40°05′00″ N lat.
Queets River, WA	47°31′42″ N lat.	Point Arena, CA	38°57′30″ N lat.
Leadbetter Point, WA	46°38′10″ N lat.	Point Reyes, CA	37°59′44″ N lat.
Cape Falcon, OR	45°46′00″ N lat.	Point San Pedro, CA	37°35′40″ N lat.
Florence South Jetty, OR	44°00′54″ N lat.	Pigeon Point, CA	37°11′00″ N lat.
Humbug Mountain, OR	42°40′30″ N lat.	Point Sur, CA	36°18′00″ N lat.
Oregon-California border	42°00′00″ N lat.	Point Conception, CA	34°27′00″ N lat.

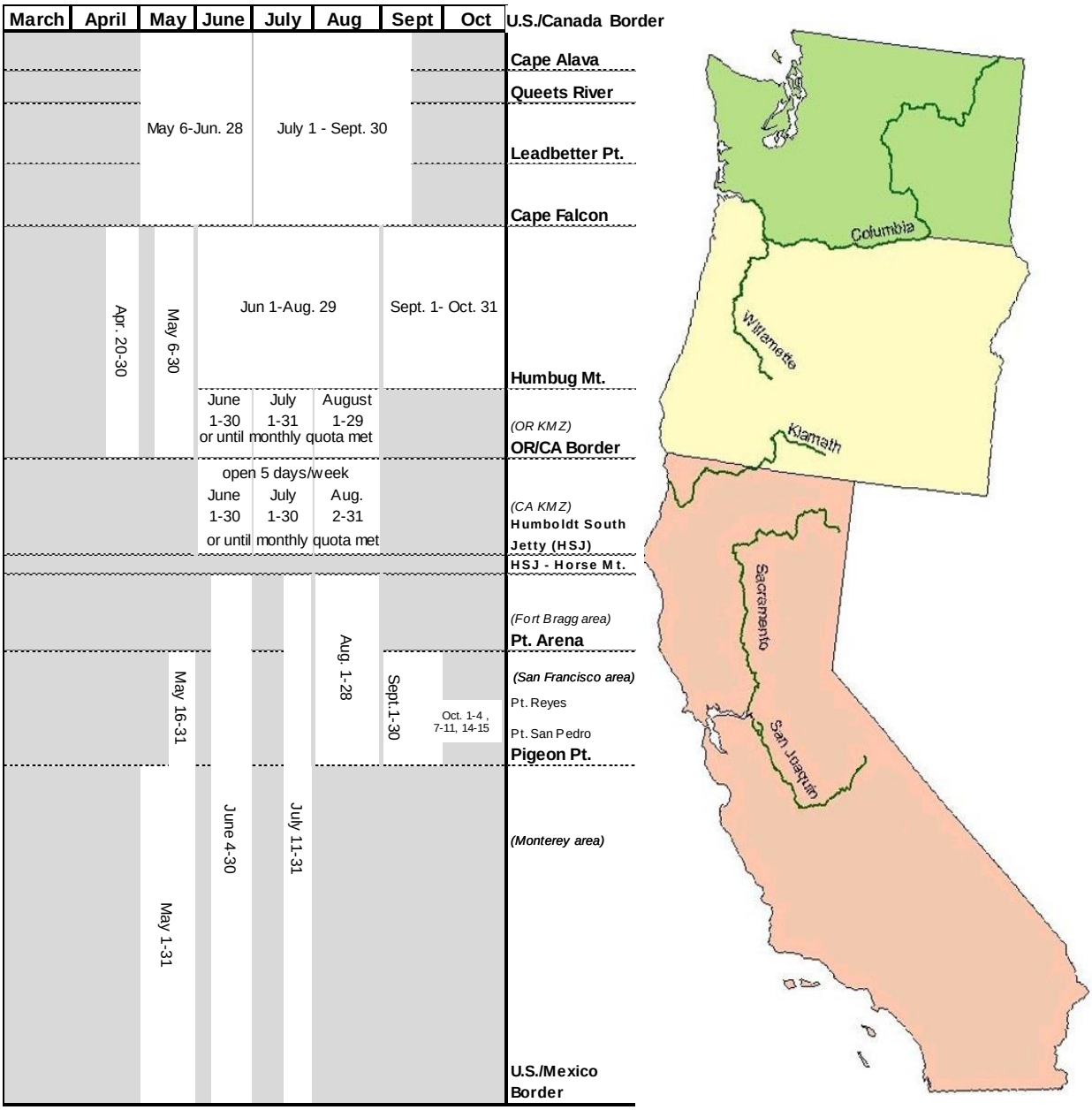


FIGURE 1. 2019 non-Indian commercial salmon seasons – Council adopted.

TABLE 2. 2019 Recreational management measures for non-Indian ocean salmon fisheries - Council adopted. (Page 1 of 5)

A. SEASON DESCRIPTIONS
North of Cape Falcon
Supplemental Management Information
1. Overall non-Indian TAC: 52,500 Chinook and 190,000 coho marked with a healed adipose fin clip (marked). 2. Recreational TAC: 26,250 Chinook and 159,600 marked coho; all retained coho must be marked. 3. No Area 4B add-on fishery. 4. Buoy 10 fishery opens August 1 with an expected landed catch of 50,000 marked coho in August and September
U.S./Canada Border to Cape Alava (Neah Bay Subarea) • June 22 through earlier of September 30, or 16,600 marked coho subarea quota, with a subarea guideline of 5,200 Chinook (C.5). Open seven days per week. All salmon, except no chum beginning August 1; two salmon per day. All coho must be marked with a healed adipose fin clip (B, C.1). Beginning August 1, Chinook non-retention east of the Bonilla-Tatoosh line (C.4.a) during Council managed ocean fishery. See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook and coho recreational TACs for north of Cape Falcon (C.5).
Cape Alava to Queets River (La Push Subarea) • June 22 through earlier of September 30, or 4,050 marked coho subarea quota, with a subarea guideline of 1,100 Chinook (C.5). • October 1 through earlier of October 13, or 100 marked coho quota, or 100 Chinook quota (C.5) in the area north of 47°50'00 N. lat. and south of 48°00'00" N. lat. Open seven days per week. All salmon, two salmon per day. All coho must be marked with a healed adipose fin clip (C.1). See gear restrictions and definitions (B, C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook and coho recreational TACs for north of Cape Falcon (C.5).
Queets River to Leadbetter Point (Westport Subarea) • June 22 through earlier of September 30, or 59,050 marked coho subarea quota, with a subarea guideline of 12,700 Chinook (C.5) Open seven days per week. All salmon; two salmon per day, no more than one of which may be a Chinook. All coho must be marked with a healed adipose fin clip (B, C.1). See gear restrictions and definitions (C.2, C.3). Grays Harbor Control Zone closed beginning August 12 (C.4.b). Inseason management may be used to sustain season length and keep harvest within the overall Chinook and coho recreational TACs for north of Cape Falcon (C.5).
Leadbetter Point to Cape Falcon (Columbia River Subarea) • June 22 through earlier of September 30, or 79,800 marked coho subarea quota, with a subarea guideline of 7,150 Chinook (C.5). Open seven days per week. All salmon; two salmon per day, no more than one of which may be a Chinook. All coho must be marked with a healed adipose fin clip (B, C.1). See gear restrictions and definitions (C.2, C.3). Columbia Control Zone closed (C.4.c). Inseason management may be used to sustain season length and keep harvest within the overall Chinook and coho recreational TACs for north of Cape Falcon (C.5).

TABLE 2. 2019 Recreational management measures for non-Indian ocean salmon fisheries - Council adopted. (Page 2 of 5)

A. SEASON DESCRIPTIONS

South of Cape Falcon

Supplemental Management Information

1. Sacramento River fall Chinook spawning escapement of 160,159 hatchery and natural area adults.
2. Sacramento Index exploitation rate of 57.8%.
3. Klamath River recreational fishery allocation: 7,637 adult Klamath River fall Chinook.
4. Klamath tribal allocation: 32,401 adult Klamath River fall Chinook.
5. Overall recreational coho TAC: 90,000 coho marked with a healed adipose fin clip (marked), and 9,000 coho in the non-mark-selective coho fishery.
6. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the CFGC.

Cape Falcon to Humbug Mt.

- March 15-October 31 (C.6), except as provided below during the all-salmon mark-selective fishery and the non-mark-selective coho fishery (C.5).

Open seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).

In 2020, the season will open March 15 for all salmon except coho, two salmon per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2019 (C.2, C.3). This opening could be modified following Council review at its March 2020 meeting.

Cape Falcon to OR/CA Border

Mark-selective coho fishery:

- June 22 through the earlier of August 25, or 90,000 marked coho quota.

Open seven days per week. All salmon, two salmon per day. All retained coho must be marked with a healed adipose fin clip (C.1). See minimum size limits (B). See gear restrictions and definitions (C.2, C.3).

Any remainder of the mark-selective coho quota may be transferred inseason on an impact neutral basis to the non-selective coho quota from Cape Falcon to Humbug Mountain (C.5).

Cape Falcon to Humbug Mt.

Non-mark-selective coho fishery:

- August 31-September 30, open each Friday through Sunday, or 9,000 non-mark-selective coho quota (C.6). Open days may be modified inseason (C.5).

All salmon, two salmon per day (C.1). See minimum size limits (B). See gear restrictions and definitions (C.2, C.3).

Humbug Mt. to OR/CA Border (Oregon KMZ)

- May 25-September 2 (C.6).

Open seven days per week. All salmon except coho, except as described above in the "Cape Falcon to OR/CA Border all-salmon mark-selective coho fishery." Two salmon per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).

For Recreational Fisheries from Cape Falcon to Humbug Mt.: Fishing in the Stonewall Bank yelloweye rockfish conservation area restricted to trolling only on days the all depth recreational halibut fishery is open (call the halibut fishing hotline 1-800-662-9825 for specific dates) (C.3.b, C.4.d).

TABLE 2. 2019 Recreational management measures for non-Indian ocean salmon fisheries - Council adopted. (Page 3 of 5)

A. SEASON DESCRIPTIONS

OR/CA Border to Horse Mt. (California KMZ)

- May 25-September 2 (C.6).

Open seven days per week. All salmon except coho, two salmon per day (C.1). Chinook minimum size limit of 20 inches total length (B). See gear restrictions and definitions (C.2, C.3).

Klamath Control Zone closed in August (C.4.e). See California State regulations for additional closures adjacent to the Smith, Eel, and Klamath Rivers.

Horse Mt. to Point Arena (Fort Bragg)

- April 13-30;
- May 18-October 31 (C.6).

Open seven days per week. All salmon except coho, two salmon per day (C.1). Chinook minimum size limit of 20 inches total length (B). See gear restrictions and definitions (C.2, C.3).

In 2020, season opens April 4 for all salmon except coho, two salmon per day (C.1). Chinook minimum size limit of 20 inches total length (B); and the same gear restrictions as in 2019 (C.2, C.3). This opening could be modified following Council review at its March 2020 meeting.

Point Arena to Pigeon Point (San Francisco)

- April 13-30;
- May 18-October 31 (C.6).

Open seven days per week. All salmon except coho, two salmon per day (C.1). Chinook minimum size limit of 24 inches total length through April 30, then 20 inches thereafter (B). See gear restrictions and definitions (C.2, C.3).

In 2020, season opens April 4 for all salmon except coho, two salmon per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2019 (C.2, C.3). This opening could be modified following Council review at its March 2020 meeting.

Pigeon Point to U.S./Mexico Border (Monterey)

- April 6-August 28 (C.6).

Open seven days per week. All salmon except coho, two salmon per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).

In 2020, season opens April 4 for all salmon except coho, two salmon per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2019 (C.2, C.3). This opening could be modified following Council review at its March 2020 meeting.

California State regulations require all salmon be made available to a CDFW representative for sampling immediately at port of landing. Any person in possession of a salmon with a missing adipose fin, upon request by an authorized agent or employee of the CDFW, shall immediately relinquish the head of the salmon to the State (California Code of Regulations Title 14 Section 1.73).

B. MINIMUM SIZE (Inches) (See C.1)

Area (when open)	Chinook	Coho	Pink
North of Cape Falcon	24	16	None
Cape Falcon to Humbug Mt.	24	16	None
Humbug Mt. to OR/CA Border	24	16	None
OR/CA Border to Horse Mt.	20	-	20
Horse Mt. to Pt. Arena	20	-	20
Pt. Arena to Pigeon Pt. (April 13-30)	24	-	24
Pt. Arena to Pigeon Pt. (May 18-October 31)	20	-	20
Pigeon Pt. to U.S./Mexico Border	24	-	24

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

C.1. Compliance with Minimum Size and Other Special Restrictions: All salmon on board a vessel must meet the minimum size or other special requirements for the area being fished and the area in which they are landed if that area is open. Salmon may be landed in an area that is closed only if they meet the minimum size or other special requirements for the area in which they were caught. Salmon may not be filleted prior to landing.

Ocean Boat Limits: Off the coast of Washington, Oregon, and California, each fisher aboard a vessel may continue to use angling gear until the combined daily limits of Chinook and coho salmon for all licensed and juvenile anglers aboard have been attained (additional state restrictions may apply).

C.2. Gear Restrictions: Salmon may be taken only by hook and line using barbless hooks. All persons fishing for salmon, and all persons fishing from a boat with salmon on board must meet the gear restrictions listed below for specific areas or seasons.

a. *U.S./Canada Border to Pt. Conception, California*: No more than one rod may be used per angler; and no more than two single point, single shank, barbless hooks are required for all fishing gear.

b. *Horse Mt., California, to Pt. Conception, California:* Single point, single shank, barbless circle hooks (see gear definitions below) are required when fishing with bait by any means other than trolling, and no more than two such hooks shall be used. When angling with two hooks, the distance between the hooks must not exceed five inches when measured from the top of the eye of the top hook to the inner base of the curve of the lower hook, and both hooks must be permanently tied in place (hard tied). Circle hooks are not required when artificial lures are used without bait.

C.3. Gear Definitions:

a. *Recreational fishing gear defined*: Off Oregon and Washington, angling tackle consists of a single line that must be attached to a rod and reel held by hand or closely attended; the rod and reel must be held by hand while playing a hooked fish. No person may use more than one rod and line while fishing off Oregon or Washington. Off California, the line must be attached to a rod and reel held by hand or closely attended; weights directly attached to a line may not exceed four pounds (1.8 kg). While fishing off California north of Pt. Conception, no person fishing for salmon, and no person fishing from a boat with salmon on board, may use more than one rod and line. Fishing includes any activity which can reasonably be expected to result in the catching, taking, or harvesting of fish.

b. *Trolling defined*: Angling from a boat or floating device that is making way by means of a source of power, other than drifting by means of the prevailing water current or weather conditions.

c. *Circle hook defined*: A hook with a generally circular shape and a point which turns inward, pointing directly to the shank at a 90° angle.

C.4. Control Zone Definitions:

a. *The Bonilla-Tatoosh Line*: A line running from the western end of Cape Flattery to Tatoosh Island Lighthouse (48°23'30" N. lat., 124°44'12" W. long.) to the buoy adjacent to Duntze Rock (48°24'37" N. lat., 124°44'37" W. long.), then in a straight line to Bonilla Pt. (48°35'39" N. lat., 124°42'58" W. long.) on Vancouver Island, British Columbia.

b. *Grays Harbor Control Zone* - The area defined by a line drawn from the Westport Lighthouse (46° 53'18" N. lat., 124° 07'01" W. long.) to Buoy #2 (46° 52'42" N. lat., 124°12'42" W. long.) to Buoy #3 (46° 55'00" N. lat., 124°14'48" W. long.) to the Grays Harbor north jetty (46° 55'36" N. lat., 124°10'51" W. long.).

c. *Columbia Control Zone*: An area at the Columbia River mouth, bounded on the west by a line running northeast/southwest between the red lighted Buoy #4 (46°13'35" N. lat., 124°06'50" W. long.) and the green lighted Buoy #7 (46°15'09' N. lat., 124°06'16" W. long.); on the east, by the Buoy #10 line which bears north/south at 357° true from the south jetty at 46°14'00" N. lat., 124°03'07" W. long. to its intersection with the north jetty; on the north, by a line running northeast/southwest between the green lighted Buoy #7 to the tip of the north jetty (46°15'48" N. lat., 124°05'20" W. long. and then along the north jetty to the point of intersection with the Buoy #10 line; and on the south, by a line running northeast/southwest between the red lighted Buoy #4 and tip of the south jetty (46°14'03" N. lat., 124°04'05" W. long.), and then along the south jetty to the point of intersection with the Buoy #10 line.

d. *Stonewall Bank Yelloweye Rockfish Conservation Area*: The area defined by the following coordinates in the order listed:

44°37.46' N. lat.; 124°24.92' W. long.
44°37.46' N. lat.; 124°23.63' W. long.
44°28.71' N. lat.; 124°21.80' W. long.
44°28.71' N. lat.; 124°24.10' W. long.
44°31.42' N. lat.; 124°25.47' W. long.
and connecting back to 44°37.46' N. lat.; 124°24.92' W. long.

e. *Klamath Control Zone*: The ocean area at the Klamath River mouth bounded on the north by 41°38'48" N. lat. (approximately 6 nautical miles north of the Klamath River mouth); on the west by 124°23'00" W. long. (approximately 12 nautical miles off shore); and, on the south by 41°26'48" N. lat. (approximately 6 nautical miles south of the Klamath River mouth).

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS *(continued)*

f. Waypoints for the 40 fathom regulatory line from Cape Falcon to Humbug Mt. (50 CFR 660.71 (k) (12)-(70).

45°46.00′ N. lat., 124°04.49′ W. long.;	44°41.68′ N. lat., 124°15.38′ W. long.;	43°17.96′ N. lat., 124°28.81′ W. long.;
45°44.34′ N. lat., 124°05.09′ W. long.;	44°34.87′ N. lat., 124°15.80′ W. long.;	43°16.75′ N. lat., 124°28.42′ W. long.;
45°40.64′ N. lat., 124°04.90′ W. long.;	44°33.74′ N. lat., 124°14.44′ W. long.;	43°13.97′ N. lat., 124°31.99′ W. long.;
45°33.00′ N. lat., 124°04.46′ W. long.;	44°27.66′ N. lat., 124°16.99′ W. long.;	43°13.72′ N. lat., 124°33.25′ W. long.;
45°32.27′ N. lat., 124°04.74′ W. long.;	44°19.13′ N. lat., 124°19.22′ W. long.;	43°12.26′ N. lat., 124°34.16′ W. long.;
45°29.26′ N. lat., 124°04.22′ W. long.;	44°15.35′ N. lat., 124°17.38′ W. long.;	43°10.96′ N. lat., 124°32.33′ W. long.;
45°20.25′ N. lat., 124°04.67′ W. long.;	44°14.38′ N. lat., 124°17.78′ W. long.;	43°05.65′ N. lat., 124°31.52′ W. long.;
45°19.99′ N. lat., 124°04.62′ W. long.;	44°12.80′ N. lat., 124°17.18′ W. long.;	42°59.66′ N. lat., 124°32.58′ W. long.;
45°17.50′ N. lat., 124°04.91′ W. long.;	44°09.23′ N. lat., 124°15.96′ W. long.;	42°54.97′ N. lat., 124°36.99′ W. long.;
45°11.29′ N. lat., 124°05.20′ W. long.;	44°08.38′ N. lat., 124°16.79′ W. long.;	42°53.81′ N. lat., 124°38.57′ W. long.;
45°05.80′ N. lat., 124°05.40′ W. long.;	44°08.30′ N. lat., 124°16.75′ W. long.;	42°50.00′ N. lat., 124°39.68′ W. long.;
45°05.08′ N. lat., 124°05.93′ W. long.;	44°01.18′ N. lat., 124°15.42′ W. long.;	42°49.13′ N. lat., 124°39.70′ W. long.;
45°03.83′ N. lat., 124°06.47′ W. long.;	43°51.61′ N. lat., 124°14.68′ W. long.;	42°46.47′ N. lat., 124°38.89′ W. long.;
45°01.70′ N. lat., 124°06.53′ W. long.;	43°42.66′ N. lat., 124°15.46′ W. long.;	42°45.74′ N. lat., 124°38.86′ W. long.;
44°58.75′ N. lat., 124°07.14′ W. long.;	43°40.49′ N. lat., 124°15.74′ W. long.;	42°44.79′ N. lat., 124°37.96′ W. long.;
44°51.28′ N. lat., 124°10.21′ W. long.;	43°38.77′ N. lat., 124°15.64′ W. long.;	42°45.01′ N. lat., 124°36.39′ W. long.;
44°49.49′ N. lat., 124°10.90′ W. long.;	43°34.52′ N. lat., 124°16.73′ W. long.;	42°44.14′ N. lat., 124°35.17′ W. long.;
44°44.96′ N. lat., 124°14.39′ W. long.;	43°28.82′ N. lat., 124°19.52′ W. long.;	42°42.14′ N. lat., 124°32.82′ W. long.;
44°43.44′ N. lat., 124°14.78′ W. long.;	43°23.91′ N. lat., 124°24.28′ W. long.;	42°40.50′ N. lat., 124°31.98′ W. long.
44°42.26′ N. lat., 124°13.81′ W. long.;	43°20.83′ N. lat., 124°26.63′ W. long.;	

C.5. Inseason Management: Regulatory modifications may become necessary inseason to meet preseason management objectives such as quotas, harvest guidelines, and season duration. In addition to standard inseason actions or modifications already noted under the season description, the following inseason guidance is provided to NMFS:

a. Actions could include modifications to bag limits, or days open to fishing, and extensions or reductions in areas open to fishing.
b. Coho may be transferred inseason among recreational subareas north of Cape Falcon to help meet the recreational season duration objectives (for each subarea) after conferring with representatives of the affected ports and the Council's SAS recreational representatives north of Cape Falcon, and if the transfer would not result in exceeding preseason impact expectations on any stocks.
c. Chinook and coho may be transferred between the recreational and commercial fisheries north of Cape Falcon if there is agreement among the representatives of the SAS, and if the transfer would not result in exceeding preseason impact expectations on any stocks.
d. Fishery managers may consider inseason action modifying regulations restricting retention of unmarked (adipose fin intact) coho. To remain consistent with preseason expectations, any inseason action shall consider, if significant, the difference between observed and preseason forecasted (adipose-clipped) mark rates. Such a consideration may also include a change in bag limit of two salmon, no more than one of which may be a coho.
e. Marked coho remaining from the Cape Falcon to Oregon/California Border recreational mark-selective coho quota may be transferred inseason to the Cape Falcon to Humbug Mt. non-mark-selective recreational fishery if the transfer would not result in exceeding preseason impact expectations on any stocks.

C.6. Additional Seasons in State Territorial Waters: Consistent with Council management objectives, the States of Washington, Oregon, and California may establish limited seasons in state waters. Check state regulations for details.

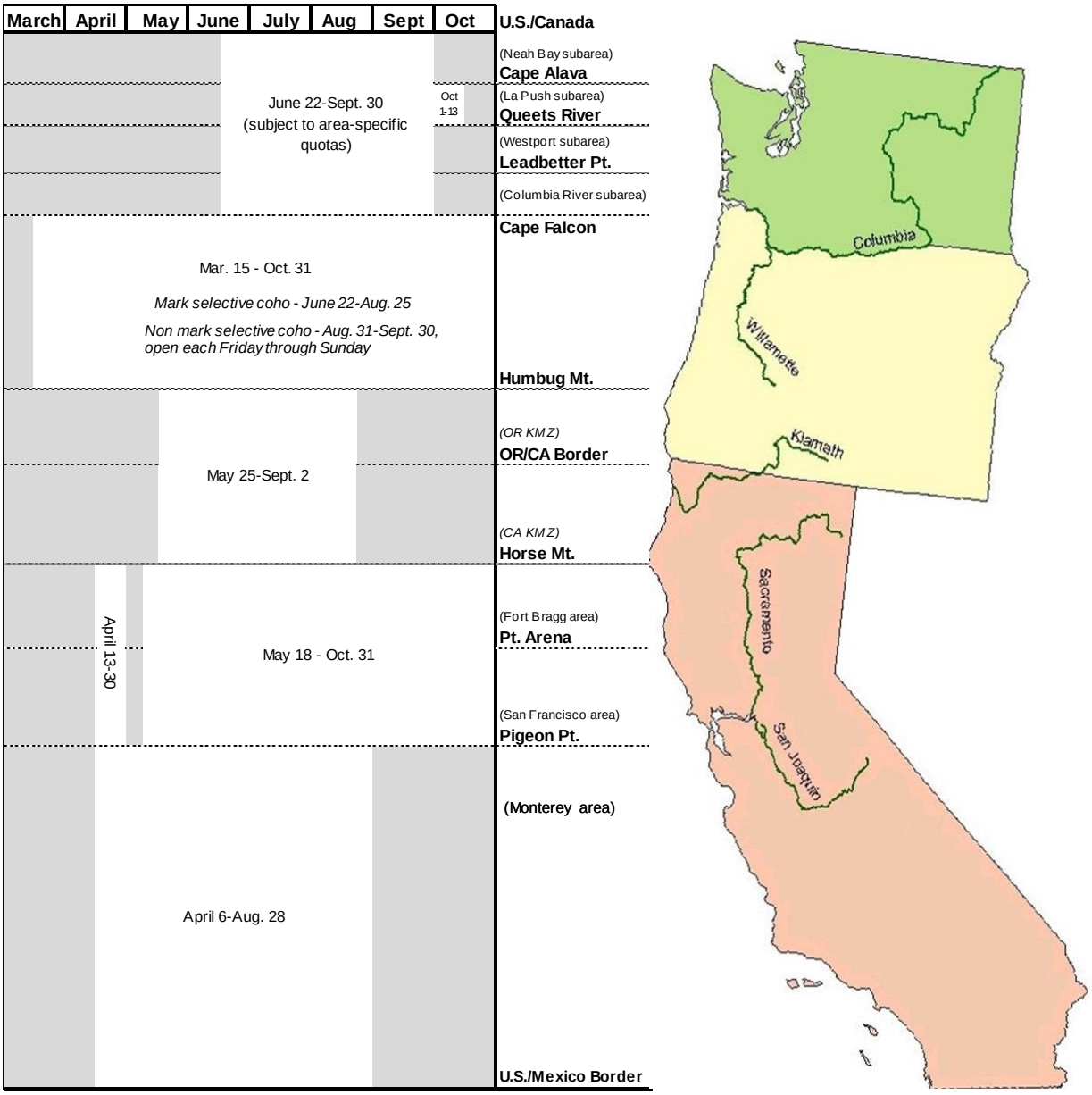


FIGURE 2. 2019 recreational salmon seasons – Council adopted.

TABLE 3. 2019 Treaty Indian ocean troll management measures for ocean salmon fisheries - Council adopted. (Page 1 of 2)

A. SEASON ALTERNATIVE DESCRIPTIONS

Supplemental Management Information

1. Overall Treaty-Indian TAC: 35,000 Chinook and 55,000 coho.

• May 1 through the earlier of June 30 or 17,500 Chinook quota.

All salmon may be retained except coho. If the Chinook quota is exceeded, the excess will be deducted from the later all-salmon season (C.5). See size limit (B) and other restrictions (C).

• July 1 through the earlier of September 15, or 17,500 Chinook quota or 55,000 coho quota

All salmon. See size limit (B) and other restrictions (C).

B. MINIMUM SIZE (INCHES)

	Chinook		Coho		
Area (when open)	Total Length	Head-off	Total Length	Head-off	Pink
North of Cape Falcon	24.0 (61.0 cm)	18.0 (45.7 cm)	16.0 (40.6 cm)	12.0 (30.5 cm)	None

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

C.1. Tribe and Area Boundaries. All boundaries may be changed to include such other areas as may hereafter be authorized by a Federal court for that tribe's treaty fishery.

S'KLALLAM - Washington State Statistical Area 4B (defined to include those waters of Puget Sound easterly of a line projected from the Bonilla Point light on Vancouver Island to the Tatoosh Island light, thence to the most westerly point on Cape Flattery and westerly of a line projected true north from the fishing boundary marker at the mouth of the Sekiu River [WAC 220-301-030]).

MAKAH - Washington State Statistical Area 4B and that portion of the FMA north of 48°02'15" N. lat. (Norwegian Memorial) and east of 125°44'00" W. long.

QUILEUTE - A polygon commencing at Cape Alava, located at latitude 48°10'00" north, longitude 124°43'56.9" west; then proceeding west approximately forty nautical miles at that latitude to a northwestern point located at latitude 48°10'00" north, longitude 125°44'00" west; then proceeding in a southeasterly direction mirroring the coastline at a distance no farther than forty nautical miles from the mainland Pacific coast shoreline at any line of latitude, to a southwestern point at latitude 47°31'42" north, longitude 125°20'26" west; then proceeding east along that line of latitude to the Pacific coast shoreline at latitude 47°31'42" north, longitude 124°21'9.0" west.

HOH - That portion of the FMA between 47°54'18" N. lat. (Quillayute River) and 47°21'00" N. lat. (Quinault River) and east of 125°44'00" W. long.

QUINAULT - A polygon commencing at the Pacific coast shoreline near Destruction Island, located at latitude 47°40'06" north, longitude 124°23'51.362" west; then proceeding west approximately thirty nautical miles at that latitude to a northwestern point located at latitude 47°40'06" north, longitude 125°08'30" west; then proceeding in a southeasterly direction mirroring the coastline no farther than thirty nautical miles from the mainland Pacific coast shoreline at any line of latitude, to a southwestern point at latitude 46°53'18" north, longitude 124°53'53" west; then proceeding east along that line of latitude to the pacific coast shoreline at latitude 46°53'18" north, longitude 124°7'36.6" west.

C.2. Gear restrictions
- a. Single point, single shank, barbless hooks are required in all fisheries.
- b. No more than eight fixed lines per boat.
- c. No more than four hand held lines per person in the Makah area fishery (Washington State Statistical Area 4B and that portion of the FMA north of 48°02'15" N. lat. (Norwegian Memorial) and east of 125°44'00" W. long.)

C.3. Quotas
- a. The quotas include troll catches by the S'Klallam and Makah Tribes in Washington State Statistical Area 4B from May 1 through September 15.
- b. The Quileute Tribe may continue a ceremonial and subsistence fishery during the time frame of October 1 through October 15 in the same manner as in 2004-2015. Fish taken during this fishery are to be counted against treaty troll quotas established for the 2019 season (estimated harvest during the October ceremonial and subsistence fishery: 20 Chinook; 40 coho).

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS *(continued)*

C.4. Area Closures

a. The area within a six nautical mile radius of the mouths of the Queets River (47°31'42" N. lat.) and the Hoh River (47°45'12" N. lat.) will be closed to commercial fishing.

b. A closure within two nautical miles of the mouth of the Quinault River (47°21'00" N. lat.) may be enacted by the Quinault Nation and/or the State of Washington and will not adversely affect the Secretary of Commerce's management regime.

C.5. Inseason Management: In addition to standard inseason actions or modifications already noted under the season description, the following inseason guidance is provided to NMFS:

a. Chinook remaining from the May through June treaty-Indian ocean troll harvest guideline north of Cape Falcon may be transferred to the July through September harvest guideline on a fishery impact equivalent basis.

TABLE 4. Chinook and coho harvest quotas and guidelines for 2019 ocean salmon fishery management measures - Council adopted.

Fishery or Quota Designation	Chinook	Coho
NORTH OF CAPE FALCON		
TREATY INDIAN OCEAN TROLL[a/]		
U.S./Canada Border to Cape Falcon (All Except Coho)	17,500	-
U.S./Canada Border to Cape Falcon (All Species)	17,500	55,000
Subtotal Treaty Indian Ocean Troll	35,000	55,000
NON-INDIAN COMMERCIAL TROLL[b/]		
U.S./Canada Border to Cape Falcon (All Except Coho)	13,200	-
U.S./Canada Border to Cape Falcon (All Species)	13,050	30,400
Subtotal Non-Indian Commercial Troll	26,250	30,400
RECREATIONAL		
U.S./Canada Border to Cape Alava[b/]	5,200	16,600
Cape Alava to Queets River[b/]	1,200	4,150
Queets River to Leadbetter Pt.[b/]	12,700	59,050
Leadbetter Pt. to Cape Falcon[b/c/]	7,150	79,800
Subtotal Recreational	26,250	159,600
TOTAL NORTH OF CAPE FALCON	87,500	245,000
SOUTH OF CAPE FALCON		
COMMERCIAL TROLL[a/]		
Humbug Mt. to OR/CA Border	6,900	-
OR/CA Border to Humboldt South Jetty	7,000	-
Subtotal Troll	13,900	-
RECREATIONAL		
Cape Falcon to OR/CA Border	-	99,000 [d/]
TOTAL SOUTH OF CAPE FALCON	13,900	99,000

a/ Quotas are non-mark selective for both Chinook and coho.

b/ Quotas are non-mark-selective for Chinook and mark-selective for coho.

c/ Does not include Buoy 10 fishery. Expected catch of 10,700 Chinook and 50,000 marked coho.

d/ The quota consists of both mark-selective and non-mark-selective quotas of 90,000 and 9,000, respectively.

TABLE 5. Projected key stock escapements (thousands of fish) or management criteria for 2019 ocean salmon fishery management measures - Council adopted.[a/] (Page 1 of 4)

Key Stock/Criteria	Projected	2019 Criteria	Spawner Objective or Other Comparative Standard as Noted[b/]
CHINOOK	**CHINOOK**		**CHINOOK**
PUGET SOUND:			
Elwha Summer/Fall	1.4%	≤ 10.0%	Southern U.S. exploitation rate (NMFS ESA consultation standard).
Dungeness Spring	1.2%	≤ 10.0%	Southern U.S. exploitation rate (NMFS ESA consultation standard).
Mid-Hood Canal Summer/Fall	11.8%	≤ 12.0%	Preterminal Southern U.S. exploitation rate (NMFS ESA consultation standard).
Skokomish Summer/Fall	48.2%	≤ 50.0%	Total exploitation rate (NMFS ESA consultation standard).
Nooksack Spring	10.5%	≤ 10.5%	Southern U.S. exploitation rate (NMFS ESA consultation standard).
	0.95	≤ 1.00	ISBM obligation applicable, as this stock lacks a CTC agreed escapement goal. Compliance assessed postseason by the PSC.
Skagit Summer/Fall	36.7%	--	Total exploitation rate.
	12.224	≥ 8.242	Aggregate Rebuilding abundance threshold NOR (NMFS ESA consultation standard).
	--	≤ 0.95	ISBM obligation not applicable, escapement goal expected to be met. Compliance assessed postseason by the PSC.
Skagit Spring	32.1%	--	Total exploitation rate.
	1.616	≥ 0.841	Aggregate Rebuilding abundance threshold NOR (NMFS ESA consultation standard).
	--	≤ 0.95	ISBM obligation not applicable, escapement goal expected to be met. Compliance assessed postseason by the PSC.
Stillaguamish Summer/Fall	18.0%	≤ 22.0%	Rebuilding exploitation rate (NMFS ESA consultation standard).
	0.53	≤ 1.00	ISBM obligation applicable, as this stock lacks a CTC agreed escapement goal. Compliance assessed postseason by the PSC.
Snohomish Summer/Fall	15.8%	≤ 20.0%	Rebuilding exploitation rate (NMFS ESA consultation standard).
	0.55	≤ 1.00	ISBM obligation applicable, as this stock lacks a CTC agreed escapement goal. Compliance assessed postseason by the PSC.
Lake Washington Summer/Fall	0.844	≥ 0.500	Natural-origin escapement in the Cedar River (NMFS ESA consultation standard).
Green River Summer/Fall	2.161	≥ 1.200	Natural-origin spawning escapement (NMFS ESA consultation standard).
White River Spring	16.7%	≤ 22.0%	Southern U.S. exploitation rate (NMFS ESA consultation standard).
Puyallup Summer/Fall	1.115	≥ 0.750	Natural-origin spawning escapement (NMFS ESA consultation standard).
Nisqually River Summer/Fall	47.0% (48.7%)	≤ 47.0% (49.0%)	Total exploitation rate, (additional 2% contingent on mark selective fishery plan for river; NMFS ESA consultation standard).
Puget Sound Spring	1.8%	≤ 3.0%	Exploitation rate in PFMC fisheries (NMFS ESA consultation standard).
Puget Sound Summer/Fall	4.7%	≤ 6.0%	Exploitation rate in PFMC fisheries (NMFS ESA consultation standard).

TABLE 5. Projected key stock escapements (thousands of fish) or management criteria for 2019 ocean fishery management measures - Council adopted. [a/] (Page 2 of 4)

Key Stock/Criteria	Projected	2019 Criteria	Spawner Objective or Other Comparative Standard as Noted [b/]
CHINOOK	**CHINOOK**		**CHINOOK**
WASHINGTON COAST:			
Hoko Fall	2.32	0.85	FMP MSY spawning escapement objective.
	2.4%	≤ 10.0%	Calendar year exploitation rate ISBM obligation. Compliance assessed postseason by the PSC.
Quillayute Fall	>3.0	3.0	FMP MSY spawning escapement objective.
	--	≤ 0.85	ISBM obligation not applicable, escapement goal expected to be met. Compliance assessed postseason by the PSC.
Hoh Fall	>1.2	1.2	FMP MSY spawning escapement objective.
	--	≤ 0.85	ISBM obligation not applicable, escapement goal expected to be met. Compliance assessed postseason by the PSC.
Queets Fall	>2.5	2.5	FMP MSY spawning escapement objective.
	--	≤ 0.85	ISBM obligation not applicable, escapement goal expected to be met. Compliance assessed postseason by the PSC.
Grays Harbor Fall	>13.3	13.3	FMP MSY spawning escapement objective.
	--	≤ 0.85	ISBM obligation not applicable, escapement goal expected to be met. Compliance assessed postseason by the PSC.
COLUMBIA RIVER:			
Columbia Upriver Brights	162.6	74.0	Minimum ocean escapement to attain 40.0 adults over McNary Dam, with normal distribution and no mainstem harvest. The management goal has been increased to 60.0 by Columbia River managers.
	--	≤ 0.85	ISBM obligation not applicable, escapement goal expected to be met. Compliance assessed postseason by the PSC.
Mid-Columbia Brights	66.4	14.9	Minimum ocean escapement to attain 7.9 for Little White Salmon egg-take, assuming average conversion and no mainstem harvest.
Columbia Lower River Hatchery Tules [e/]	55.1	25.0	Minimum ocean escapement to attain 14.8 adults for hatchery egg-take, with average conversion and no lower river mainstem or tributary harvest.
Columbia Lower River Natural Tules (threatened)	36.0%	≤ 38.0%	Total adult equivalent fishery exploitation rate (2019 NMFS ESA guidance).
Columbia Lower River Wild [c/] (threatened)	14.1	6.9	Minimum ocean escapement to attain MSY spawner goal of 5.7 for N. Lewis River fall Chinook (NMFS ESA consultation standard).
	--	≤ 0.85	ISBM obligation not applicable, escapement goal expected to be met. Compliance assessed postseason by the PSC.
Spring Creek Hatchery Tules	48.4	8.2	Minimum ocean escapement to attain 6.0 adults for Spring Creek Hatchery egg-take, assuming average conversion and no mainstem harvest.
Snake River Fall (threatened) SRFI	58.7%	≤ 70.0%	Of 1988-1993 base period exploitation rate for all ocean fisheries (NMFS ESA consultation standard).
Columbia Upriver Summers	36.3	29.0	Aggregate escapement to mouth of Columbia River (2019 NMFS guidance). Minimum ocean escapement to attain 12.1 adults over Rock Island Dam.

TABLE 5. Projected key stock escapements (thousands of fish) or management criteria for 2019 ocean fishery management measures - Council adopted.[a/] (Page 3 of 4)

Key Stock/Criteria	Projected	2019 Criteria	Spawner Objective or Other Comparative Standard as Noted[b/]
CHINOOK	**CHINOOK**		**CHINOOK**
OREGON COAST:			
Nehalem Fall	--	≤ 0.85	ISBM obligation not applicable, escapement goal expected to be met. Compliance assessed postseason by the PSC.
Siletz Fall	--	≤ 0.85	ISBM obligation not applicable, escapement goal expected to be met. Compliance assessed postseason by the PSC.
Siuslaw Fall	--	≤ 0.85	ISBM obligation applicable, escapement goal not expected to be met. Compliance assessed postseason by the PSC.
South Umpqua	--	≤ 0.85	ISBM obligation applicable, as this stock lacks a CTC agreed escapement goal. Compliance assessed postseason by the PSC.
Coquille	--	≤ 0.85	ISBM obligation applicable, as this stock lacks a CTC agreed escapement goal. Compliance assessed postseason by the PSC.
CALIFORNIA:			
Klamath River Fall	40.7	≥ 40.7	2019 minimum natural area adult escapement (FMP control rule).
Federally recognized tribal harvest	50.0%	50.0%	Equals 32.4 (thousand) adult fish for Yurok and Hoopa Valley tribal fisheries.
Exploitation (spawner reduction) rate	53.7%	≤ 53.7%	FMP control rule.
Adult river mouth return	97.9	NA	Total adults in thousands.
Age-4 ocean harvest rate	16.0%	≤ 16.0%	NMFS ESA consultation standard for threatened California Coastal Chinook.
KMZ sport fishery share	7.0%	NA	Includes 0.0 (thousand) adult fish impacted in the KMZ sport fishery during fall (Sept-Dec) 2018.
River recreational fishery share	23.6%	NA	Equals 7.6 (thousand) adult fish for recreational inriver fisheries.
Sacramento River Winter (endangered)	14.8%	≤ 15.7%	Age-3 ocean impact rate in fisheries south of Pt. Arena. In addition, the following season restrictions apply: Recreational- Pt. Arena to Pigeon Pt. between the first Saturday in April and the second Sunday in November; Pigeon Pt. to the U.S./Mexico border between the first Saturday in April and the first Sunday in October. Minimum size limit ≥ 20 inches total length. Commercial- Pt. Arena to the U.S./Mexico border between May 1 and September 30, except Pt. Reyes to Pt. San Pedro between October 1 and 15 (Monday-Friday). Minimum size limit ≥ 26 inches total length (NMFS 2019 ESA Guidance).
Sacramento River Fall	160.2	≥ 160.0	2019 minimum hatchery and natural area adult escapement (NMFS guidance).
Sacramento Index Exploitation Rate	57.8%	≤ 67.9%	FMP control rule.
Ocean commercial impacts	142.3	NA	Includes fall (Sept-Dec) 2018 impacts (6.2 thousand SRFC).
Ocean recreational impacts	48.9	NA	Includes fall 2018 impacts (7.7 thousand SRFC).
River recreational impacts	28.3	NA	Equals 12.9% of the total harvest.

TABLE 5. Projected key stock escapements (thousands of fish) or management criteria for 2019 ocean fishery management measures - Council adopted.[a/] (Page 4 of 4)

Key Stock/Criteria	Projected	2019 Criteria	Spawner Objective or Other Comparative Standard as Noted[b/]
COHO	**COHO**	**COHO**	**COHO**
Interior Fraser (Thompson River)	9.1%(5.3%)	≤ 10.0%	2019 Southern U.S. exploitation rate ceiling; PSC coho agreement.
Skagit	32.5%(4.8%)	≤ 35.0%	2019 total exploitation rate ceiling; FMP matrix[d/]
Stillaguamish	22.5%(3.4%)	≤ 50.0%	2019 total exploitation rate ceiling; FMP matrix[d/]
Snohomish	19.4%(3.4%)	≤ 40.0%	2019 total exploitation rate ceiling; FMP matrix[d/]
Hood Canal	44.3%(5.3%)	≤ 45.0%	2019 total exploitation rate ceiling; FMP matrix[d/]
Strait of Juan de Fuca	8.9%(4.2%)	≤ 20.0%	2019 total exploitation rate ceiling; FMP matrix[d/]
Quillayute Fall	13.7	6.3	FMP MSY adult spawner estimate. Value depicted is ocean escapement.
Hoh	5.8	2.0	FMP MSY adult spawner estimate. Value depicted is ocean escapement.
Queets Wild	9.1	5.8	FMP MSY adult spawner estimate. Value depicted is ocean escapement.
Grays Harbor	65.9	24.4	FMP MSY adult spawner estimate. Value depicted is ocean escapement.
Willapa Bay Natural	56.3	17.2	FMP MSY adult spawner estimate. Value depicted is ocean escapement.
Lower Columbia River Natural (threatened)	18.0%	≤ 23.0%	Total marine and mainstem Columbia R. fishery exploitation rate (NMFS ESA guidance).
Upper Columbia	63%	≥ 50%	Minimum percentage of the run to Bonneville Dam.
Columbia River Hatchery Early	340.5	77.2	Minimum ocean escapement to attain hatchery egg-take goal of 21.7 early adult coho, with average conversion and no mainstem or tributary fisheries.
Columbia River Hatchery Late	213.3	9.7	Minimum ocean escapement to attain hatchery egg-take goal of 6.4 late adult coho, with average conversion and no mainstem or tributary fisheries.
Oregon Coastal Natural	13.7%	≤ 15.0%	Marine and freshwater fishery exploitation rate (NMFS ESA consultation standard).
Southern Oregon/Northern California Coast (threatened)	5.8%	≤ 13.0%	Marine fishery exploitation rate for R/K hatchery coho (NMFS ESA consultation standard).

a/ Reflects 2019 fisheries and abundance estimates.

b/ ISBM obligation is assessed as a proportion of the 2009-2015 average calendar year exploitation rate. Ocean escapement is the number of salmon escaping ocean fisheries and entering freshwater with the following clarifications. Ocean escapement for Puget Sound stocks is the estimated number of salmon entering Area 4B that are available to U.S. net fisheries in Puget Sound and spawner escapement after impacts from the Canadian, U.S. ocean, and Puget Sound troll and recreational fisheries have been deducted. Numbers in parentheses represent Council area exploitation rates for Puget sound coho stocks. For Columbia River early and late coho stocks, ocean escapement represents the number of coho after the Buoy 10 fishery. Exploitation rates for LCN coho include marine and mainstem Columbia River impacts. Exploitation rates for OCN coho represent marine and freshwater impacts. Values reported for Klamath River fall Chinook are natural area adult spawners. Values reported for Sacramento River fall Chinook are hatchery and natural area adult spawners.

c/ Includes minor contributions from East Fork Lewis River and Sandy River.

d/ Annual management objectives may be different than FMP goals, and are subject to agreement between WDFW and the treaty tribes under U.S. District Court orders.

TABLE 6. Preliminary projections of Chinook and coho harvest impacts for 2019 ocean salmon fishery management measures - Council adopted. (Page 1 of 2)

Area and Fishery	Catch Projection	Bycatch Mortality[a/] Projection	Bycatch Projection[b/]	Observed in 2018 Catch	Observed in 2018 Bycatch Mortality
OCEAN FISHERIES:		**CHINOOK (thousands of fish)**			
NORTH OF CAPE FALCON					
Treaty Indian Ocean Troll	35.0	3.6	9.0	23.7	2.5
Non-Indian Commercial Troll	26.2	10.8	38.5	23.9	11.8
Recreational	26.2	4.3	22.4	10.6	1.8
CAPE FALCON TO HUMBUG MT.[c/]					
Commercial Troll	61.8	21.0	63.6	20.2	8.2
Recreational	7.6	1.2	4.8	2.7	0.2
HUMBUG MT. TO OR/CA BORDER[c/]					
Commercial Troll	8.1	2.7	8.3	3.9	1.9 [e/]
Recreational	3.7	0.6	2.3	1.6	0.5 [e/]
OR/CA BORDER TO HORSE MT.[d/]					
Commercial Troll	7.0	2.4	7.2	9.0	4.4 [e/]
Recreational	8.5	1.3	5.4	3.7	1.2 [e/]
HORSE MT. TO PT. ARENA					
Commercial Troll	68.5	23.2	70.5	10.6	4.9 [e/]
Recreational	6.8	1.1	4.4	5.6	1.0 [e/]
PT. ARENA TO PIGEON PT.					
Commercial Troll	64.9	22.0	66.8	39.5	15.5 [e/]
Recreational	35.0	5.5	21.4	72.0	10.8 [e/]
SOUTH OF PIGEON PT.					
Commercial Troll	27.4	9.3	28.2	19.4	1.8 [e/]
Recreational	10.6	1.7	6.5	5.7	0.6 [e/]
TOTAL OCEAN FISHERIES					
Commercial Troll	299.0	95.0	292.1	150.1	51.0
Recreational	98.5	15.6	67.3	101.9	16.1
INSIDE FISHERIES:					
Area 4B	-	-	-	-	-
Buoy 10	10.7	1.9	9.0	11.6	5.0 [e/]

TABLE 6. Preliminary projections of Chinook and coho harvest impacts for 2019 ocean salmon fishery management measures - Council adopted. (Page 2 of 2)

Area and Fishery	Catch Projection	Bycatch Mortality[a/] Projection	Bycatch Projection[b/]	Observed in 2018 Catch	Observed in 2018 Bycatch Mortality
OCEAN FISHERIES:		**COHO (thousands of fish)**			
NORTH OF CAPE FALCON					
Treaty Indian Ocean Troll[f/]	55.0	3.4	5.4	11.3	0.7
Non-Indian Commercial Troll	30.4	10.4	32.3	1.4	0.4
Recreational	159.6	24.8	101.1	41.8	11.3
SOUTH OF CAPE FALCON					
Commercial Troll	-	11.4	43.8	-	1.9
Recreational[f/]	99.0	20.1	88.2	18.5	9.4
TOTAL OCEAN FISHERIES					
Commercial Troll	85.4	25.2	81.5	12.7	3.0
Recreational	258.6	44.9	189.3	60.3	20.7
INSIDE FISHERIES:					
Area 4B	-	-	-	-	-
Buoy 10	50.0	8.7	32.7	6.8	1.5 [e/]

a/ The bycatch mortality reported in this table consists of drop-off mortality (includes predation on hooked fish) plus hook-and-release mortality of Chinook and coho salmon in Council-area fisheries. Drop-off mortality for both Chinook and coho is assumed to be equal to 5% of total encounters. The hook-and-release mortality (HRM) rates used for both Chinook and coho are:

Commercial: 26%.

Recreational, north of Pt. Arena: 14%.

Recreational, south of Pt. Arena: 15% (based on the expected proportion of fish that will be caught using mooching versus trolling gear, and the HRMs of 42.2% and 14% for these two respective gear types).

b/ Bycatch calculated as dropoff mortality plus fish released.

c/ Includes Oregon territorial water, late season Chinook fisheries.

d/ The commecial fishery in this area is closed between Humboldt South Jetty and Horse Mountain.

e/ Based on reported released Chinook or coho. Reported releases in California fisheries are used as a surrogate in Oregon fisheries.

f/ Includes fisheries that allow retention of all legal sized coho.

TABLE 7. Expected coastwide lower Columbia Natural (LCN), Oregon coastal natural (OCN), and Rogue/Klamath (RK) coho, and Lower Columbia River (LCR) natural tule Chinook exploitation rates by fishery for 2019 ocean salmon fisheries - Council adopted.

	Exploitation Rate (Percent)			
Fishery	LCN Coho	OCN Coho	RK Coho	LCR Tule
SOUTHEAST ALASKA	0.0%	0.0%	0.0%	1.6%
BRITISH COLUMBIA	0.2%	0.5%	0.3%	11.9%
PUGET SOUND/STRAIT/BAY	0.1%	0.0%	0.0%	0.7%
NORTH OF CAPE FALCON				
Treaty Indian Ocean Troll	2.7%	0.6%	0.0%	2.0%
Recreational	5.0%	0.9%	0.1%	4.5%
Non-Indian Troll	1.5%	0.3%	0.0%	5.3%
SOUTH OF CAPE FALCON				
Recreational:				0.2%
Cape Falcon to Humbug Mt.	3.4%	7.0%	0.4%	
Humbug Mt. to OR/CA border (KMZ)	0.1%	0.4%	0.8%	
OR/CA border to Horse Mt. (KMZ)	0.0%	0.3%	1.1%	
Fort Bragg	0.0%	0.2%	0.6%	
South of Pt. Arena	0.0%	0.1%	0.2%	
Troll:				1.5%
Cape Falcon to Humbug Mt.	0.7%	0.9%	0.2%	
Humbug Mt. OR/CA border (KMZ)	0.0%	0.1%	0.2%	
OR/CA border to Horse Mt. (KMZ)	0.0%	0.2%	0.8%	
Fort Bragg	0.0%	0.4%	1.0%	
South of Pt. Arena	0.0%	0.3%	0.2%	
BUOY 10	1.8%	0.1%	-	8.2%
ESTUARY/FRESHWATER	2.4%	1.4%	-	
TOTAL	18.0%	13.7%	5.8%	36.0%

TABLE 8. 2019 projected coho mark rates for mark-selective fisheries under Council adopted management measures (percent marked).

Area	Fishery	June	July	August	September
Canada					
Johnstone Strait	Recreational	50%	45%	38%	--
West Coast Vancouver Island	Recreational	58%	43%	46%	45%
North Georgia Strait	Recreational	57%	59%	58%	53%
South Georgia Strait	Recreational	30%	62%	48%	59%
Juan de Fuca Strait	Recreational	58%	58%	58%	52%
Johnstone Strait	Troll	--	--	--	--
NW Vancouver Island	Troll	48%	43%	41%	23%
SW Vancouver Island	Troll	49%	51%	49%	51%
Georgia Strait	Troll	--	--	--	--
Puget Sound					
Strait of Juan de Fuca (Area 5)	Recreational	67%	60%	56%	58%
Strait of Juan de Fuca (Area 6)	Recreational	67%	59%	59%	54%
San Juan Island (Area 7)	Recreational	--	61%	--	40%
North Puget Sound (Areas 6 & 7A)	Net	--	67%	58%	46%
Council Area					
Neah Bay (Area 4/4B)	Recreational	47%	62%	55%	57%
LaPush (Area 3)	Recreational	70%	64%	72%	54%
Westport (Area 2)	Recreational	77%	72%	65%	61%
Columbia River (Area 1)	Recreational	81%	81%	71%	72%
Tillamook	Recreational	73%	66%	61%	56%
Newport	Recreational	68%	64%	60%	45%
Coos Bay	Recreational	66%	62%	53%	39%
Brookings	Recreational	63%	50%	41%	15%
Neah Bay (Area 4/4B)	Troll	53%	59%	56%	56%
LaPush (Area 3)	Troll	48%	59%	57%	58%
Westport (Area 2)	Troll	66%	63%	62%	52%
Columbia River (Area 1)	Troll	76%	74%	67%	59%
Tillamook	Troll	63%	62%	65%	54%
Newport	Troll	65%	63%	60%	56%
Coos Bay	Troll	65%	62%	56%	40%
Brookings	Troll	58%	53%	54%	--
Columbia River					
Buoy 10	Recreational	--	--	--	66%

TABLE 9. Preliminary projected exvessel value by catch area under Council-adopted 2019 non-Indian commercial troll management measures compared with 2018 and the 2014-2018 average (inflation-adjusted 2018 dollars).

	Exvessel Value (thousands of dollars)[a/]				
				Percent Change	
Management Area	2019 Projected[b/]	2018	2014-2018 Average	From 2018 (Modeled)	From 2014-2018 Average
North of Cape Falcon	3,138	2,371	3,240	+32%	-3%
Cape Falcon to Humbug Mt.	5,901	1,908	5,497	+209%	+7%
Humbug Mt. to OR/CA Border (OR KMZ)	924	441	432	+109%	+114%
OR/CA Border to Horse Mt. (CA KMZ)	559	709	154	-21%	+263%
Horse Mt. to Pt. Arena (Fort Bragg)	5,514	848	2,591	+550%	+113%
Pt. Arena to Pigeon Pt. (SF)	6,504	3,918	3,960	+66%	+64%
South of Pigeon Pt. (MO)	3,416	2,390	1,439	+43%	+137%
Total South of Cape Falcon	22,818	10,213	14,073	+123%	+62%
West Coast Total	25,956	12,584	17,312	+106%	+50%

a/ Exvessel value estimates are not comparable to the community income impacts shown in Table 10.
b/ 2019 projections are based on expected catches in the Council management areas, 2018 exvessel prices and 2018 average weight per fish.

TABLE 10. Preliminary projected angler trips and associated state level personal income impacts under Council-adopted 2019 recreational ocean salmon fishery management measures compared to estimated 2018 and the 2014-2018 average.

					Coastal Community Income Impacts[a/]					
	Angler Trips (thousands)				(thousands of dollars)[b/]				Percent Change in Income Impacts	
Management Area	2019 Projected	2018	2014-2018 Avg.	2003-2007 Avg.	2019 Projected	2018	2014-2018 Avg.	2007 Avg.[b/]	Compared to 2018	Compared to 2014-2018 Avg.
North of Cape Falcon	155.9	55.7	80.1	105.6	27,831	9,940	15,370	11,533	+180%	+81%
Cape Falcon to Humbug Mt.	70.5	49.1	50.4	75.5	6,886	4,801	5,001	5,011	+43%	+38%
Humbug Mt. to OR/CA Border (OR KMZ)	14.1	7.0	7.8	13.5	1,827	584	693	671	+213%	+164%
OR/CA Border to Horse Mt. (CA KMZ)	18.3	7.4	9.2	19.1	2,370	1,282	1,708	1,105	+85%	+39%
Horse Mt. to Pt. Arena (Fort Bragg)	17.5	9.9	10.7	23.3	3,745	2,114	2,321	2,025	+77%	+61%
Pt. Arena to Pigeon Pt. (SF)	62.0	65.3	52.8	72.4	18,849	21,692	17,904	9,041	-13%	+5%
South of Pigeon Pt. (MO)	32.6	13.9	15.9	36.7	9,915	2,365	2,907	3,276	+319%	+241%
Total South of Cape Falcon	215.0	152.6	146.7	240.6	43,593	32,839	30,535	21,128	+33%	+43%
West Coast Total	370.8	208.2	226.8	346.2	71,424	42,779	45,904	32,661	+67%	+56%

a/ Income impacts are not comparable to exvessel values shown in Table 9.
b/ Dollar amounts are in inflation-adjusted 2018 values.

TABLE 11. Environmental effects of the Proposed Action relative to criteria and Alternatives analyzed in Preseason Reports I and II.[a/] (Page 1 of 2)

Environmental Component	No-Action Alternative[b/]	Alternative I	Alternative II	Alternative III	Proposed Action	2019 Criteria	Objective or Other Comparative Standard as Noted
Chinook							
KRFC Spawning Escapement	58,729	40,700	40,700	45,000	40,700	≥ 40,700	2019 minimum natural area adult escapement.
Exploitation (spawner reduction) rate	33.2%	53.7%	53.7%	48.8%	53.7%	≤ 53.7%	FMP control rule.
SRFC Spawning Escapement	230,486	**152,272**	163,939	180,085	160,159	≥ 160,000	2019 minimum hatchery and natural area adult escapement (2019 NMFS guidance).
Exploitation Rate	39.3%	59.9%	56.8%	52.6%	57.8%	≤ 67.9%	FMP control rule.
Canadian Stocks							
Interior Fraser Coho	7.5%	**11.0%(6.3%)**	**10.1%(5.4%)**	7.7%(3.0%)	9.1%(5.3%)	≤ 10.0%	2019 Southern U.S. exploitation rate ceiling; PSC coho agreement.
Puget Sound Coho							
Skagit	8.6%	33.8%(5.7%)	33.2%(4.9%)	31.4%(2.7%)	32.5%(4.8%)	≤ 35.0%	2019 total exploitation rate ceiling; FMP matrix[c/]
Stillaguamish	8.1%	32.5%(4.1%)	31.9%(3.4%)	30.5%(1.9%)	22.5%(3.4%)	≤ 50.0%	2019 total exploitation rate ceiling; FMP matrix[c/]
Snohomish	19.5%	33.7%(4.1%)	33.1%(3.4%)	31.6%(1.9%)	19.4%(3.4%)	≤ 40.0%	2019 total exploitation rate ceiling; FMP matrix[c/]
Hood Canal	41.5%	**48.8%(6.3%)**	**48.2%(5.4%)**	**46.8%(2.9%)**	44.3%(5.3%)	≤ 45.0%	2019 total exploitation rate ceiling; FMP matrix[c/]
Strait of Juan de Fuca	5.3%	9.6%(5.0%)	8.9%(4.3%)	7.0%(2.4%)	8.9%(4.2%)	≤ 20.0%	2019 total exploitation rate ceiling; FMP matrix[c/]
Washington Coastal Coho (in thousands of fish)							
Quillayute Fall Coho	10.2	13.6	13.7	14.1	13.7	6.3	For all Washington Coastal coho stocks listed:
Hoh Coho	5.3	5.6	5.8	6.2	5.8	2.0	FMP MSY adult spawner estimate.
Queets Wild Coho	6.1	8.9	9.1	9.7	9.1	5.8	Value depicted is ocean escapement.
Grays Harbor Coho	40.3	65.3	66.1	68.1	65.9	24.4	
Willapa Bay Natural Coho	19.1	55.5	56.3	58.5	56.3	17.2	
ESA-Listed Salmon							
California Coastal Chinook	10.2%	15.9%	16.0%	15.3%	16.0%	≤ 16.0%	KRFC age-4 ocean harvest rate.
SRWC	9.1%	15.7%	15.6%	13.5%	14.8%	≤ 15.7%	SRWC age-3 ocean impact rate in fisheries south of Pt. Arena.
LCR Natural Tule Chinook	NA	**39.2%**	36.7%	34.8%	36.0%	≤ 38.0%	Total adult equivalent fishery exploitation rate.
LCN Coho[d/]	14.2%	18.5%	16.6%	12.6%	18.0%	≤ 23.0%	Total marine and mainstem Columbia fishery exploitation rate. (2019 NMFS ESA guidance).
OCN coho[d/]	13.9%	14.6%	13.0%	10.4%	13.7%	≤ 15.0%	Marine and freshwater fishery exploitation rate (NMFS ESA consultation standard).
SONCC (RK) coho	4.7%	5.8%	5.8%	6.2%	5.8%	≤ 13.0%	Marine fishery exploitation rate for R/K hatchery coho (NMFS ESA consultation standard).

TABLE 11. Environmental effects of the Proposed Action relative to criteria and Alternatives analyzed in Preseason Reports I and II.[a/] (Page 2 of 2)

Environmental Component	No-Action Alternative[b/]	Alternative I	Alternative II	Alternative III	Proposed Action
Socioeconomics					
Commercial Community Personal Income Impacts (thousands of dollars)					
North of Cape Falcon	3,270	5,179	4,444	3,187	4,274
Cape Falcon to Humbug Mt.	2,444	7,787	5,155	5,259	7,419
Humbug to OR/CA border (OR KMZ)	428	1,033	766	599	980
OR/CA border to Horse Mt. (CA KMZ)	813	590	816	1,633	635
Horse Mt. to Pt. Arena (Fort Bragg)	1,058	5,780	6,856	6,064	6,780
Pt. Arena to Pigeon Pt. (San Francisco)	9,775	18,391	14,351	10,329	15,542
South of Pigeon Pt. (Monterey)	1,269	1,676	1,851	1,832	1,795
West Coast Total	19,057	40,435	34,240	28,902	37,425
Recreational Community Personal Income Impacts (thousands of dollars)					
North of Cape Falcon	9,940	29,636	27,288	16,566	27,831
Cape Falcon to Humbug Mt.	4,801	7,034	6,123	7,132	6,886
Humbug to OR/CA border (OR KMZ)	584	1,775	1,872	1,827	1,827
OR/CA border to Horse Mt. (CA KMZ)	1,282	2,425	2,389	2,370	2,370
Horse Mt. to Pt. Arena (Fort Bragg)	2,114	3,978	3,978	3,340	3,745
Pt. Arena to Pigeon Pt. (San Francisco)	21,692	20,029	20,029	16,909	18,849
South of Pigeon Pt. (Monterey)	2,365	9,915	9,812	9,744	9,915
West Coast Total	42,779	74,792	71,492	57,888	71,424

a/ Impacts assumed when Alternatives were adopted in March may have changed due to updated information from the PSC, North of Falcon process, or other sources.

b/ Socioeconomic impacts under the No-Action Alternative are assumed equal to 2018 estimates.

c/ Annual management objectives may be different than FMP goals, and are subject to agreement between WDFW and the treaty tribes under U.S. District Court orders. Values in parentheses indicate impacts in Council-area fisheries.

d/ Includes projected impacts of inriver fisheries.

TABLE 12. Stock status relative to overfished and overfishing criteria. A stock is approaching an overfished condition if the 3-year geometric mean of the most recent two years and the forecasted spawning escapement is less than the minimum stock size threshold (MSST); a stock would experience overfishing if the total annual exploitation rate exceeds the maximum fishing mortality threshold (MFMT). Occurrences of stocks approaching an overfished condition, or experiencing overfishing, are indicated in bold. 2019 spawning escapement and exploitation rate estimates are based on 2019 preseason abundance forecasts and 2019 adopted Council regulations.

	Estimated Adult Spawning Escapement									Total Exploitation Rate						
	2014	2015	2016	2017	2018[a/]	Forecast 2019[b/]	3-yr Geo Mean	MSST	S_{MSY}	2014	2015	2016	2017	2018[a/]	2019[b/]	MFMT
Chinook																
Sacramento Fall	212,468	114,085	89,699	42,714	105,739	160,159	89,767	91,500	122,000	0.61	0.55	0.56	0.68	0.53	0.58	0.78
Klamath River Fall	95,104	28,112	13,937	19,904	53,624	40,700	35,153	30,525	40,700	0.36	0.59	0.37	0.10	0.28	0.54	0.71
Southern Oregon[c/]	53,546	30,462	27,278	91,977	39,497	NA	46,276	20,500	34,992	NA	NA	NA	NA	NA	NA	0.54
Central and Northern OR	157	247	118	114	92	NA	107	30 fish/mi	60 fish/mi	0.43	0.42	0.47	NA	NA	NA	0.78
Upper Columbia Bright - Fall[d/]	233,934	323,276	151,373	97,789	58,540	63,864	71,504	19,182	39,625	0.53	0.40	0.51	NA	NA	NA	0.86
Upper Columbia - Summer[d/]	77,982	88,691	79,253	56,265	38,816	33,452	41,805	6,072	12,143	0.69	0.67	0.63	NA	NA	NA	0.75
Willapa Bay - Fall[e/]	2,075	2,824	1,887	3,078	NA	NA	2,541	1,696	3,393	0.57	0.47	0.59	NA	NA	NA	0.78
Grays Harbor Fall[e/]	11,893	17,305	11,248	17,145	NA	NA	14,944	5,694	13,326	0.57	0.47	0.59	NA	NA	NA	0.78
Grays Harbor Spring	1,583	1,841	926	1,384	493	NA	858	700	1,400	NA	NA	NA	NA	NA	NA	0.78
Queets - Fall[d/]	3,820	5,313	2,915	2,702	NA	NA	3,472	1,250	2,500	0.57	0.47	0.59	NA	NA	NA	0.87
Queets - Sp/Su	377	532	704	NA	NA	NA	521	350	700	NA	NA	NA	NA	NA	NA	0.78
Hoh - Fall[e/]	1,933	1,795	2,831	1,808	NA	NA	2,094	600	1,200	0.57	0.47	0.59	NA	NA	NA	0.90
Hoh Sp/Su	744	1,070	1,144	1,364	NA	NA	1,186	450	900	NA	NA	NA	NA	NA	NA	0.78
Quillayute - Fall[e/]	2,782	3,440	3,654	3,604	4,031	NA	3,758	1,500	3,000	0.57	0.47	0.59	NA	NA	NA	0.87
Quillayute - Sp/Su	608	794	900	1,097	1,232	NA	1,067	600	1,200	NA	NA	NA	NA	NA	NA	0.78
Hoko -Su/Fa[d/]	1,760	2,877	1,324	1,188	2,179	NA	1,508	425	850	0.42	0.30	0.30	NA	NA	NA	0.78
Coho																
Willapa Bay	47,154	10,790	25,290	9,091	NA	40,750	21,081	8,600	17,200	0.51	0.44	0.38	0.33	NA	0.42	0.74
Grays Harbor	105,039	21,278	38,595	26,907	NA	41,582	35,083	18,320	24,426	0.45	0.49	0.12	0.32	NA	0.42	0.65
Queets	7,558	2,028	5,156	5,232	NA	6,729	5,662	4,350	5,800	0.41	0.26	0.15	0.23	NA	0.40	0.65
Hoh	4,565	1,794	5,009	4,478	NA	3,180	4,147	1,890	2,520	0.52	0.39	0.08	0.43	NA	0.55	0.65
Quillayute Fall	7,425	2,571	9,630	7,474	5,157	7,271	6,544	4,725	6,300	0.57	0.47	0.18	0.42	NA	0.51	0.59
Juan de Fuca	11,488	3,859	8,435	5,530	NA	8,044	7,213	7,000	11,000	0.17	0.18	0.03	0.06	NA	0.09	0.60
Hood Canal	26,787	26,926	24,313	22,519	NA	22,415	23,066	10,750	14,350	**0.68**	0.59	0.40	0.35	NA	0.44	0.65
Skagit	24,820	5,794	35,822	20,184	NA	39,317	30,520	14,875	25,000	0.52	**0.63**	0.20	0.09	NA	0.33	0.60
Stillaguamish	35,829	2,914	13,048	6,099	NA	18,488	11,374	6,100	10,000	0.27	0.48	0.16	0.12	NA	0.23	0.50
Snohomish	46,244	12,804	44,141	18,195	NA	50,564	34,373	31,000	50,000	0.31	0.55	0.18	0.21	NA	0.19	0.60

a/ Preliminary.

b/ Preliminary approximations based on preseason forecasts and Council adopted (preseason) fishing regulations.

c/ MSST 18,440 (20,500 as measured at Huntley Park).

d/ CWT based exploitation rates from PSC-CTC 2018 Exploitation Rate Analysis.

e/ Queets River fall Chinook CWT exploitation rates used as a proxy. Exploitation rates in the terminal fisheries will differ from those calculated for Queets fall CWTs.

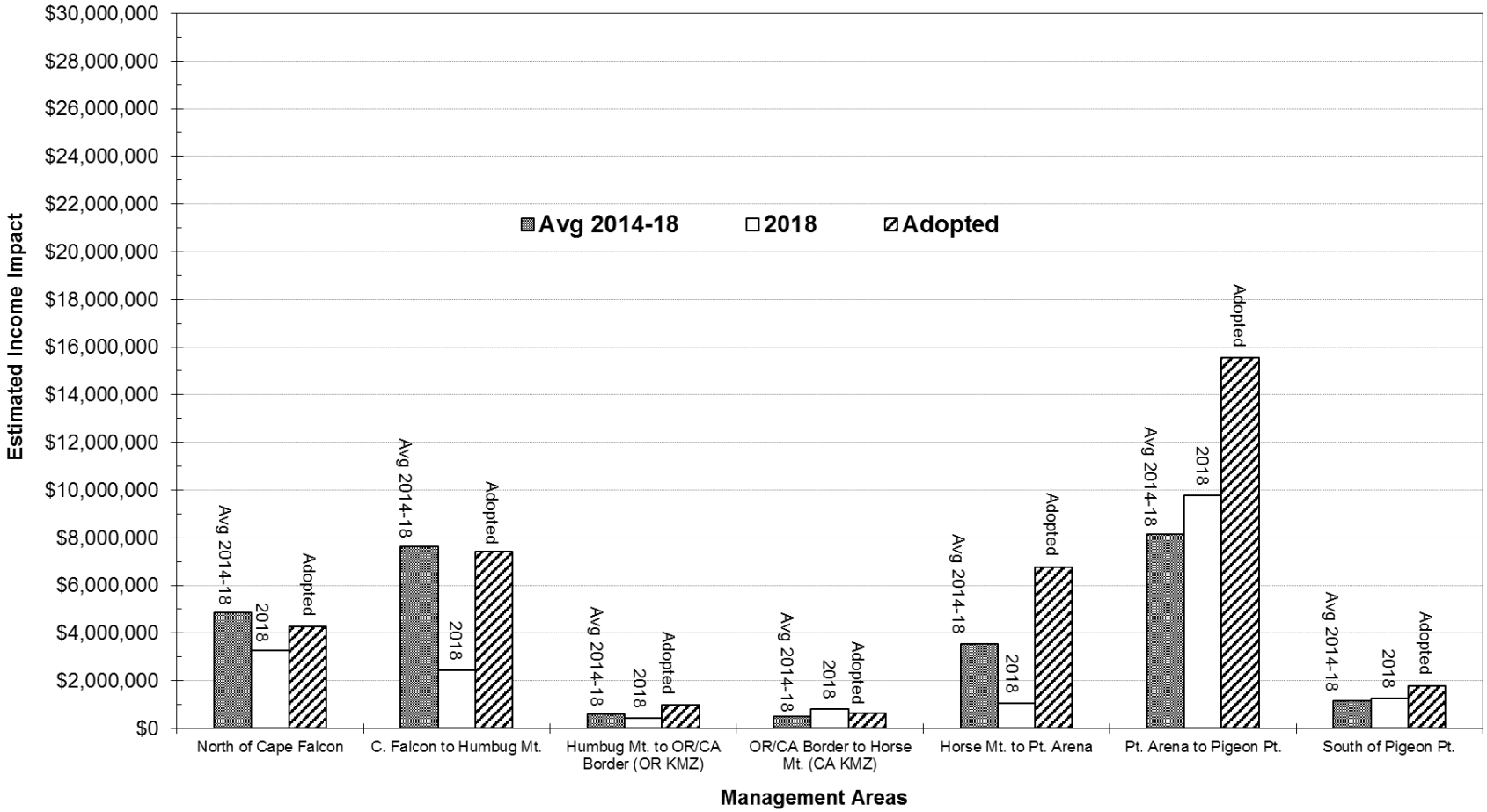


FIGURE 3. Projected coastal community personal income impacts associated with the 2019 commercial troll fishery under Council-adopted management measures compared to estimated 2018 and the 2014-2018 inflation-adjusted average (in 2018 dollars).

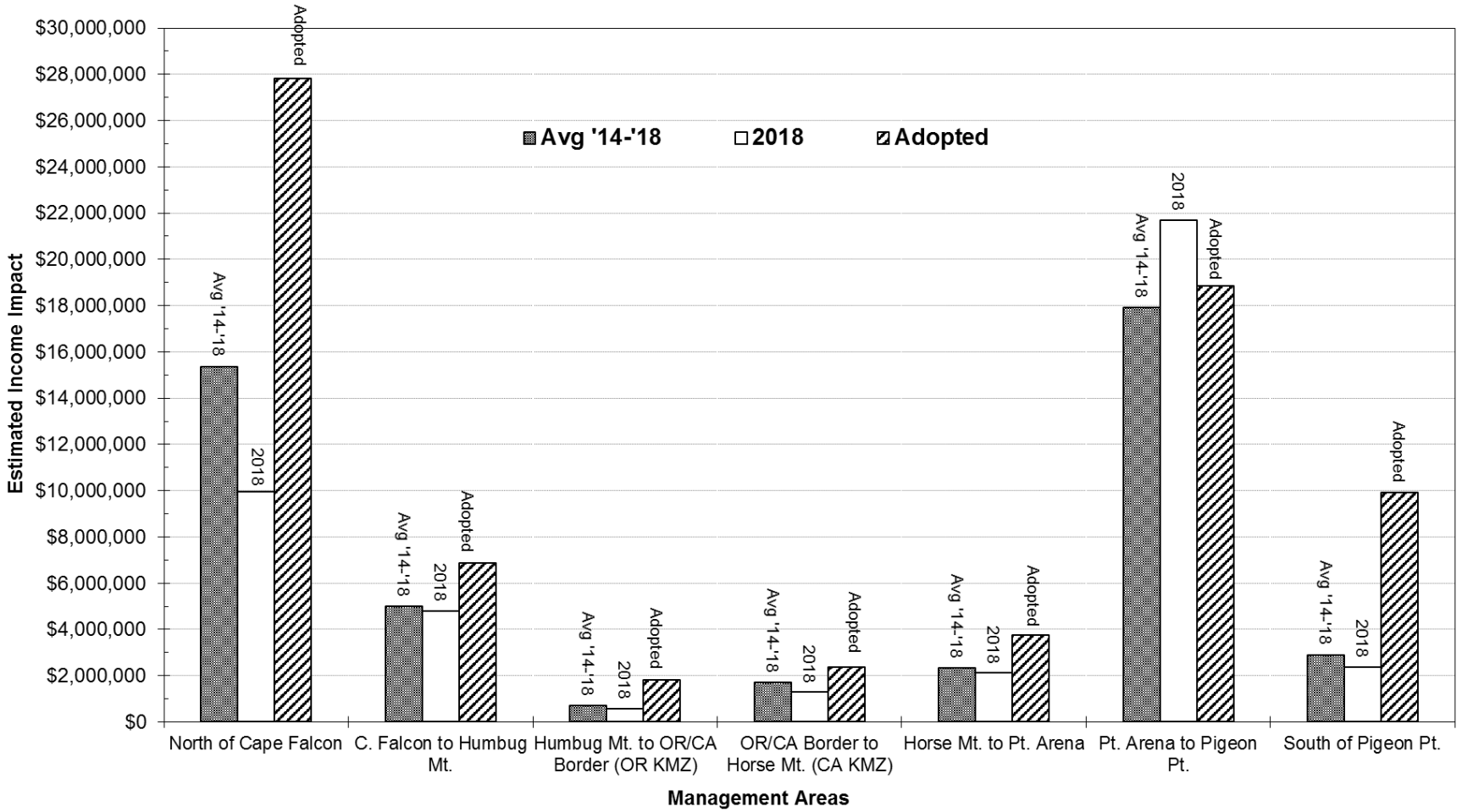
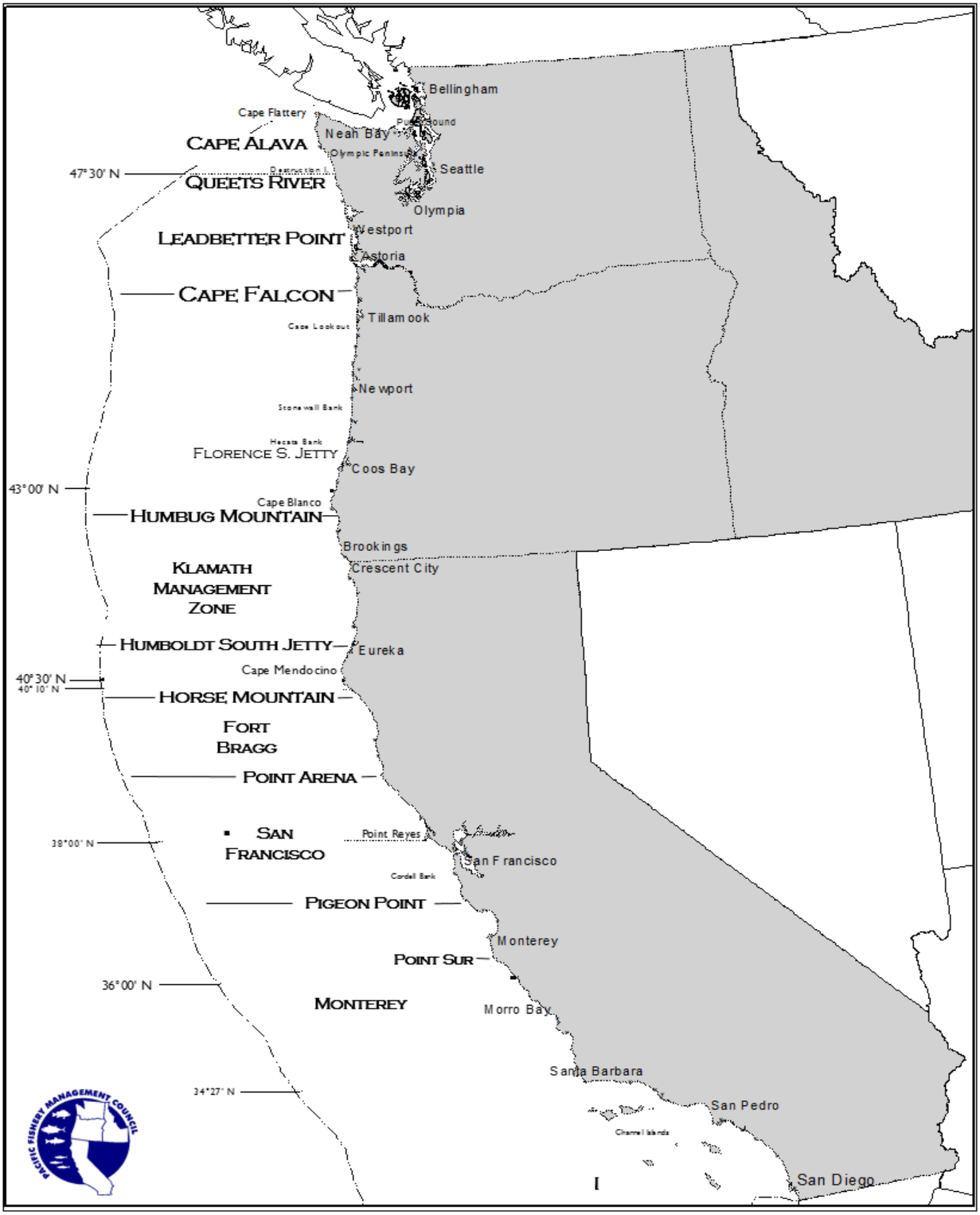


FIGURE 4. Projected coastal community personal income impacts associated with the 2019 recreational fishery under Council-adopted management measures compared to estimated 2018 and the 2014-2018 inflation-adjusted average (in 2018 dollars).



This map is for reference only and is not intended for use in navigation or fishery regulation.