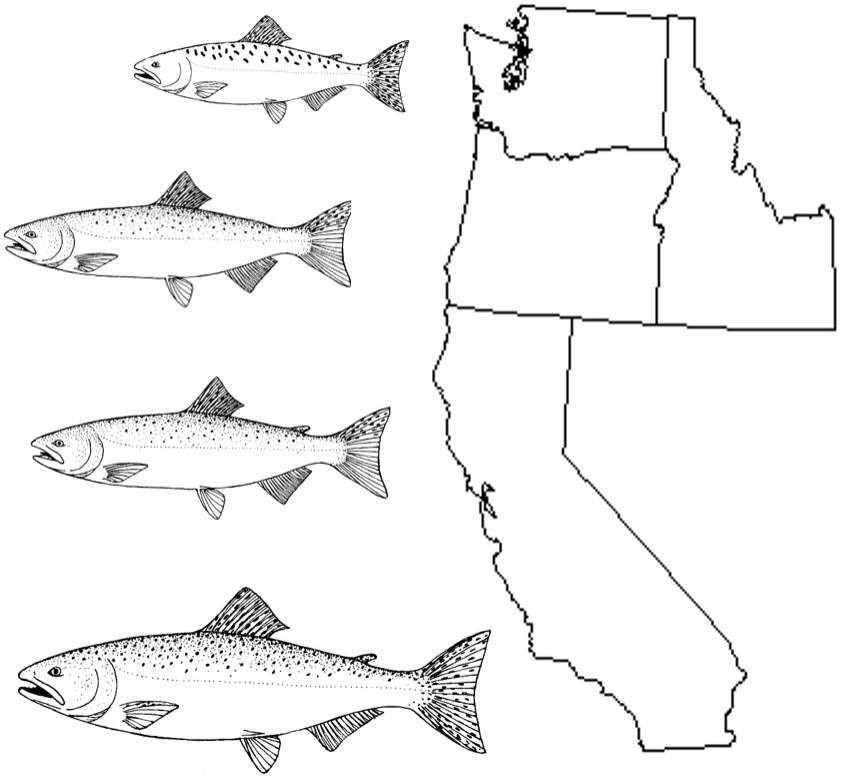
PRESEASON REPORT III

COUNCIL ADOPTED MANAGEMENT MEASURES
AND
ENVIRONMENTAL ASSESSMENT PART 3
FOR
2021 OCEAN SALMON FISHERY REGULATIONS

REGULATION IDENTIFIER NUMBER 0648-BJ97



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LIST OF ACRONYMS AND ABBREVIATIONS

AABM	Aggregate Abundance Based Management
ABC	Acceptable Biological Catch
ACL	Annual Catch Limit(s)
AI	Abundance Index
BO	biological opinion
CDFW	California Department of Fish and Wildlife
Council	Pacific Fishery Management Council
CPUE	catch per unit effort
CYER	Calendar year exploitation rate
EA	Environmental Assessment
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
NBC	Northern British Columbia
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
ODFW	Oregon Department of Fish and Wildlife
OCN	Oregon coastal natural (coho)
OFL	Overfishing Limit
OPI	Oregon Production Index
PSC	Pacific Salmon Commission
PST	Pacific Salmon Treaty
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])
SEAK	Southeast Alaska
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)
TAC	Total Allowable Catch
WCVI	West Coast Vancouver Island
WDFW	Washington Department of Fish and Wildlife

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) to document and help guide salmon ocean fishery management off the coasts of Washington, Oregon, and California. This report describes the Council's 2021 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 2021 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; PFMC 2021a) presented a description of the affected environment relevant to the alternative management measures considered for 2021 ocean salmon fisheries, a description of the Alternatives, and an analysis of the environmental consequences of the Alternatives. The first part of the EA (Preseason Report I; PFMC 2021b) included a statement of the purpose and need, a summary description of the affected environment, a description of the No-Action Alternative, and an analysis of the No-Action Alternative effects on the salmon stocks included in the Council's 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 2021 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 natural coho, Strait of Juan de Fuca natural coho, and Snohomish natural coho salmon stocks were classified as overfished in 2018, and the Council adopted rebuilding plans for all five stocks in 2019. In 2021 Sacramento River fall Chinook met the criteria for rebuilt status and Snohomish coho met the criteria for not overfished/rebuilding. Klamath River fall Chinook, Queets natural coho, and Strait of Juan de Fuca coho remain overfished.

2.0 SELECTION OF FINAL MANAGEMENT MEASURES

The following figures and tables describe the Council-adopted management measures covering the period from May 16, 2021 through May 15, 2022 unless modified inseason:

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 2021 seasons are constrained primarily by: (1) Klamath River Fall Chinook south of Cape Falcon, and (2) lower Columbia River natural tule Chinook, Puget Sound Chinook, and Washington coastal coho 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 2021-2022 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 and size 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, 2022, if necessary to meet 2022 management objectives.
8. Closing or postponing California recreational fisheries scheduled to open April 2 or May 1, 2022, or commercial fisheries scheduled to open April 16 or May 1, 2022, if necessary to meet 2022 management objectives.
9. Closing or postponing commercial fisheries north of Cape Falcon scheduled to open May 1, 2022, if necessary to meet 2022 management objectives.
10. 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 Tribal and state 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 typically include commercial and recreational fisheries at the mouths of the Chetco, Elk, and other rivers, although none are planned for 2021. 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 2021.

3.0 SALMON FISHERY MANAGEMENT PLAN REQUIREMENTS

The Council's Salmon 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 Council area and impacted by Council area ocean fisheries are listed in Table 3-1 of the Salmon 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 Salmon FMP. These requirements include Endangered Species Act (ESA) consultation standards, international treaties, and Tribal trust responsibilities. The Salmon FMP defers to NMFS consultation standards for salmon stocks listed under the ESA in regard 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 Salmon 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 Tables 5 and 12.

Treaty trust responsibilities of the Salmon FMP require the Council to abide by 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 allow the Council to complete final management measure recommendations while meeting its biological, administrative, and allocation objectives.

The Columbia River treaty tribes establish periodic management agreements with the state co-managers 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 Klamath River fall Chinook (KRFC) harvest, which is calculated as a harvest of KRFC equal to that taken in all non-Indian 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,

there are sharing formulas between commercial and recreational sectors, and among recreational port subareas; the recreational subarea sharing formula may be modified with the support of recreational port representatives. North of Falcon recreational subarea sharing was developed with the support of port area representatives, and all other sharing of Chinook and coho quotas adhered to FMP sharing formulas or other provisions of the FMP. Therefore, 2021 salmon management measures adopted by the Council meet all allocation requirements.

4.0 SPECIES LISTED UNDER THE ENDANGERED SPECIES ACT

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

Species	ESU	Status	Federal Register Notice			
			Most Recent		Original Listing	
Chinook Salmon (*O. tshawytscha*)	Sacramento River Winter	Endangered	83 FR 18233	4/26/2018	54 FR 32085	8/1/1989
	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 Salmon (*O. keta*)	Hood Canal Summer-Run	Threatened	76 FR 50448	8/15/2011	64 FR 14508	3/25/1999
	Columbia River	Threatened	76 FR 50448	8/15/2011	64 FR 14508	3/25/1999
Coho Salmon (*O. kisutch*)	Central California Coastal	Endangered	76 FR 50447	8/15/2011	61 FR 56138	10/31/1996
	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 Salmon (*O. nerka*)	Snake River	Endangered	76 FR 50448	8/15/2011	56 FR 58619	11/20/1991
	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 Salmon 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 Salmon 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.

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 (dated February 26, 2021), NMFS provided guidance on protective measures for species listed under the ESA during the 2021 fishing season. The letter summarized the requirements of NMFSs 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 2021 management season, as well as further guidance and recommendations for the 2021 management season.

The ESA consultation standards, exploitation rates, and other criteria in place for the 2021 management season are presented in Table 5. Some listed stocks are either rarely caught in Council 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 (CCC), Snake River wild (SRW) fall Chinook, lower Columbia River (LCR) fall Chinook, and all of the coho stocks.

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 PST.

5.1 Chinook Salmon Management

A new ten-year agreement under the PST was adopted by both the U.S. and Canada and implemented beginning with the 2019 fishing year. The new agreement includes reductions to catch ceilings for Southeast Alaska (SEAK) and West Coast Vancouver Island (WCVI) aggregate abundance-based management (AABM) fisheries relative to the prior 2009 agreement. For SEAK, the reductions range from 1.5 percent in years of high abundance to 7.5 percent in years of low abundance. For WCVI, the reductions range from 2.4 percent in years of high abundance to 12.5 percent in years of low abundance. Additionally, beginning with the 2019 agreement, while catch ceilings will continue to be determined using the abundance index (AI) from the PSC Chinook Model for Northern British Columbia (NBC) and WCVI AABM fisheries, the allowable catches for SEAK fisheries will be set using a catch-per-unit-effort (CPUE) estimate from the early winter power troll fishery (see Tables 1 and 2 in Chapter 3 of the 2019 Agreement for specifics).

For the 2021 fishing season, the SEAK early winter power troll CPUE was 3.85, which corresponds to an all gear catch limit of 205,165 Chinook. The annual calibration of the PSC Chinook Model produced an AI of 1.27 for the NBC AABM fishery and 0.76 for the WCVI AABM fishery. These AIs correspond to catch limits of 153,800 and 88,000 Chinook for the NBC and WCVI AABM fisheries, respectively.

Fisheries not subject to AABM regimes, including Council-area fisheries, are subject to a new set of individual stock-based management (ISBM) obligations under the 2019 agreement. 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). Similar to previous ISBM obligations, these limits are considered during preseason planning processes, however, relative to meeting the provisions of the PST, the CYER limits are evaluated on a postseason basis only. 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 FRAM to estimate total exploitation rate impacts from all marine fisheries (Table 5).

Key considerations for Canadian domestic fishery management for Chinook in 2021 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, in addition to 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, but exploitation rates up to 20 percent are allowed if the management unit is in the low abundance status.

For 2021, Status categories and constraints for Puget Sound and Washington Coast coho under the FMP and PST Southern Coho Management Plan 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%	

(table continued next page)

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/]	20%	Low
Hoh[c/]	34%	Moderate
Queets[c/]	20%	Low
Grays Harbor[d/]	28%	Moderate

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.

d/ The value presented here has been recalculated using an abundance forecast that includes all projected natural area spawners (natural- and hatchery-origin). The total exploitation rate constraint presented here is now derived using a unit of abundance that is consistent with the 2021 Co-manager's agreed-to escapement goal

Key considerations for Canadian fishery management for coho in 2021 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 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 percent 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 2021 indicates continuing concerns for the condition of Interior Fraser coho. The Interior Fraser coho management unit is anticipated to remain in low abundance status, resulting in a requirement to constrain the total mortality fishery exploitation rate for 2021 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 2021 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 119,900, which is higher than the 2020 preseason expectation of 97,200. The 2021 LRH forecast is 73,100, which is greater than the forecast of 51,000 in 2020. The 2021 SCH forecast is 46,800, which is similar to the 2020 forecast of 46,200.

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, and SRW fall Chinook.
- Fisheries north of Cape Falcon were shaped to minimize impacts on LCR natural tule 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 38.0 percent, and meets the 38.0 percent maximum for 2021.
- *LRW fall Chinook.* The adopted management measures have a projected ocean escapement of 20,400 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 50.3 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 in concert with 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 February 26, 2021 letter from NMFS, 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 2021 Chinook harvest management south of Cape Falcon are:

- *SRFC*. The Sacramento Index forecast is 270,958, which is lower than the 2020 forecast of 473,183. SRFC were classified as overfished in 2018, and the Council adopted a rebuilding plan in 2019. In 2021, SRFC was reported to have met the criteria for rebuilt status.
- *KRFC*. The ocean abundance forecast for this stock is 135,569 age-3, 45,124 age-4, and 815 age-5 fish. These compare to the 2020 forecasts of 149,618 age-3, 36,241 age-4, and 739 age-5 fish. KRFC were classified as overfished in 2018, and the Council adopted a rebuilding plan in 2019. In 2021, KRFC remain classified as overfished.
- *SRWC*. The forecast of age-3 escapement absent fishing is 9,063, which is higher than the 2020 forecast of 3,077.

6.2.1 Objectives

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

- A KRFC natural area spawner escapement of at least 31,574 adults, which is produced, in expectation, by a maximum exploitation rate of 25.0 percent (FMP control rule).
- A SRFC hatchery and natural area spawner escapement of at least 122,000 adults, which is produced, in expectation, by a maximum exploitation rate of 55.0 percent (FMP control rule).
- NMFS consultation standards and annual guidance for ESA listed stocks as provided in Section 5.0 above. Relevant stocks for the area south of Cape Falcon include SRWC, California coastal Chinook, SRW fall Chinook, and LCR natural tule Chinook.

The maximum allowable exploitation rate for KRFC in 2021 is 0.25, which is a *de minimis* exploitation rate. In such cases, the FMP stipulates:

"When recommending an allowable *de minimis* exploitation rate in a given year, the Council shall also consider the following circumstances:

- The potential for critically low natural spawner abundance, including considerations for substocks that may fall below crucial genetic thresholds;
- Spawner abundance levels in recent years;
- The status of co-mingled stocks;
- Indicators of marine and freshwater environmental conditions;
- Minimal needs for Tribal fisheries;
- Whether the stock is currently in an approaching overfished condition;
- Whether the stock is currently overfished;
- Other considerations as appropriate".

At the March 2021 PFMC meeting, each of the circumstances above were discussed by the Council and its advisors during the development of the three Alternatives for south of Cape Falcon fisheries (except for minimal needs for Tribal fisheries, which were not determined).

The potential for critically low natural spawner abundance could be considered moderate. The 2021 minimum natural-area spawner escapement of 31,574 adults is slightly larger than the MSST (30,525). A natural-area escapement of 31,574 adults would represent the 20th lowest value over the past 43 years of data.

To assess the potential for critically low abundance of substocks, a statistical model (PFMC 2007, Appendix D) was applied to historical run size data to assess the probability that escapement to either the Salmon, Scott, or Shasta rivers would fall below 720 adults, given a total, basin-wide natural area escapement of 31,574 adults in 2021. The 720 escapement threshold for these substocks was based on effective population size (genetic) considerations. Application of the model suggested that at least one of the substocks would fall below the 720 adult threshold with a probability of 0.22.

The forecast of natural-area spawners in the absence of additional fishing is 42,098, which is above the maximum sustainable yield spawner escapement (S_{MSY}). If fishing seasons are structured such that the maximum allowable exploitation rate of 25 percent is met, the natural-area adult spawner expectation is 31,574, which is slightly larger than the Minimum Stock Size Threshold (MSST) but below S_{MSY}. The natural-area adult spawner escapement has been lower than 31,574 in four of the last five years.

With regard to co-mingled stocks, Sacramento River fall Chinook have a moderate to low abundance forecast but was less constraining to fisheries than KRFC in 2021.

Indicators of marine and freshwater conditions provided in the California Current Integrated Ecosystem Assessment (CCIEA) California Current Ecosystem Status Report for 2021 suggest a mixed assessment of marine and freshwater conditions that could affect KRFC. Table H.5.3 in the CCIEA report (supplementary

material) displays "stoplight" indicators including adult abundance, freshwater indicators, and marine indicators affecting KRFC. Spawners in 2017 and 2018 (whose progeny are age-4 and age-3 in 2021, respectively) appear to have experienced low flows and warm water while juveniles from those broods encountered more mixed conditions. Ocean indicators were poor overall for these broods. Overall, the CCIEA indicates that KRFC experienced below average freshwater and marine conditions for two of the three broods analyzed in the rebuilding plan (2012-2014) and in the years since, both freshwater and marine conditions have generally declined.

At the April 2021 PFMC meeting, it was agreed that the KRFC harvest control rule was being implemented as intended, which has led to the limited seasons south of Cape Falcon that employ restrictive time/area closures. These include closure of the commercial fishery in the California portion of the KMZ, restricted seasons for Fort Bragg and San Francisco commercial fisheries, and constrained fisheries in both the Oregon and California KMZ recreational fisheries.

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.

- *KRFC.* The projected escapement is 31,574, which is equivalent to the 2021 control rule-defined minimum natural area adult spawners.
- *SRFC.* The adopted management measures have a projected escapement of 133,913, which exceeds the control rule-defined minimum of 122,000 hatchery and natural area adult spawners.
- *SRWC.* The adopted management measures result in a projected age-3 impact rate of 14.7 percent, which is consistent with the ESA consultation standard that (1) limits the age-3 impact rate in 2021 fisheries south of Point Arena to a maximum of 20.0 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 10.5 percent, which is consistent with the consultation standard limiting the KRFC age-4 ocean harvest rate to a maximum of 16.0 percent.
- *SRW fall Chinook.* The adopted management measures have an ocean exploitation rate of 50.3 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:

- *Oregon Production Index (OPI) Hatchery coho.* The 2021 forecast for hatchery coho from the Columbia River and the coast south of Cape Falcon of 1,607,900 is substantially higher than the 2020 forecast of 185,700. The Columbia River early coho forecast is 1,014,000 compared to the 2020 forecast of 130,700 and the Columbia River late coho forecast is 576,000, compared to the 2020 forecast of 50,300.
- *OCN coho.* The 2021 OCN forecast is 125,000 compared to the 2020 forecast of 83,000.

- *LCN coho.* The 2021 LCN forecast is 39,200 compared to the 2020 forecast of 24,800.
- *Puget Sound coho.* Among Puget Sound natural stocks, Strait of Juan de Fuca coho are in the critical category in 2021. Skagit, Snohomish, and Hood Canal coho are in the low category, and Stillaguamish coho are in the normal category.
- *Interior Fraser (Thompson River) coho.* This Canadian stock continues to be depressed, although the stock will not constrain ocean coho fisheries north of Cape Falcon in 2021.
- *Washington coastal coho.* Forecasts for most Washington coastal coho stocks are lower than in 2020. Among Washington coastal natural stocks, Quillayute fall and Queets coho are in the low category, and Hoh and Grays Harbor coho are in the moderate category under the PST Southern Coho Management Plan in 2021.

7.1 Objectives

Key coho management objectives shaping management measures in 2021 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 2021 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 30.0 percent for LCN coho, and (3) a marine exploitation rate not to exceed 13.0 percent for Rogue/Klamath (RK) hatchery coho, used as a surrogate for the SONCC coho ESU. Furthermore, coho retention is prohibited in all California ocean fisheries
- Salmon FMP conservation objectives and obligations under the PST Southern Coho Management Plan for stocks originating along the Washington coast, Puget Sound, and British Columbia as provided in Section 5.2 above. The forecasts for Washington Coastal coho stocks are low in 2021; these stocks contribute to fisheries off Washington and northern Oregon. Forecasts for several Puget Sound and Interior Fraser coho stocks in 2021 are low; however, the majority of the exploitation on these stocks occurs in Puget Sound and was addressed in development of fishing seasons for inside waters during the North of Falcon co-management process by the state and tribes of Washington prior to the April Council meeting. 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.
- Queets natural coho, Strait of Juan de Fuca natural coho, and Snohomish natural coho salmon stocks were classified as overfished in 2018, and the Council adopted rebuilding plans for these stocks in 2019. In 2021, Snohomish coho was reported to have met the criteria for not overfished/rebuilding. Queets natural coho and Strait of Juan de Fuca coho remain overfished. Coho fisheries, particularly north of Cape Falcon, were shaped to minimize impacts on these stocks and meet the objectives of the rebuilding plans. Objectives of the rebuilding plans for Queets natural coho and Strait of Juan de Fuca natural coho are to manage the stock under status quo S_{msy}. For Snohomish natural coho the objective is to manage for an escapement goal of 55,000 adult natural spawners (10% greater than $S_{msy.}$

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 Rogue/Klamath (RK) coho. Table 8 provides expected coho mark rates for west

coast fisheries by month. Table 12 provides an assessment of stock status, including expected spawning escapement and exploitation rates under the adopted management measures.

- *LCN coho.* The adopted management measures satisfy the maximum 30.0 percent exploitation rate for combined marine and mainstem Columbia River fisheries, with a marine exploitation rate of 6.6 percent and a mainstem Columbia River exploitation rate of 3.5 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 9.2 percent and a freshwater exploitation rate of 3.6 percent.
- *Washington coastal natural coho.* The adopted management measures provide ocean escapement numbers of 7,300, 2,600, 3,400, and 46,800 for Quillayute fall, Hoh, Queets, and Grays Harbor 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 those coho stocks. Expected exploitation rates are 13.8 percent, 26.9 percent, 20.0 percent, and 25.8 percent for Quillayute fall, Hoh, Queets, and Grays Harbor natural coho, respectively, which comply with the PST Southern Coho Management Plan (Section 5.2 and Table 12).
- *Interior Fraser coho.* The Southern U.S. exploitation rates in the adopted management measures total 5.9 percent, which complies with the 10.0 percent maximum required by the PST Southern Coho Management Plan.
- *Snohomish coho.* Currently meets the criteria for not overfished/rebuilding. The adopted management measures comply with the objective in the Rebuilding Plan.
- *Strait of Juan de Fuca coho.* Currently meets the criteria for overfished. The adopted management measures comply with the objective in the Rebuilding Plan.
- *Queets coho.* Currently meets the criteria for overfished. The adopted management measures comply with the objective in the Rebuilding 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 2021. Impacts on Chinook and coho in pink-directed fisheries may be 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, comply with Council-adopted rebuilding plans, and follow annual guidance for Chinook and coho stocks of concern. The 2021 Chinook total allowable catch (TAC) is slightly above 2020 due to a slightly higher abundances of LCR natural tule Chinook, lower Columbia River hatchery Chinook, and Spring Creek Hatchery Chinook. The 2021 coho TAC is increased relative to 2020 due to much higher abundance forecasts for Columbia River coho stocks, but was constrained by low forecasts for coastal Washington coho, particularly Queets coho.

Fisheries south of Cape Falcon are primarily constrained by KRFC. The adopted management measures reflect FMP guidance to achieve, in expectation, a maximum allowable harvest rate of 25.0 percent or an escapement of 31,574 natural area adult spawners for KRFC under the *de minimis* regime of its harvest control rule, and meet the criteria of the rebuilding plan in place for this stock.

9.1 Commercial

North of Cape Falcon, the non-Indian troll Chinook quota is split evenly between the spring (May-June) fishery and the summer fishery (July-September). A preseason trade of 7,000 coho from the commercial fishery allocation to the recreational fishery in exchange for 1,750 Chinook from the recreational allocation is in place. The non-Indian commercial Chinook quota of 30,750 is increased slightly compared to the 27,640 Chinook quota in 2020. The non-Indian commercial coho quota of 5,000 is increased relative to the 2020 quota of 2,000 coho.

The spring fishery in the area north of Cape Falcon will be open for all salmon except coho seven days per week May 1 through June 29. Chinook subarea guidelines and weekly (defined as Thursday through Wednesday) 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. In 2022, the season is scheduled to open May 1 for all salmon except coho consistent with preseason regulations as described for this area and subareas for May 16-June 29, 2021.

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 20 marked coho per vessel per landing week is in effect coastwide, and all landed coho must be marked with a healed adipose fin clip.

The Oregon coast between Cape Falcon and the Heceta Bank line will be open for a portion of March through April. Chinook fisheries between Cape Falcon and Humbug Mountain will be open portions of May through August. July and August include the retention of marked coho during the open days or attainment of quota. The area will open again for September and October with weekly landing and possession limits in place.

For the Oregon portion of the Klamath Management Zone (KMZ), from Humbug Mountain to the Oregon/California border, the season will be open for a portion of March through April, portions of May, followed by monthly quotas in June and July. The summer quota fisheries have weekly landing and possession limits. The California portion of the KMZ, from the Oregon/California border to the southern KMZ boundary, will be closed in 2021.

The fishery in the Fort Bragg management area, from the southern KMZ boundary to Point Arena, will be open August 1-17 and for the month of September, with a minimum size limit of 27 inches.

The San Francisco management area, from Point Arena to Pigeon Point, will be open for the latter half of June, six days in July, and the first seventeen days of August. Thereafter the area will be open for the month of September, and the Monday through Friday fall area target zone fishery between Point Reyes and Point San Pedro during the first half of October. Minimum size limits will be 27 inches prior to September 1 and 26 inches thereafter.

Fisheries south of Pigeon Point, in the Monterey management area, will be open for 20 days in May (May 1-12, 20-27) and then have a season that conforms to that of the San Francisco management area for June through August, with a 27-inch size limit.

9.2 Recreational

North of Cape Falcon, the recreational Chinook quota of 27,250 is slightly increased over the 2020 quota of 26,360 Chinook. The recreational coho quota of 70,000 is substantially increased relative to the 2020 quota of 26,500 coho. All coho must be marked with a healed adipose fin clip. A preseason trade of 1,750

Chinook from the recreational fishery allocation to the commercial troll fishery in exchange for 7,000 coho from commercial fishery allocation to the recreational fishery is in place.

The Neah Bay and La Push subareas will open seven days per week for all salmon except coho June 19 through July 3. Beginning July 4, those subareas are open for all salmon species through the earlier of September 15 or when Chinook subarea guidelines or coho subarea quotas are attained. The daily bag limit during June 19 through July 3 is one salmon in the Neah Bay subarea and two salmon in the La Push subarea; beginning July 4, the daily bag limit is two salmon in both areas.

The Westport and Columbia River subareas will open seven days per week for all salmon except coho June 19 through June 26. Beginning June 27, the Westport area is open five days per week (Sunday through Thursday) and the Columbia River subarea is open seven days per week for all salmon species through the earlier of September 15 or when Chinook subarea guidelines or coho subarea quotas are attained. The daily bag limit in both subareas during June 19 through June 26 is one salmon; beginning June 27, the daily bag limit is two salmon, no more than one of which may be a Chinook.

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 12 and a non-mark-selective coho quota beginning on September 10 in the area from Cape Falcon to Humbug Mountain.

For the Oregon KMZ, the Chinook fishery will run from June 19 through August 15. In addition, this area will be open for mark-selective coho from June 12 to August 28 or attainment of quota. In the California KMZ, the recreational season will run from June 29 through August 1. The minimum size limit will be 24 inches in the Oregon KMZ and 20 inches in the California KMZ.

The Fort Bragg management area, from the southern KMZ boundary to Point Arena, will open on June 29 and run continuously through the end of October. The San Francisco management area, from Point Arena to Pigeon Point, will open on June 26 and run through the end of October. The minimum size limit will be 20 inches in both areas.

South of Pigeon Point, in the Monterey management area, the season will be open from April 3 through September 30. The minimum size limit will be 24 inches through May 15, and 20 inches thereafter.

9.3 Treaty Indian

The Treaty Indian Troll Chinook quota is split evenly between the spring (May-June) fishery and the summer fishery (July-September). The Treaty Indian troll fishery opens on May 1 with a Chinook only fishery and runs through June 30 with a sub-quota of 20,000. The summer fishery opens on July 1 and runs through September 15 with a sub-quota of 20,000 Chinook and 26,500 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. Unless otherwise noted, the economic effects of the commercial and recreational fisheries summarized below are compared in terms of estimated community income impacts.

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, 2020 data show there were deliveries of salmon: (1) caught north of Cape Falcon to landing ports between Cape Falcon and Humbug Mountain, (2) caught between Cape Falcon and Humbug Mountain to landing ports in the Oregon KMZ region, (3) caught between Horse Mountain and Point Arena to landing ports in the California KMZ region (Eureka), (4) caught between Point Arena and Pigeon Point to landing ports in the California KMZ and Fort Bragg regions, and (5) caught south of Pigeon Point to landing ports in the San Francisco region, among others.

The expected harvest levels used to model commercial fishery impacts are taken from Table 6. Estimated total harvest 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 2020 was approximately 13 percent above the prior year and slightly above the recent five-year average; while coastwide average Chinook exvessel prices in 2020 were 13 percent above the prior year but eight percent below the recent five-year average in inflation-adjusted terms. If this year's actual average weight per fish or exvessel prices diverge significantly from what was observed last year, then salmon exvessel revenues and resulting commercial fisheries income impacts projected in this document may prove to be correspondingly biased.

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, as compared to last 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 recreational effort does not include a relatively small amount that often occurs in the State waters only fisheries off central and southern Oregon as these fisheries are not expected to be prosecuted in 2021.

Recreational fishery effort north of Cape Falcon was estimated using historical CPUE estimates ("success rates") applied to salmon quotas and expected harvest levels under the adopted Alternative. Projections of recreational catch north of Cape Falcon were made by multiplying the proposed quotas for the two species by the historic ratios of actual catch to the actual quotas. 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 recreational catch. Unless otherwise noted, the economic effects of the commercial and recreational fisheries Alternatives summarized below are compared in terms of estimated community income impacts.

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 within the range analyzed under the Alternatives but approximately 39 percent lower than estimated total coastwide commercial fisheries income impacts last year (Figure 3 and Table 11). Regionally the picture is mixed, with income impacts from commercial salmon fisheries under the Proposed Action projected to be above last year's level in the three regions north of the Oregon/California border, but below last year's levels in all regions south of the Oregon/California border except in the Fort Bragg region. With respect to the 2016-2020 inflation-adjusted average, income impacts from commercial salmon fisheries under the Proposed Action are projected to be 28 percent lower overall coastwide, and below the 2016-2020 inflation-adjusted average in all California regions, but above the 2016-2020 inflation-adjusted average in all three regions north of the Oregon/California border (Figure 3 and Table 11).

Projected coastwide income impacts from expenditures by recreational salmon anglers under the Proposed Action are within 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 somewhat mixed, with recreational fisheries income impacts under the Proposed Action projected to be below last year's level between Point Arena and Pigeon Point, but above last year's level in all other regions. However, it is important to note that last year's recreational effort estimates for California do not include any private trips that occurred during May and June due to restrictions on sampling caused by the COVID-19 pandemic. Therefore, the 2020 income impacts presented in this report for the California recreational fishery should be considered an underrepresentation of the actual income impacts. Compared with the 2016-2020 inflation-adjusted average, recreational fisheries income impacts under the Proposed Action are projected to be 31 percent higher overall coastwide, and above the 2016-2020 inflation-adjusted average in all regions except between Point Arena and Pigeon Point (Figure 4, and Tables 10 and 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. 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 tribal and 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 generally remain

consistent throughout the season in most areas, which, in addition to biological benefits, tends to increase regulatory compliance. Where size limits do change in-season, they decrease, such that anglers complying with earlier size limits will still be in compliance with the reduced limits. Efforts were made to accommodate important cultural events such as the Memorial Day, 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 greater opportunities for Chinook and ocean coho opportunity compared with 2020 (Table 3 and Table 6). The Klamath River tribal share under the Proposed Action is 8,135 adult KRFC, a six percent decrease from the 2020 allocation of 8,632 adult KRFC. Note that as with the non-tribal commercial and recreational salmon fisheries described in Section 10.1, restricting ocean salmon harvests may allow increased opportunities for inside harvest and escapement (and vice versa).

11.0 ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION

The Proposed Action, adoption of the 2021 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 may fall outside the range of impacts under the Alternatives in Preseason Report II, such impacts result from the shaping of fisheries that occur outside of the Council area, 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 2020. Although not true for all regions, relative to No Action (as represented by the 2020 values) the Proposed Action would provide lower overall coastwide income impacts from commercial fishing but increased income impacts from 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. 2021 Commercial troll management measures for non-Indian ocean salmon fisheries - Council adopted. (Page 1 of 7)

A. SEASON DESCRIPTIONS

North of Cape Falcon

Supplemental Management Information

1. Overall non-Indian TAC: 58,000 Chinook and 75,000 coho marked with a healed adipose fin clip (marked).
2. Non-Indian commercial troll TAC: 30,750 Chinook and 5,000 marked coho.
3. Trade: commercial troll traded 7,000 marked coho to the recreational fishery for 1,750 Chinook.
4. For fisheries scheduled prior to May 16, 2021: See 2020 management measures, which are subject to inseason action and the 2021 season description described below.

Model Runs: Coho-2140 Chin-3721

U.S./Canada Border to Cape Falcon

- May 16 through the earlier of June 29, or 15,375 Chinook. No more than 5,680 of which may be caught in the area between the U.S./Canada border and the Queets River, and no more than 4,195 of which may be caught in the area between Leadbetter Pt. and Cape Falcon (C.8).

In the area between the U.S./Canada border and the Queets River the landing and possession limit is 75 Chinook per vessel per landing week (Thurs.-Wed.) (C.1, C.6).

In the area between Leadbetter Pt. and Cape Falcon the landing and possession limit is 75 Chinook per vessel per landing week (Thurs.-Wed.) (C.1, C.6).

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

When it is projected that approximately 75% of the overall Chinook guideline has been landed, or approximately 75% of any of the individual Chinook subarea guidelines have been landed, inseason action will be considered to ensure the guideline is not exceeded.

In 2022, the season will open May 1 consistent with all preseason regulations in place in this area and subareas during May 16-June 30, 2021, including subarea salmon guidelines and quotas and weekly vessel limits except as described below for vessels fishing or in possession of salmon north of Leadbetter Point. This opening could be modified following Council review at its March and/or April 2022 meetings.

U.S./Canada Border to Cape Falcon

- July 1 through the earlier of September 30, or 15,375 Chinook or 5,000 coho (C.8).

Landing and possession limit of 20 marked coho per vessel per landing week (Thurs.-Wed.) (C.1).

Open seven days per week. All salmon, except no chum retention north of Cape Alava, Washington in August and September (C.4, C.7). Chinook minimum size limit 27 inches total length and coho minimum size limit 16 inches total length (B, C.1).
All coho must be marked with a healed adipose fin clip (C.8.d). See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3).

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 9, Grays Harbor Control Zone (C.5).

Vessels must land and deliver their salmon within 24 hours of any closure of this fishery.

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 (C.11).

In 2021, vessels may not land any species of fish east of Port Angeles or east of the Megler-Astoria bridge.

For delivery to Washington ports east of the Sekiu River, vessels must notify WDFW at 360-249-1215 prior to crossing the Bonilla-Tatoosh line with area fished, total Chinook, coho and halibut catch aboard, and destination with approximate time of delivery.

In 2022, vessels may not land any species of fish east of the Sekiu River or east of the Megler-Astoria bridge.

(Continued next page)

TABLE 1. 2021 Commercial troll management measures for non-Indian ocean salmon fisheries - **Council Adopted**. (Page 2 of 8)

A. SEASON DESCRIPTIONS

North of Cape Falcon

For all commercial troll fisheries north of Cape Falcon: *(continued)*

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 and/or salmon delivery license.

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 while fishing 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 to notify ODFW within one hour of delivery or prior to transport away from the port of landing by either calling **541-857-2546** 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).

A. SEASON DESCRIPTIONS

South of Cape Falcon

Supplemental Management Information

1. Sacramento River fall Chinook spawning escapement of 133,913 hatchery and natural area adults.
2. Sacramento Index exploitation rate of 50.6%.
3. Klamath River recreational fishery allocation: 1,221 adult Klamath River fall Chinook.
4. Klamath tribal allocation: 8,135 adult Klamath River fall Chinook.
5. CA/OR share of Klamath River fall Chinook ocean impacts: 64.6% / 35.4%
6. CA/OR share of Klamath River fall Chinook commercial ocean harvest: 64.0% / 36.0%.
7. 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.
8. Commercial coho TAC: 10,000 coho marked with a healed adipose fin clip (marked).
9. For fisheries scheduled prior to May 16, 2021, see 2020 management measures, which are subject to inseason action and the 2021 season description described below.

TABLE 1. 2021 Commercial troll management measures for non-Indian ocean salmon fisheries - **Council Adopted**. (Page 3 of 8)

A. SEASON DESCRIPTIONS

South of Cape Falcon

Cape Falcon to Heceta Bank line

- March 20-April 30 (C.9.a).

All salmon except coho, except as described below (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 gear restrictions and definitions (C.2, C.3).

In 2022, 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 2021. This opening could be modified following Council review at its March 2022 meeting.

Cape Falcon to Humbug Mt.

- May 1-5, 10-15;
- May 16-21, 26-31;
- June 5-7, 12-14, 19-21, 26-28;
- September 1-October 31 (C.9.a).

All salmon except coho, except as described below (C.4, C.7). Beginning September 1, no more than 75 Chinook allowed per vessel per landing week (Thurs.-Wed.).

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 gear restrictions and definitions (C.2, C.3).

- July 5-7, 12-14, 19-21, 26-28;
- August 1-4, 8-10, 15-17 (C.9.a).

All salmon. All retained coho must be marked with a healed adipose fin clip (C.4, C.7). If the coho quota for the combined area from Cape Falcon to Humbug Mt. of 10,000 marked coho is met, then the season continues for all salmon except coho on the remaining open days. Salmon trollers may take and retain or possess on board a fishing vessel no more than 20 coho per vessel per week (Thurs.-Wed.). All coho retained, possessed on a vessel, and landed must not exceed a 1:1 ratio with Chinook salmon that are retained and landed at the same time.

Coho minimum size limit of 16 inches total length, and 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 gear restrictions and definitions (C.2, C.3).

In 2022, 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 2021. This opening could be modified following Council review at its March 2022 meeting.

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

- March 20-May 5, 10-15;
- May 16-21, 26-31;
- June 1-30, or the earlier of 300 Chinook quota;
- July 1-31, or the earlier of 200 Chinook quota (C.9.a).

June 1-July 31 weekly landing and possession limit of 20 Chinook per vessel per week (Thurs.-Wed.).

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.

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 and July 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 and July), 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 **541-857-2538** 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 2022, 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 2021. This opening could be modified following Council review at its March 2022 meeting.

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. 2021 Commercial troll management measures for non-Indian ocean salmon fisheries - **Council Adopted**. (Page 4 of 8)

A. SEASON DESCRIPTIONS

South of Cape Falcon

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

- Closed (C.9.b).

In 2022, the season will open May 1 through the earlier of May 31, or a 3,000 Chinook quota. 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). Open five days per week (Fri.-Tue.). All salmon except coho (C.4, C.7). 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 (C.6), 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 an additional closure adjacent to the Smith River. This opening could be modified following Council review at its March or April 2022 meetings.

Humboldt South Jetty to Southern KMZ Boundary

- Closed.

Southern KMZ Boundary to Point Arena (Fort Bragg)

- August 1-17;
- September 1-30 (C.9.b).

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 and north of Point Arena (C.6, C.11).

In 2022, the season will open April 16 for all salmon except coho (C.4, C.7). Chinook minimum size limit of 27 inches total length (B, C.1). Gear restrictions same as in 2021 (C.2, C.3). This opening could be modified following Council review at its March 2022 meeting.

Pt. Arena to Pigeon Pt. (San Francisco)

- June 16-30;
- July 17-22;
- August 1-17;
- September 1-30 (C.9.b).

All salmon except coho (C.4, C.7). Chinook minimum size limit of 27 inches total length through August, then 26 inches thereafter (B, C.1). See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3).

All salmon must be landed in California. During September, all salmon must be landed south of Point Arena (C.6, C.11).

In 2022, the season will open May 1 for all salmon except coho (C.4, C.7). Chinook minimum size limit of 27 inches total length (B, C.1). Gear restrictions same as in 2021 (C.2, C.3). This opening could be modified following Council review at its March or April 2022 meetings.

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

- October 1, 4-8, 11-15.

Open five days per week (Mon.-Fri.). All salmon except coho (C.4, C.7). Chinook minimum size limit of 26 inches total length (B, C.1). All salmon caught in this area must be landed between Point Arena and Pigeon Point (C.6, C.11). See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3).

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

- May 1-12;
- May 20-27;
- June 16-30;
- July 17-22;
- August 1-17 (C.9.b).

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 (C.6).

In 2022, the season will open May 1 for all salmon except coho (C.4, C.7). Chinook minimum size limit of 27 inches total length (B, C.1). Gear restrictions same as in 2021 (C.2, C.3). This opening could be modified following Council review at its March or April 2022 meetings.

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).

TABLE 1. 2021 Commercial troll management measures for non-Indian ocean salmon fisheries - Council adopted. (Page 5 of 8)

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	27	20.5	16	12	None
Cape Falcon to Humbug Mt.	28	21.5	16	12	None
Humbug Mt. to OR/CA Border	28	21.5	-	-	None
OR/CA Border to Humboldt South Jetty	-	-	-	-	-
Southern KMZ Boundary to Pt. Arena	27	20.5	-	-	27
Pt. Arena to Pigeon Pt. through August	27	20.5	-	-	27
Pt. Arena to Pigeon Pt. September-October	26	19.5	-	-	26
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:

a. 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.
b. 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.
c. Spread defined: A single leader connected to an individual lure and/or bait.
d. 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. 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.

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

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 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 offshore); 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), when in place:

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

C.7. Incidental Halibut Harvest: License applications for incidental harvest for halibut during commercial salmon fishing must be obtained from IPHC.

During the 2021 salmon troll season, incidental harvest is authorized only during April, May, and June, and after June 30 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 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.

Through May 15, 2021, consistent with regulations adopted in April 2020, license holders may land no more than 1 Pacific halibut per each 2 Chinook, except one Pacific halibut may be landed without meeting the ratio requirement, and no more than 35 halibut may be landed per trip.

Beginning May 16, 2021 through the end of the 2021 salmon troll fishery, and beginning April 1, 2022, until modified through inseason action or superseded by the 2022 management measures the following applies:

License holders may land no more than 1 Pacific halibut per each 2 Chinook, except one Pacific halibut may be landed without meeting the ratio requirement, and no more than 35 halibut may be landed per trip.

Incidental Pacific halibut catch regulations in the commercial salmon troll fishery adopted for 2021, prior to any 2021 inseason action, will be in effect when incidental Pacific halibut retention opens on April 1, 2022 unless otherwise modified by inseason action at the March 2022 Council meeting.

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. The Council will consider inseason recommendations for special regulations for any experimental fisheries annually in March; proposals must meet Council protocol and be received in November the year prior.
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.
g. Inseason modifications to salmon management areas (establishing a sub-area boundary for example) is allowed if the boundary is described as a landmark in Section C.11 of this document, and if the change would not result in exceeding preseason impact expectations on any stocks.

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 the Southern KMZ Boundary.

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

C.11. Latitudes for geographical reference of major landmarks along the west coast that are used in describing salmon management areas or subareas. Majority of information derived from source: 2020 West Coast federal salmon regulations. https://www.govinfo.gov/content/pkg/FR-2020-05-08/pdf/2020-09903.pdf

U.S./Canada Border	49°00'00" N lat.	40°10′ line (near Cape Mendocino, CA)	40°10′00″ N lat
Cape Flattery, WA	48°23′00″ N lat.	Horse Mountain, CA	40°05′00″ N lat.
Cape Alava, WA	48°10′00″ N lat.	Point Arena, CA	38°57′30″ N lat.
Queets River, WA	47°31′42″ N lat.	Point Reyes, CA	37°59′44″ N lat.
Leadbetter Point, WA	46°38′10″ N lat.	Point San Pedro, CA	37°35′40″ N lat.
Cape Falcon, OR	45°46′00″ N lat.	Pigeon Point, CA	37°11′00″ N lat.
South end Heceta Bank line, OR	43°58′00″ N lat.	Point Sur, CA	36°18′00″ N lat.
Humbug Mountain, OR	42°40′30″ N lat.	Point Conception, CA	34°27′00″ N lat.
Oregon-California border	42°00′00″ N lat.	U.S./Mexico Border	32°30'00″N lat.
Humboldt South Jetty, CA	40°45′53″ N lat.		

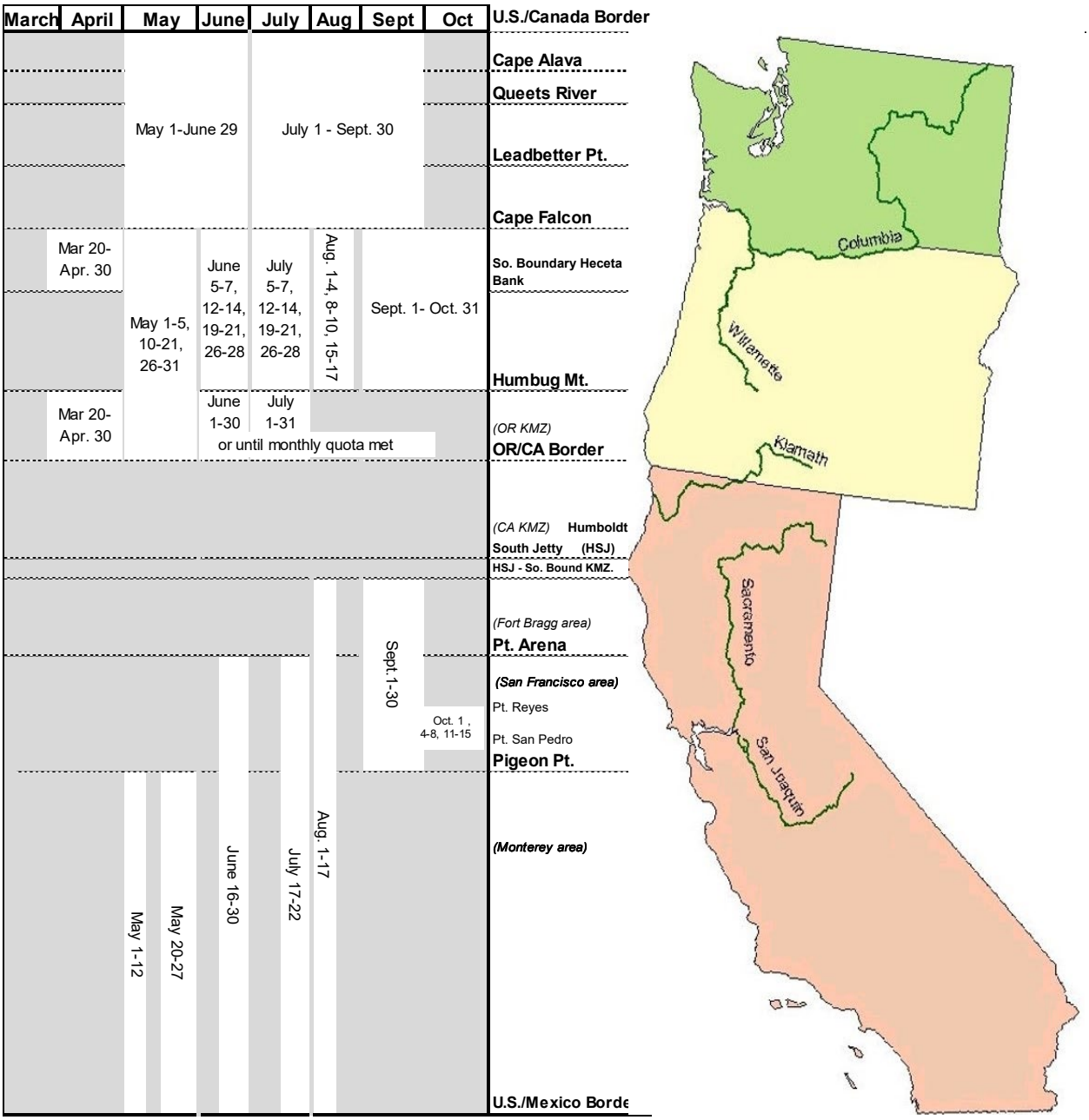

FIGURE 1. 2021 non-Indian commercial salmon seasons – Council adopted.

TABLE 2. 2021 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: 58,000 Chinook and 75,000 coho marked with a healed adipose fin clip (marked).
2. Recreational TAC: 27,250 Chinook and 70,000 marked coho; all retained coho must be marked.
3. Trade: commercial troll traded 7,000 marked coho to the recreational fishery for 1,750 Chinook.
4. No Area 4B add-on fishery.
5. Buoy 10 fishery opens August 1 with an expected landed catch of 80,000 marked coho in August and September.

U.S./Canada Border to Cape Alava (Neah Bay Subarea)

- June 19-July 3 (C.5).

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

- July 4 through the earlier of September 15, or 5,730 marked coho subarea quota, with a subarea guideline of 5,825 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 (C.1). Chinook minimum size limit of 24 inches total length; coho minimum size limit 16 inches total length (B). See gear restrictions and definitions (C.2, C.3). Beginning August 1, Chinook non-retention east of the Bonilla-Tatoosh line (C.4.a) during Council managed ocean fishery.

Cape Alava to Queets River (La Push Subarea)

- June 19-July 3 (C.5).

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).

- July 4 through the earlier of September 15, or 1,430 marked coho subarea quota, with a subarea guideline of 1,300 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 (C.1). Chinook minimum size limit of 24 inches total length, coho minimum size limit 16 inches total length (B). See gear restrictions and definitions (C.2, C.3).

Queets River to Leadbetter Point (Westport Subarea)

- June 19-26 (C.5).

Open seven days per week. All salmon, except coho; one salmon per day (C.1). Chinook minimum size limit of 22 inches total length (B). See gear restrictions and definitions (C.2, C.3).

- June 27 through the earlier of September 15, or 20,440 marked coho subarea quota, with a subarea guideline of 12,925 Chinook (C.5).

Open five days per week (Sun.-Thurs.). 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 (C.1). Chinook minimum size limit of 22 inches total length; coho minimum size limit 16 inches total length (B). See gear restrictions and definitions (C.2, C.3). Grays Harbor Control Zone closed beginning August 9 (C.4.b).

Leadbetter Point to Cape Falcon (Columbia River Subarea)

- June 19-26 (C.5).

Open seven days per week. All salmon, except coho; one salmon per day (C.1). Chinook minimum size limit of 22 inches total length (B). See gear restrictions and definitions (C.2, C.3).

- June 27 through the earlier of September 15, or 42,400 marked coho subarea quota, with a subarea guideline of 7,200 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 (C.1). Chinook minimum size limit of 22 inches total length; coho minimum size limit 16 inches total length (B). See gear restrictions and definitions (C.2, C.3). Columbia Control Zone closed (C.4.c).

For all Recreational fisheries north of Cape Falcon: 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. 2021 Recreational management measures for non-Indian ocean salmon fisheries - **Council Adopted**. (Page 2 of 5)

South of Cape Falcon

Supplemental Management Information

1. Sacramento River fall Chinook spawning escapement of 133,913 hatchery and natural area adults.
2. Sacramento Index exploitation rate of 50.6%.
3. Klamath River recreational fishery allocation: 1,221 adult Klamath River fall Chinook.
4. Klamath tribal allocation: 8,135 adult Klamath River fall Chinook.
5. CA/OR share of Klamath River fall Chinook ocean impacts: 64.6% / 35.4%
6. Overall recreational coho TAC: 120,000 coho marked with a healed adipose fin clip (marked), and 14,000 coho in the non-mark-selective coho fishery.
7. For fisheries scheduled prior to May 16, 2021, see 2020 management measures, which are subject to inseason action and the 2021 season description described below.

A. SEASON DESCRIPTIONS

South of Cape Falcon

Cape Falcon to Humbug Mt.

- March 15-May 15, open for all salmon except coho, except as listed below for mark selective and non-mark selective coho seasons;
- May 16-October 31, open for all salmon except coho, except as listed below for mark selective and non-mark selective coho seasons;
- June 12 - August 28 or 120,000 marked coho quota. Open area extends to the OR/CA Border. Open for all salmon, all retained coho must be marked with a healed adipose fin clip;
- September 10-12, and each Friday, Saturday, and Sunday through the earlier of September 30, or 14,000 non-mark-selective coho quota. Open for all salmon, (C.5, C.6). Open days may be modified inseason.

Two salmon per day (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 (C.5).

In 2022, 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 2021 (C.2, C.3). This opening could be modified following Council review at its March 2022 meeting.

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

- June 12-18. Open for all salmon except Chinook, all coho must be marked with a healed adipose fin clip;
- June 19-August 15. Open for all salmon, all coho must be marked with a healed adipose fin clip. Coho retention closes when the Cape Falcon to OR/CA border quota of 120,000 coho is attained.
- August 16-28. Open for all salmon except Chinook, all coho must be marked with a healed adipose fin clip. All salmon fishing closes in this area the earlier of August 28 or the Cape Falcon to OR/CA border quota of 120,000 coho.

Open seven days per week. Two salmon per day (C.1). See minimum size limits (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. 2021 Recreational management measures for non-Indian ocean salmon fisheries - **Council Adopted**. (Page 3 of 5)

A. SEASON DESCRIPTIONS

South of Cape Falcon

OR/CA Border to Southern KMZ Boundary (California KMZ)

- June 29-August 1 (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 closures adjacent to the Smith, Eel, and Klamath Rivers.

In 2022, season opens May 1 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 2021 (C.2, C.3). This opening could be modified following Council review at its March or April 2022 meetings.

Southern KMZ Boundary to Point Arena (Fort Bragg)

- June 29-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 2022, season opens April 2 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 2021 (C.2, C.3). This opening could be modified following Council review at its March 2022 meeting.

Point Arena to Pigeon Point (San Francisco)

- June 26-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 2022, season opens April 2 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 2021 (C.2, C.3). This opening could be modified following Council review at its March 2022 meeting.

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

- April 3-May 15 (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).

- May 16-September 30 (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 2022, season opens April 2 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 2021 (C.2, C.3). This opening could be modified following Council review at its March 2022 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 (Westport and Col R)	22	16	None
North of Cape Falcon (Neah Bay and La Push)	24	16	None
Cape Falcon to Humbug Mt.	24	16	None
Humbug Mt. to OR/CA Border	24	16	None
OR/CA Border to Southern KMZ Boundary	20	-	20
Southern KMZ Boundary to Pt. Arena	20	-	20
Pt. Arena to Pigeon Pt.	20	-	20
Pigeon Pt. to U.S./Mexico Border (through May 15)	24	-	24
Pigeon Pt. to U.S./Mexico Border (beginning May 16)	20	-	20

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

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. *Southern KMZ Boundary 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 offshore); 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)

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 OR/CA 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.
f Inseason modifications to salmon management areas (establishing a sub-area boundary for example) is allowed if the boundary is described as a landmark in Section C.7 of this document, and if the change 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.

C.7. Latitudes for geographical reference of major landmarks along the west coast that are used in describing salmon management areas or subareas. Majority of information derived from source: 2020 West Coast federal salmon regulations. https://www.govinfo.gov/content/pkg/FR-2020-05-08/pdf/2020-09903.pdf

U.S./Canada Border	49°00'00" N lat.	40°10′ line (near Cape Mendocino, CA)	40°10′00″ N lat
Cape Flattery, WA	48°23′00″ N lat.	Horse Mountain, CA	40°05′00″ N lat.
Cape Alava, WA	48°10′00″ N lat.	Point Arena, CA	38°57′30″ N lat.
Queets River, WA	47°31′42″ N lat.	Point Reyes, CA	37°59′44″ N lat.
Leadbetter Point, WA	46°38′10″ N lat.	Point San Pedro, CA	37°35′40″ N lat.
Cape Falcon, OR	45°46′00″ N lat.	Pigeon Point, CA	37°11′00″ N lat.
South end Heceta Bank line, OR	43°58′00″ N lat.	Point Sur, CA	36°18′00″ N lat.
Humbug Mountain, OR	42°40′30″ N lat.	Point Conception, CA	34°27′00″ N lat.
Oregon-California border	42°00′00″ N lat.	U.S./Mexico Border	32°30'00″ N lat.
Humboldt South Jetty, CA	40°45′53″ N lat.		

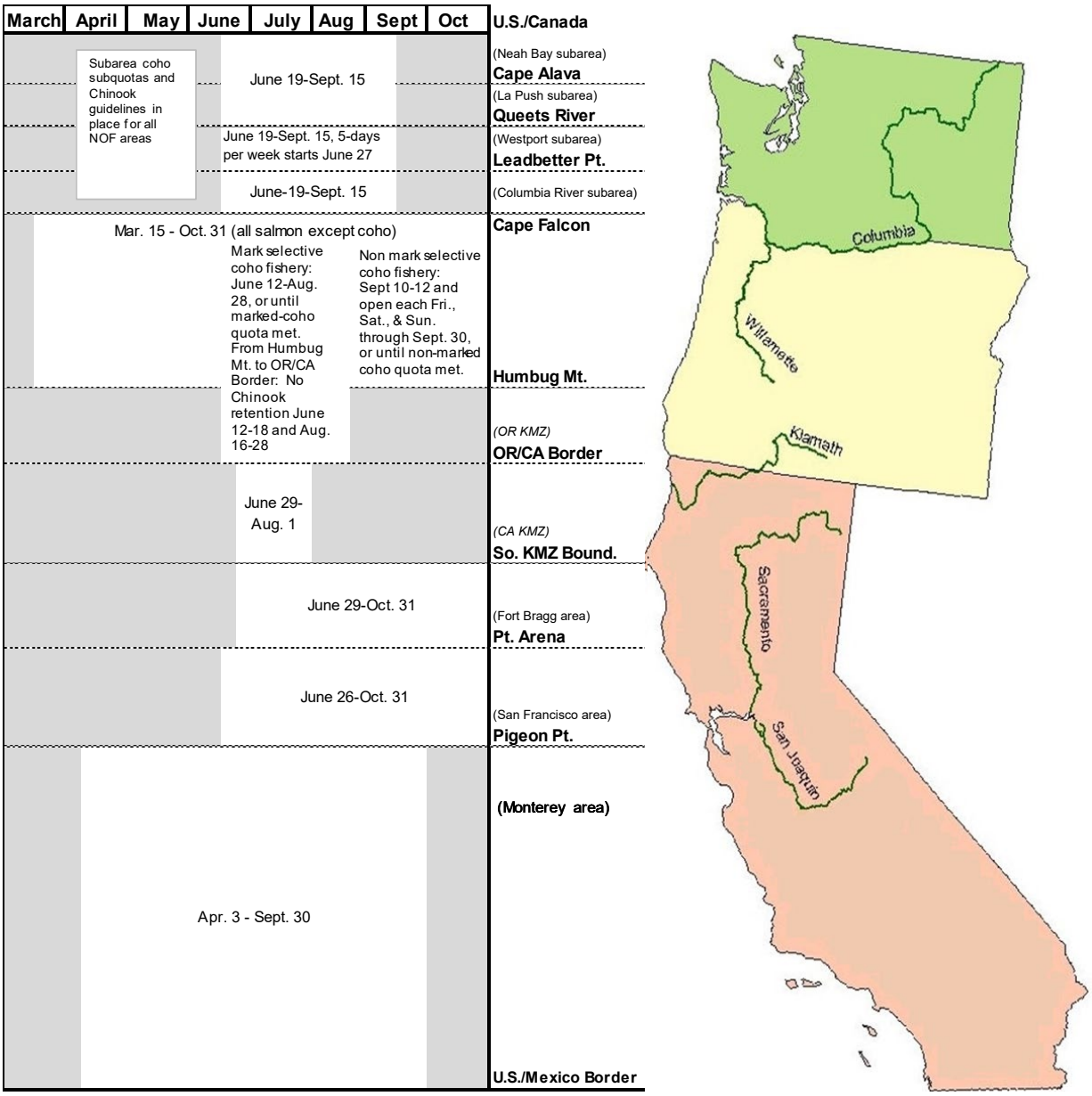

FIGURE 2. 2021 recreational salmon seasons – Council adopted.

TABLE 3. 2021 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: 40,000 Chinook and 26,500 coho.
2. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.
3. In 2022, the season will open May 1, consistent with all preseason regulations in place for Treaty Indian Troll fisheries during May 16-June 30, 2021. All catch in May 2022 applies against the 2022 Treaty Indian Troll fisheries quota. This opening could be modified following Council review at its March and/or April 2022 meetings.

- May 1 through the earlier of June 30 or 20,000 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 20,000 Chinook quota, or 26,500 coho quota.

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

B. MINIMUM LENGTH (TOTAL 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.)

TABLE 3. 2021 Treaty Indian ocean troll management measures for ocean salmon fisheries. (Page 2 of 2)

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

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 2021 season (estimated harvest during the October ceremonial and subsistence fishery: 20 Chinook; 40 coho).

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 2021 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)	20,000	-
U.S./Canada Border to Cape Falcon (All Species)	20,000	26,500
Subtotal Treaty Indian Ocean Troll	40,000	26,500
NON-INDIAN COMMERCIAL TROLL[b/]		
U.S./Canada Border to Cape Falcon (All Except Coho)	15,375	-
U.S./Canada Border to Cape Falcon (All Species)	15,375	5,000
Subtotal Non-Indian Commercial Troll	30,750	5,000
RECREATIONAL		
U.S./Canada Border to Cape Alava[b/]	5,825	5,730
Cape Alava to Queets River[b/]	1,300	1,430
Queets River to Leadbetter Pt.[b/]	12,925	20,440
Leadbetter Pt. to Cape Falcon[b/c/]	7,200	42,400
Subtotal Recreational	27,250	70,000
TOTAL NORTH OF CAPE FALCON	98,000	101,500
SOUTH OF CAPE FALCON		
COMMERCIAL TROLL[b/]		
Cape Falcon to Humbug Mt.	-	10,000
Humbug Mt. to OR/CA Border	500	-
OR/CA Border to Humboldt South Jetty	-	-
Subtotal Troll	500	10,000
RECREATIONAL		
Cape Falcon to OR/CA Border[d/]	-	134,000
TOTAL SOUTH OF CAPE FALCON	500	144,000

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 24,200 Chinook and 80,000 marked coho.

d/ The quota consists of both mark-selective and non-mark-selective quotas of 120,000 and 14,000, respectively.

TABLE 5. Projected key stock escapements (thousands of fish) or management criteria for 2021 ocean salmon fishery management measures - Council adopted.[a/] (Page 1 of 4)

Key Stock/Criteria	PROJECTED	2021 Criteria	Spawner Objective or Other Comparative Standard as Noted [b/]
CHINOOK	**CHINOOK**		**CHINOOK**
SRKW PREY ABUNDANCE:			
North of Falcon	1364.9	≥ 966.0	Oct 1 starting abundance of age 3+ Chinook from U.S./Canada Border to Cape Falcon
Oregon Coast	1140.1	NA	Oct 1 starting abundance of age 3+ Chinook from Cape Falcon to Horse Mt.
California Coast	464.5	NA	Oct 1 starting abundance of age 3+ Chinook south of Horse Mt.
Southwest WCVI	738.2	NA	Oct 1 starting abundance of age 3+ Chinook off Southwest Vancouver Island
Salish Sea	605.1	NA	Oct 1 starting abundance of age 3+ Chinook in the Salish Sea
PUGET SOUND:			
Elwha Summer/Fall	3.8%	≤ 10.0%	Southern U.S. exploitation rate (NMFS ESA consultation standard).
Dungeness Spring	3.6%	≤ 10.0%	Southern U.S. exploitation rate (NMFS ESA consultation standard).
Mid-Hood Canal Summer/Fall	12.1%	TBD	Preterminal Southern U.S. exploitation rate. Discussions are ongoing between WA state and tribal co-managers regarding a conservation standard for 2021 that is in accordance with NMFS guidance.
Skokomish Summer/Fall	49.2%	≤ 50.0%	Total exploitation rate (NMFS ESA consultation standard).
Nooksack Spring	10.5%	≤ 10.5%	Southern U.S. exploitation rate (NMFS ESA consultation standard).
	0.89	≤ 1.00	ISBM obligation applicable, as this stock lacks a CTC agreed escapement goal. Compliance assessed postseason by the PSC.
Skagit Summer/Fall	17.0%	≤ 17.0%	Southern U.S. exploitation rate (NMFS ESA consultation standard).
	0.66	≤ 0.95	ISBM obligation applicable, escapement goal not expected to be met. Compliance assessed postseason by the PSC.
Skagit Spring	10.3%	≤ 10.3%	Southern U.S. exploitation rate (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	18.1%	≤ 22.0%	Rebuilding exploitation rate (NMFS ESA consultation standard).
	0.58	≤ 1.00	ISBM obligation applicable, as this stock lacks a CTC agreed escapement goal. Compliance assessed postseason by the PSC.
Snohomish Summer/Fall	6.3%	≤ 8.0%	Southern U.S. exploitation rate limit under critical abundance forecast for 2021 (NMFS ESA consultation standard).
	0.62	≤ 1.00	ISBM obligation applicable, as this stock lacks a CTC agreed escapement goal. Compliance assessed postseason by the PSC.
Lake Washington Summer/Fall	0.547	≥ 0.500	Natural-origin escapement in the Cedar River (NMFS ESA consultation standard).
Green River Summer/Fall	1.669	≥ 1.200	Natural-origin spawning escapement (NMFS ESA consultation standard). Spawner objective can be met through fishery mgmt and/or hatchery broodstock management actions.
White River Spring	16.6%	≤ 22.0%	Southern U.S. exploitation rate (NMFS ESA consultation standard).
Puyallup Summer/Fall	0.929	≥ 0.750	Natural-origin spawning escapement (NMFS ESA consultation standard). Spawner objective can be met through fishery mgmt and/or hatchery broodstock management actions.
Nisqually River Summer/Fall	47.7%	≤ 47.0%	Total exploitation rate, (NMFS ESA consultation standard). Up to an additional 2% ER may be added to facilitate inriver selective gear studies after meeting base criteria during final preseason modeling.
Puget Sound Spring	2.0%	≤ 3.0%	Exploitation rate in PFMC fisheries (NMFS ESA consultation standard).
Puget Sound Summer/Fall	5.0%	≤ 6.0%	Exploitation rate in PFMC fisheries (NMFS ESA consultation standard).

TABLE 5. Projected key stock escapements (thousands of fish) or management criteria for 2021 ocean fishery management measures - Council Adopted.[a/] (Page 2 of 4)

Key Stock/Criteria	PROJECTED	2021 Criteria	Spawner Objective or Other Comparative Standard as Noted [b/]
CHINOOK	**CHINOOK**		**CHINOOK**
WASHINGTON COAST:			
Hoko Fall	1.054	0.85	FMP MSY spawning escapement objective.
	2.0%	≤ 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	349.2	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.
Mid-Columbia Brights	85.0	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	73.8	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)	38.0%	≤ 38.0%	Total adult equivalent fishery exploitation rate (2021 NMFS ESA guidance).
Columbia Lower River Wild[e/] (threatened)	20.4	6.9	Minimum ocean escapement to attain MSY spawner goal of 5.7 for N. Lewis River fall Chinook (NMFS ESA consultation standard).
Spring Creek Hatchery Tules	47.3	8.2	Minimum ocean escapement to attain 6.0 adults for Spring Creek Hatchery egg-take, assuming average conversion and no mainstem harvest.
Upper Columbia River Summer	78.8	29.0	Aggregate escapement to mouth of Columbia River.
Snake River Fall (threatened) SRFI	50.3%	≤ 70.0%	Of 1988-1993 base period exploitation rate for all ocean fisheries (NMFS ESA consultation standard).

TABLE 5. Projected key stock escapements (thousands of fish) or management criteria for 2021 ocean fishery management measures - Council Adopted.[a/] (Page 3 of 4)

Key Stock/Criteria	PROJECTED	2021 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 not applicable, escapement goal 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	31.574	≥ 31.574	2021 minimum natural area adult escapement (FMP control rule).
Federally recognized tribal harvest	50.0%	50.0%	Equals 8.1 thousand adult fish for Yurok and Hoopa Valley tribal fisheries.
Exploitation (spawner reduction) rate	25.0%	≤ 25.0%	FMP control rule.
Adult river mouth return	62.1	NA	Total adults in thousands.
Age-4 ocean harvest rate	10.5%	≤ 16.0%	NMFS ESA consultation standard for threatened California Coastal Chinook.
KMZ sport fishery share	7.7%		
River recreational fishery share	15.0%	NA	Equals 1.2 thousand adult fish for recreational inriver fisheries.
Sacramento River Winter (endangered)	14.7%	≤ 20.0%	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 2021 ESA Guidance).
Sacramento River Fall	133.9	≥ 122.0	2021 minimum hatchery and natural area adult escapement (FMP control rule).
Sacramento Index Exploitation Rate	50.6%	≤ 55.0%	FMP control rule.
Ocean commercial impacts	72.6		Includes fall (Sept-Dec) 2020 impacts (9.1 thousand SRFC).
Ocean recreational impacts	42.6		Includes fall (Sept-Dec) 2020 impacts (5.2 thousand SRFC).
River recreational impacts	21.8		Equals 15.9% of the total harvest.

TABLE 5. Projected key stock escapements (thousands of fish) or management criteria for 2021 ocean fishery management measures - Council Adopted.[a/] (Page 4 of 4)

Key Stock/Criteria	PROJECTED	2021 Criteria	Spawner Objective or Other Comparative Standard as Noted [b/]
COHO	**COHO**		**COHO**
Interior Fraser (Thompson River)	5.9%(2.4%)	≤ 10.0%	2021 Southern U.S. exploitation rate ceiling; PSC coho agreement.
Skagit	34.9%(2.1%)	≤ 35.0%	2021 total exploitation rate ceiling; FMP matrix[d/]
Stillaguamish	28.6%(1.4%)	≤ 50.0%	2021 total exploitation rate ceiling; FMP matrix[d/]
Snohomish	28.5%(1.5%)	≤ 40.0%	2021 total exploitation rate ceiling; FMP matrix[d/]
Hood Canal	43.1%(2.4%)	≤ 45.0%	2021 total exploitation rate ceiling; FMP matrix[d/]
Strait of Juan de Fuca	9.2%(2.1%)	≤ 20.0%	2021 total exploitation rate ceiling; FMP matrix[d/]
Quillayute Fall	7.3	6.3	FMP MSY adult spawner estimate. Value depicted is ocean escapement.
Hoh	2.6	2.0	FMP MSY adult spawner estimate. Value depicted is ocean escapement.
Queets Wild	3.4	3.2	Comanager adult spawner agreement.[d/] Value depicted is ocean escapement.
Grays Harbor	46.8	35.4	FMP MSP natural area adult spawner estimate. Value depicted is ocean escapement.
Willapa Bay	32.2	17.2	FMP MSY natural area adult spawner estimate. Value depicted is ocean escapement.
Lower Columbia River Natural (threatened)	10.1%	≤30.0%	Total marine and mainstem Columbia R. fishery exploitation rate (2021 NMFS ESA guidance).
Upper Columbia[c/]	81.4%	≥ 50%	Minimum percentage of the run to Bonneville Dam.
Columbia River Hatchery Early	797.4	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	452.0	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	12.8%	≤ 15.0%	Marine and freshwater fishery exploitation rate (NMFS ESA consultation standard).
Southern Oregon/Northern California Coast (threatened)	2.7%	≤ 13.0%	Marine fishery exploitation rate for R/K hatchery coho (NMFS ESA consultation standard).

a/ Reflects 2021 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 and OCN coho and LCR Tule Chinook represent marine and freshwater impacts. Values reported for Klamath River fall Chinook, Grays Harbor coho, and Willapa Bay coho are natural area adult spawners. Values reported for Sacramento River fall Chinook are hatchery and natural area adult spawners.

c/ Includes projected impacts of inriver fisheries that have not yet been shaped.

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. It is anticipated that fishery management will be adjusted by state and tribal comanagers during the preseason planning process to comply with stock management objectives.

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

TABLE 6. Preliminary projections of Chinook and coho harvest impacts for 2021 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 2020 Catch	Observed in 2020 Bycatch Mortality	
OCEAN FISHERIES:		**CHINOOK (thousands of fish)**				
NORTH OF CAPE FALCON						
Treaty Indian Ocean Troll	40.0	4.1	10.3	2.4	0.2	
Non-Indian Commercial Troll	30.7	12.5	44.5	12.5	5.8	
Recreational	27.2	3.3	15.4	7.7	0.9	
CAPE FALCON TO HUMBUG MT.						
Commercial Troll	31.3	9.1	27.0	11.7	3.9	
Recreational	6.8	0.7	2.4	5.4	0.7	
HUMBUG MT. TO OR/CA BORDER						
Commercial Troll	1.2	0.3	1.0	0.8	0.3	
Recreational	1.2	0.2	0.9	1.6	0.4	e/
OR/CA BORDER TO S. KMZ BOUND.						
Commercial Troll	-	-	-	-	-	
Recreational[d/]	3.0	0.3	1.1	1.8	0.4	e/
S. KMZ BOUND. TO PT. ARENA						
Commercial Troll	7.7	2.2	6.7	1.8	1.0	e/
Recreational[d/]	5.9	0.6	2.1	1.9	0.2	e/
PT. ARENA TO PIGEON PT.						
Commercial Troll	34.6	10.0	29.8	145.3	42.3	e/
Recreational[d/]	28.4	3.0	9.6	34.8	3.4	e/
SOUTH OF PIGEON PT.						
Commercial Troll	24.0	7.0	20.7	30.2	7.0	e/
Recreational[d/]	11.7	1.2	3.9	1.3	0.2	e/
TOTAL OCEAN FISHERIES						
Commercial Troll	169.6	45.3	140.1	204.8	60.4	
Recreational[d/]	84.2	9.4	35.5	54.4	6.2	
INSIDE FISHERIES:						
Area 4B	-	-	-	-	-	
Buoy 10	24.2	2.8	14.7	14.6	1.8	e/

TABLE 6. Preliminary projections of Chinook and coho harvest impacts for 2021 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 2020 Catch	Observed in 2020 Bycatch Mortality	
OCEAN FISHERIES:		**COHO (thousands of fish)**				
NORTH OF CAPE FALCON						
Treaty Indian Ocean Troll[f/]	26.5	2.1	4.3	14.4	1.3	
Non-Indian Commercial Troll	5.0	3.6	12.6	0.8	0.5	
Recreational	70.0	10.2	41.1	24.0	4.9	
SOUTH OF CAPE FALCON						
Commercial Troll	10.0	8.1	28.7	-	0.7	
Recreational[f/]	134.0	25.6	113.9	17.1	6.8	
TOTAL OCEAN FISHERIES						
Commercial Troll	41.5	13.8	45.6	15.2	2.5	
Recreational	204.0	35.8	155.0	41.1	11.7	
INSIDE FISHERIES:						
Area 4B	-	-	-	-	-	
Buoy 10	80.0	15.3	66.3	7.1	1.7	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/ Catch and bycatch mortality observed in 2020 for the California recreational fishery do not include estimates for May and June due to restrictions on sampling caused by the COVID-19 pandemic.

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 2021 ocean salmon fisheries - Council adopted.

	Exploitation Rate (Percent)			
Fishery	LCN Coho	OCN Coho	RK Coho	LCR Tule Chinook
SOUTHEAST ALASKA	0.0%	0.0%	0.0%	2.1%
BRITISH COLUMBIA	0.3%	1.0%	0.6%	13.2%
PUGET SOUND/STRAIT	0.1%	0.0%	0.0%	0.3%
NORTH OF CAPE FALCON				
Treaty Indian Ocean Troll	0.9%	0.2%	0.0%	2.2%
Recreational	1.3%	0.2%	0.0%	3.3%
Non-Indian Troll	0.3%	0.1%	0.0%	4.9%
SOUTH OF CAPE FALCON				
Recreational:				0.3%
Cape Falcon to Humbug Mt.	3.0%	6.4%	0.4%	-
Humbug Mt. to OR/CA border (KMZ)	0.0%	0.2%	0.5%	-
OR/CA border to Horse Mt. (KMZ)	0.0%	0.1%	0.3%	-
Fort Bragg	0.0%	0.1%	0.4%	-
South of Pt. Arena	0.0%	0.1%	0.2%	-
Troll:				0.8%
Cape Falcon to Humbug Mt.	0.5%	0.6%	0.1%	-
Humbug Mt. to OR/CA border (KMZ)	0.0%	0.0%	0.0%	-
OR/CA border to Horse Mt. (KMZ)	0.0%	0.0%	0.0%	-
Fort Bragg	0.0%	0.0%	0.1%	-
South of Pt. Arena	0.0%	0.2%	0.1%	-
BUOY 10	1.8%	0.1%	0.0%	10.9%
ESTUARY/FRESHWATER	1.7%	3.5%	0.2%	
TOTAL[a/]	10.1%	12.8%	2.7%	38.0%

a/ Totals do not include estuary/freshwater for RK coho; estuary/freshwater catch is included in the total for LCN, OCN, and LCR Tule Chinook.

TABLE 8. 2021 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	37%	37%	31%	--
West Coast Vancouver Island	Recreational	50%	39%	35%	40%
North Georgia Strait	Recreational	48%	49%	48%	43%
South Georgia Strait	Recreational	47%	51%	44%	46%
Juan de Fuca Strait	Recreational	50%	49%	50%	46%
Johnstone Strait	Troll	--	--	--	--
NW Vancouver Island	Troll	49%	44%	44%	44%
SW Vancouver Island	Troll	60%	52%	53%	--
Georgia Strait	Troll	--	--	--	--
Puget Sound					
Strait of Juan de Fuca (Area 5)	Recreational	--	55%	54%	50%
Strait of Juan de Fuca (Area 6)	Recreational	--	50%	50%	46%
San Juan Island (Area 7)	Recreational	--	53%	48%	36%
North Puget Sound (Areas 6 & 7A)	Net	--	--	49%	39%
Council Area					
Neah Bay (Area 4/4B)	Recreational	--	65%	57%	65%
LaPush (Area 3)	Recreational	--	67%	71%	51%
Westport (Area 2)	Recreational	79%	76%	71%	66%
Columbia River (Area 1)	Recreational	78%	80%	70%	70%
Tillamook	Recreational	72%	67%	60%	55%
Newport	Recreational	67%	62%	59%	50%
Coos Bay	Recreational	61%	57%	49%	36%
Brookings	Recreational	58%	46%	39%	--
Neah Bay (Area 4/4B)	Troll	--	59%	60%	63%
LaPush (Area 3)	Troll	--	60%	59%	57%
Westport (Area 2)	Troll	--	72%	71%	67%
Columbia River (Area 1)	Troll	--	79%	74%	57%
Tillamook	Troll	--	66%	63%	--
Newport	Troll	--	62%	58%	--
Coos Bay	Troll	--	57%	52%	--
Brookings	Troll	--	--	--	--
Columbia River					
Buoy 10	Recreational	--	--	--	61%

TABLE 9. Preliminary projected exvessel value by catch area under Council-adopted 2021 non-Indian commercial troll management measures compared with 2020 and the 2016-2020 average (inflation-adjusted 2020 dollars).

	Exvessel Value (thousands of dollars)[a/]				
				Percent Change	
Management Area	2021 Projected[b/]	2020	2016-2020 Average	From 2020 (Modeled)	From 2016-2020 Average
North of Cape Falcon	2,526	1,035	2,140	+144%	+18%
Cape Falcon to Humbug Mt.	2,375	1,392	2,298	+71%	+3%
Humbug Mt. to OR/CA Border (OR KMZ)	91	106	157	-14%	-42%
OR/CA Border to Horse Mt. (CA KMZ)	0	0	213	-	-100%
Horse Mt. to Pt. Arena (Fort Bragg)	476	172	703	+176%	-32%
Pt. Arena to Pigeon Pt. (SF)	2,156	11,694	6,393	-82%	-66%
South of Pigeon Pt. (MO)	1,586	2,665	2,906	-41%	-45%
Total South of Cape Falcon	6,684	16,029	12,669	-58%	-47%
West Coast Total	9,210	17,064	14,809	-46%	-38%

a/ All dollar amounts are inflation-adjusted 2020 values. Exvessel value estimates are not comparable to the community income impacts shown in Table 10.

b/ 2021 projections are based on expected catches in the Council management areas, 2020 exvessel prices and 2020 average weight per fish.

TABLE 10. Preliminary projected angler trips and associated state-level personal income impacts under Council-adopted 2021 recreational ocean salmon management measures compared with 2020 and the 2016-2020 average (inflation-adjusted 2020 dollars).

				Coastal Community Income Impacts[a/]				
	Angler Trips (thousands)			(thousands of dollars)[b/]			Percent Change in Income Impacts	
Management Area	2021 Projected	2020	2016-2020 Avg.	2021 Projected	2020[c/]	2016-2020 Avg.	Compared to 2020	Compared to 2016-2020 Avg.
North of Cape Falcon	88.1	30.2	57.1	13,739	4,710	7,901	+192%	+74%
Cape Falcon to Humbug Mt.	73.0	47.3	46.7	5,015	3,248	3,382	+54%	+48%
Humbug Mt. to OR/CA Border (OR KMZ)	6.4	6.3	4.8	401	391	295	+3%	+36%
OR/CA Border to Horse Mt. (CA KMZ)	6.3	5.1	5.8	731	583	702	+25%	+4%
Horse Mt. to Pt. Arena (Fort Bragg)	11.3	5.3	7.4	1,645	766	1,176	+115%	+40%
Pt. Arena to Pigeon Pt. (SF)	45.7	50.6	54.4	10,863	12,037	13,124	-10%	-17%
South of Pigeon Pt. (MO)	33.8	4.7	14.4	5,086	709	1,927	+618%	+164%
Total South of Cape Falcon	176.5	119.2	133.5	23,741	17,732	20,607	+34%	+15%
West Coast Total	264.6	149.4	190.6	37,481	22,443	28,508	+67%	+31%

a/ Income impacts are not comparable to exvessel values shown in Table 9.

b/ Dollar amounts are in inflation-adjusted 2020 values.

c/ Angler trips and income impacts for the 2020 California recreational fishery do not include private trips during May and June due to restrictions on sampling caused by the COVID-19 pandemic.

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	2021 Criteria	Objective or Other Comparative Standard as Noted
Chinook								
KRFC	Spawning Escapement	**22,958**[e/]	31,574	31,574	31,574	31,574	≥ 31,574	2021 minimum natural area adult escapement (FMP control rule).
	Exploitation (spawner reduction) rate	**45.5%**[e/]	25.0%	25.0%	25.0%	25.0%	≤ 25.0%	FMP control rule.
SRFC	Spawning Escapement	**94,025**[e/]	131,034	132,221	128,040	133,913	≥ 122,000	2021 minimum hatchery and natural area adult escapement (FMP control rule).
	Exploitation Rate	**65.3%**[e/]	51.6%	51.2%	52.7%	50.6%	≤ 55.0%	FMP control rule.
Canadian Stocks								
Interior Fraser Coho		5.4%(1.2%)	5.8%(1.6%)	5.5%(1.2%)	4.4%(0.1%)	5.9%(2.4%)	≤ 10.0%	2021 Southern U.S. exploitation rate ceiling; PSC coho agreement.
Puget Sound Coho								
Skagit		28.5%	29.9%(1.4%)	29.7%(1.1%)	28.8%(0.1%)	34.9%(2.1%)	≤ 35.0%	2021 total exploitation rate ceiling; FMP matrix[c/]
Stillaguamish		24.8%	25.7%(1.0%)	25.6%(0.8%)	24.9%(0.1%)	28.6%(1.4%)	≤ 50.0%	2021 total exploitation rate ceiling; FMP matrix[c/]
Snohomish		19.6%	20.6%(1.0%)	20.5%(0.8%)	19.8%(0.1%)	28.5%(1.5%)	≤ 40.0%	2021 total exploitation rate ceiling; FMP matrix[c/]
Hood Canal		40.0%	41.5%(1.7%)	41.2%(1.4%)	40.3%(0.1%)	43.1%(2.4%)	≤ 45.0%	2021 total exploitation rate ceiling; FMP matrix[c/]
Strait of Juan de Fuca		7.5%	8.4%(1.4%)	8.1%(1.1%)	7.3%(0.4%)	9.2%(2.1%)	≤ 20.0%	2021 total exploitation rate ceiling; FMP matrix[c/]
Washington Coastal Coho (in thousands of fish)								
Quillayute Fall Coho		7.3	7.3	7.3	7.4	7.3	6.3	FMP MSY adult spawner estimate. Value depicted is ocean escapement.
Hoh Coho		2.8	2.6	2.6	2.7	2.6	2.0	FMP MSY adult spawner estimate. Value depicted is ocean escapement.
Queets Wild Coho		3.6	3.4	3.4	3.5	3.4	3.2	Comanager adult spawner agreement.[c/] Value depicted is ocean escapement.
Grays Harbor Coho[f/]		47.6	47.1	47.2	47.8	46.8	35.4	FMP MSP natural area adult spawner estimate. Value depicted is ocean escapement.
Willapa Bay Natural Coho		34.6	32.3	32.3	33.4	32.2	17.2	FMP MSY natural area adult spawner estimate. Value depicted is ocean escapement.
ESA-Listed Salmon								
California Coastal Chinook		**19.4%**[e/]	10.4%	10.3%	10.6%	10.5%	≤ 16.0%	KRFC age-4 ocean harvest rate.
SRWC		15.4%	11.7%	14.2%	12.6%	14.7%	≤ 20.0%	SRWC age-3 ocean impact rate in fisheries south of Pt. Arena.
LCR Natural Tule Chinook [d/]		NA	**38.7%**	37.1%	31.1%	38.0%	≤ 38.0%	Total adult equivalent fishery exploitation rate.
LCN Coho [d/]		16.9%				10.1%		Total marine and mainstem Columbia R. fishery exploitation rate (2021 NMFS ESA guidance).
			6.4%	6.6%	3.8%		≤30.0%	
OCN coho [d/]		11.6%	11.1%	10.5%	9.5%	12.8%	≤ 15.0%	Marine and freshwater fishery exploitation rate (NMFS ESA consultation standard).
SONCC (RK) coho		3.1%	3.0%	2.9%	2.5%	2.7%	≤ 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	1,916	4,302	3,683	-	4,145
Cape Falcon to Humbug Mt.	1,758	5,509	5,833	6,360	4,925
Humbug to OR/CA border (OR KMZ)	185	449	382	500	383
OR/CA border to Horse Mt. (CA KMZ)	19	17	13	13	12
Horse Mt. to Pt. Arena (Fort Bragg)	1,020	2,140	1,513	1,447	1,102
Pt. Arena to Pigeon Pt. (San Francisco)	21,455	4,339	4,394	4,579	5,229
South of Pigeon Pt. (Monterey)	2,199	2,012	1,777	1,774	1,746
West Coast Total	28,553	18,767	17,596	14,673	17,542
Recreational Community Personal Income Impacts (thousands of dollars)					
North of Cape Falcon	4,710	14,672	17,920	-	13,739
Cape Falcon to Humbug Mt.	3,248	5,015	3,970	2,872	5,015
Humbug to OR/CA border (OR KMZ)	391	401	216	391	401
OR/CA border to Horse Mt. (CA KMZ)	583	727	762	675	731
Horse Mt. to Pt. Arena (Fort Bragg)	766	1,664	1,700	1,733	1,645
Pt. Arena to Pigeon Pt. (San Francisco)	12,037	10,709	10,316	10,370	10,863
South of Pigeon Pt. (Monterey)	709	6,016	6,009	6,000	5,086
West Coast Total	22,443	39,204	40,892	22,041	37,481

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. Data for Alternatives based on Table 5a of 2021 Preseaon Report

b/ Socioeconomic impacts under the No-Action Alternative are assumed equal to 2020 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.

e/ Values differ from what was reported in Preseason Report I due to changes to inputs for the Klamath Ocean Harvest Model and Sacramento Harvest Model (see Preseason Report II, Appendix B).

f/ During the April 2021 Council meeting, Grays Harbor ocean escapement estimates were updated to include all natural area spawners (including both natural- and hatchery-origin) in order to align with how the stock is represented in the PST arena. Natural-origin only ocean escapement values for the No-Action Alternative and Alternatives I-III, as reported in Preseason Reports I and II, are 43.4, 43.0, 43.1, and 43.6, respectively.

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. 2021 spawning escapement and exploitation rate estimates are based on 2021 preseason abundance forecasts and 2021 adopted Council regulations.

	Estimated Adult Spawning Escapement									Total Exploitation Rate						
	2016	2017	2018	2019	2020[a/]	Forecast 2021[b/]	3-yr Geo Mean	MSST	S_{MSY}	2016	2017	2018	2019[a/]	2020[a/]	2021[b/]	MFMT
Chinook																
Sacramento Fall	89,699	44,329	105,466	163,767	137,907	133,913	144,614	91,500	122,000	0.56	0.68	0.52	0.68	0.61	0.51	0.78
Klamath River Fall	13,937	19,904	52,352	20,022	26,190	31,574	**25,487**	30,525	40,700	0.37	0.10	0.32	0.43	0.30	0.25	0.71
Southern Oregon[c/]	27,278	91,977	39,507	20,076	30,497	NA	28,920	20,500	34,992	NA	NA	NA	NA	NA	NA	0.54
Central and Northern Or[d/]	118	114	92	65	135	NA	93	30 fish/mi	60 fish/mi	0.47	0.44	0.65	NA	NA	NA	0.78
Upper Columbia Bright - Fall[d/]	151,373	96,096	58,540	77,880	98,401	103,012	92,421	19,182	39,625	0.47	0.42	0.33	NA	NA	NA	0.86
Upper Columbia - Summer[d/]	79,253	56,265	38,816	41,090	70,654	57,043	54,915	6,072	12,143	0.55	0.44	0.52	NA	NA	NA	0.75
Willapa Bay - Fall[e/]	1,888	3,078	2,853	2,894	NA	NA	2,940	1,696	3,393	0.62	0.55	0.65	NA	NA	NA	0.78
Grays Harbor Fall[e/]	11,248	17,145	20,741	14,880	NA	NA	17,426	5,694	13,326	0.62	0.55	0.65	NA	NA	NA	0.78
Grays Harbor Spring	926	1,384	493	983	2,828	NA	1,111	700	1,400	NA	NA	NA	NA	NA	NA	0.78
Queets - Fall[d/]	3,035	2,822	2,207	2,663	NA	NA	2,550	1,250	2,500	0.62	0.55	0.65	NA	NA	NA	0.87
Queets - Sp/Su	704	825	484	322	NA	NA	505	350	700	NA	NA	NA	NA	NA	NA	0.78
Hoh - Fall[e/]	2,831	1,808	2,478	1,552	NA	NA	1,909	600	1,200	0.62	0.55	0.65	NA	NA	NA	0.90
Hoh Sp/Su	1,144	1,364	793	766	NA	NA	939	450	900	NA	NA	NA	NA	NA	NA	0.78
Quillayute - Fall[e/]	3,654	3,604	3,937	7,765	8,202	NA	6,306	1,500	3,000	0.62	0.55	0.65	NA	NA	NA	0.87
Quillayute - Sp/Su	871	1,097	990	1,442	635	NA	968	600	1,200	NA	NA	NA	NA	NA	NA	0.78
Hoko -Su/Fa[d/]	1,324	1,188	2,179	1,815	1,298	NA	1,725	425	850	0.28	0.26	0.53	NA	NA	NA	0.78
Coho																
Willapa Bay[f/]	30,667	11,379	17,228	15,115	NA	23,452	18,279	8,600	17,200	0.38	0.34	0.35	0.39	NA	0.37	0.74
Grays Harbor[f/]	38,595	26,907	49,622	30,468	NA	46,795	41,359	18,320	24,426	0.11	0.32	0.22	0.40	NA	0.26	0.65
Queets	5,156	5,232	2,631	1,700	NA	3,157	**2,417**	4,350	5,800	0.15	0.23	0.23	0.57	NA	0.20	0.65
Hoh	5,009	4,478	2,463	2,445	NA	2,216	2,372	1,890	2,520	0.08	0.43	0.34	0.57	NA	0.27	0.65
Quillayute Fall	9,630	7,474	6,091	6,852	7,096	6,514	6,817	4,725	6,300	0.18	0.42	0.30	0.37	NA	0.14	0.59
Juan de Fuca	8,435	5,530	5,470	4,625	NA	6,089	**5,361**	7,000	11,000	0.03	0.05	0.08	0.12	NA	0.09	0.60
Hood Canal	24,313	23,871	7,512	7,884	NA	16,461	**9,916**	10,750	14,350	0.40	0.35	0.57	0.46	NA	0.43	0.65
Skagit	35,822	20,184	19,047	14,246	NA	38,271	21,817	14,875	25,000	0.20	0.09	0.49	0.48	NA	0.35	0.60
Stillaguamish	13,048	6,099	23,937	12,887	NA	19,242	18,106	6,100	10,000	0.16	0.12	0.22	0.20	NA	0.29	0.50
Snohomish	44,141	18,195	58,135	40,314	NA	43,076	46,563	31,000	50,000	0.18	0.21	0.25	0.17	NA	0.29	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 2020 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.

f/ Escapement and exploitation rate estimates based on natural area adult spawners.

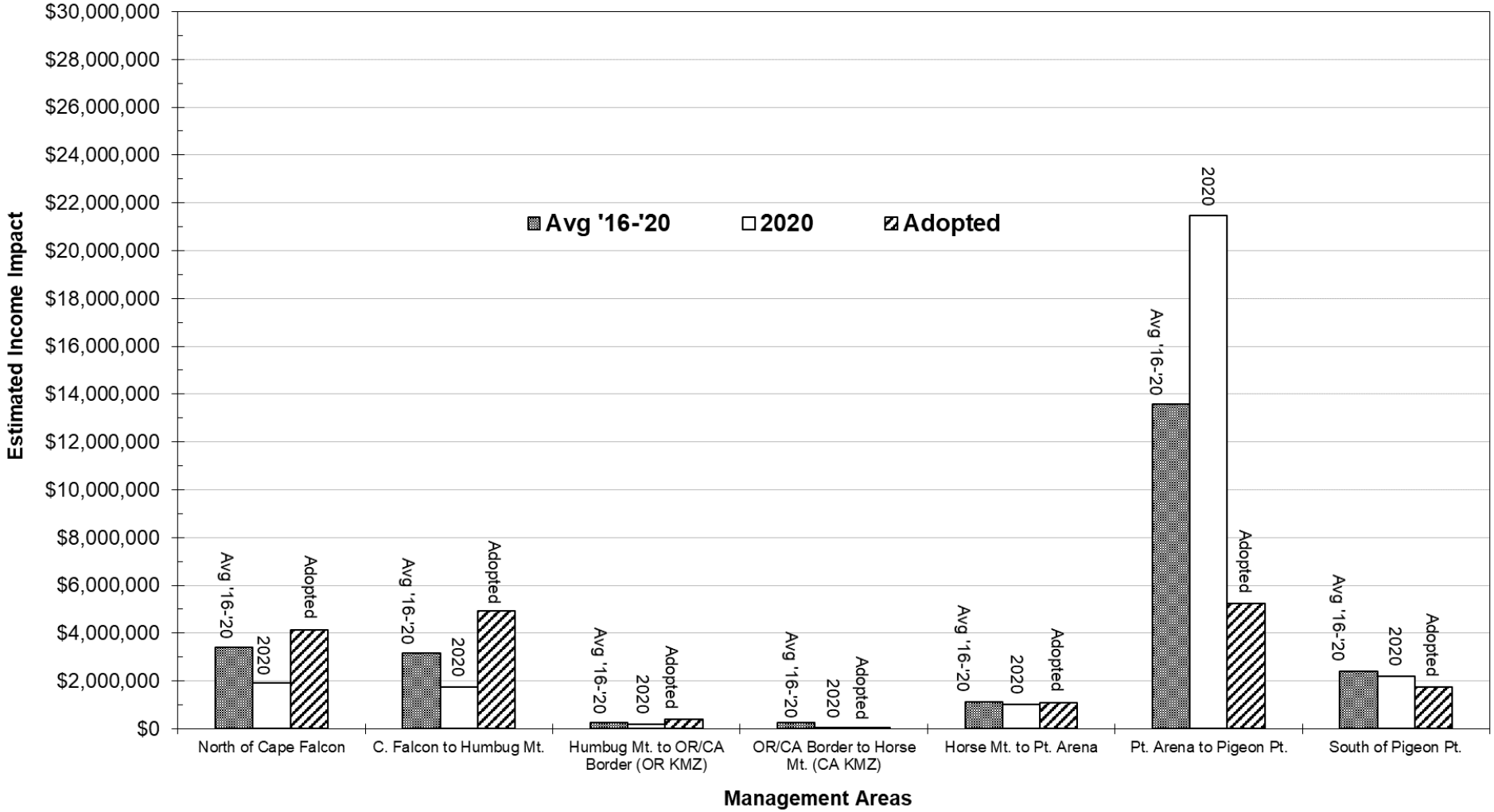

FIGURE 3. Projected coastal community personal income impacts associated with the 2021 commercial troll fishery under Council-adopted management measures compared to estimated 2020 and the 2016-2020 inflation-adjusted average (in 2020 dollars).

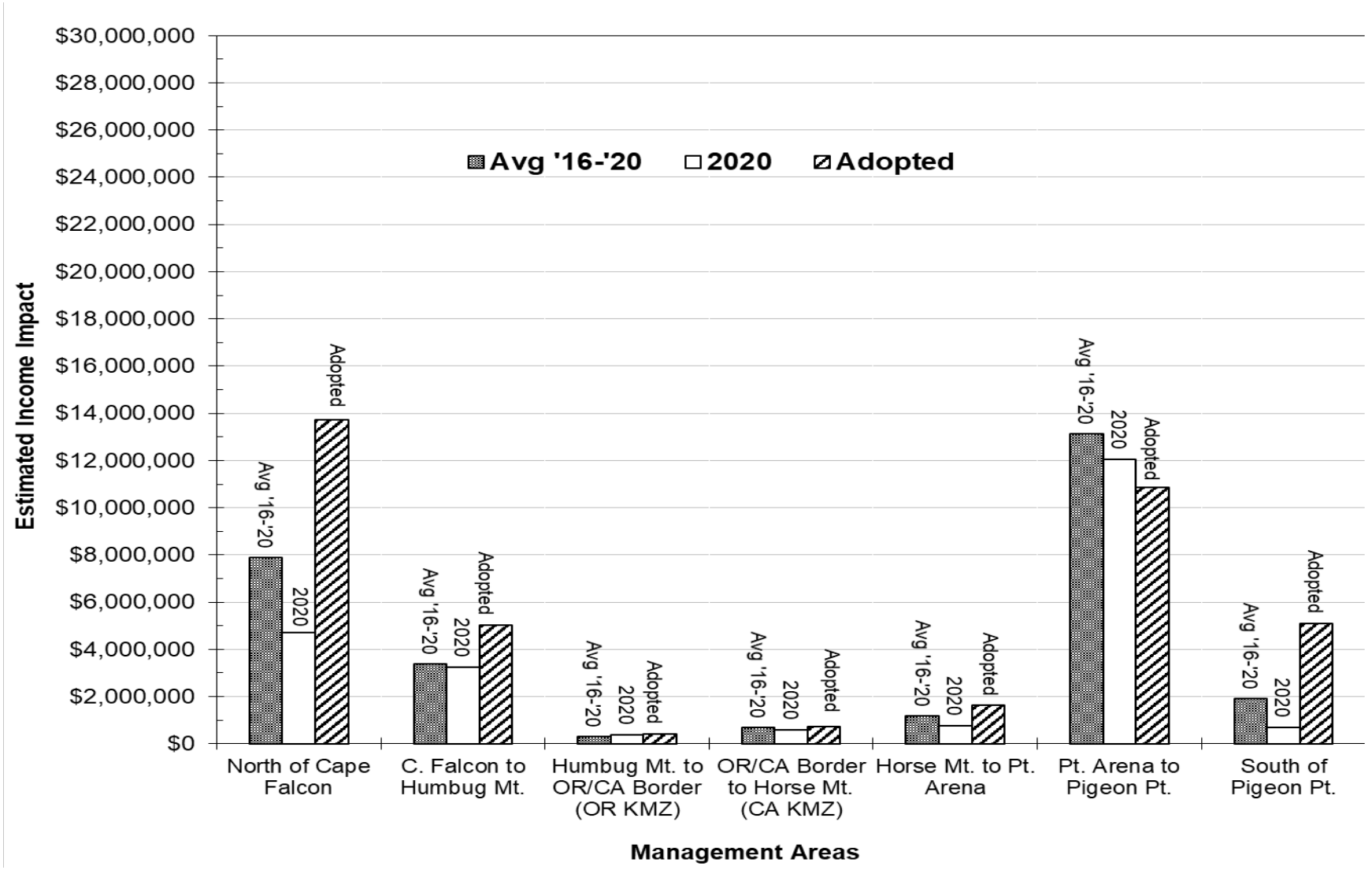

FIGURE 4. Projected coastal community personal income impacts associated with the 2021 recreational ocean salmon fishery under Council-adopted management measures compared to estimated 2020 and the 2016-2020 inflation-adjusted average (in 2020 dollars).

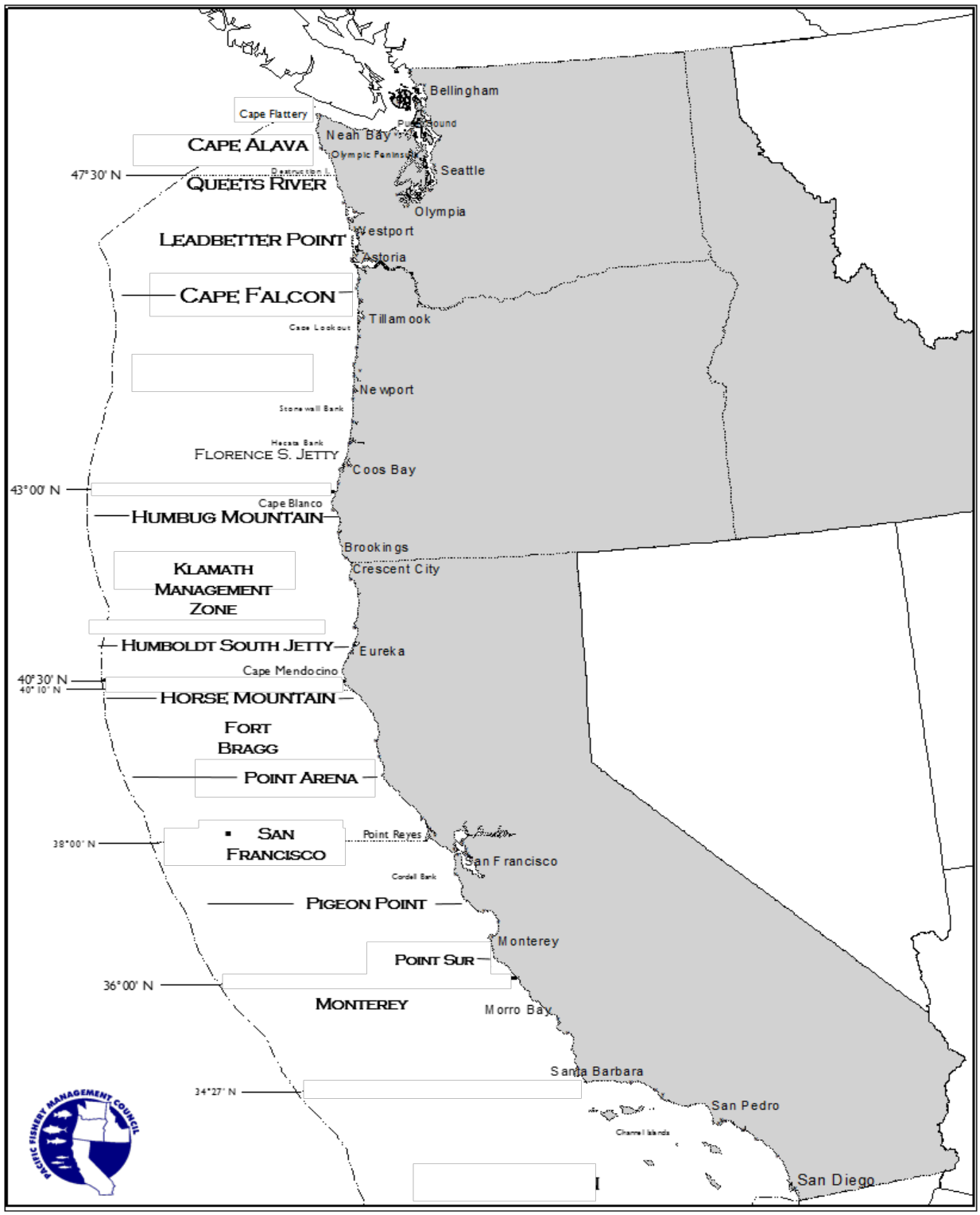

FIGURE 5. Map of Pacific West Coast with major salmon ports and management boundaries. This map is for reference only and is not intended for use in navigation or fishery regulation.