PRESEASON REPORT III

COUNCIL ADOPTED MANAGEMENT MEASURES
AND
ENVIRONMENTAL ASSESSMENT PART 3
FOR 2016
OCEAN SALMON FISHERY
REGULATIONS

REGULATION IDENTIFIER NUMBER 0648-BF56

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

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ACKNOWLEDGMENTS

SALMON TECHNICAL TEAM

DR. ROBERT KOPE, CHAIR
National Marine Fisheries Service, Seattle, Washington

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

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

MR. BRETT KORMOS
California Department of Fish and Wildlife, Santa Rosa, California

MR. LARRIE LAVOY
National Marine Fisheries Service, Seattle, Washington

MR. DOUG MILWARD
Washington Department of Fish and Wildlife, Olympia, Washington

MR. HENRY YUEN
U.S. Fish and Wildlife Service (Alternate), Vancouver, Washington

PACIFIC FISHERY MANAGEMENT COUNCIL STAFF

MR. MIKE BURNER
MS. RENEE DORVAL
MS. KIM AMBERT
MR. KRIS KLEINSCHMIDT

The Salmon Technical Team and the Council staff express their thanks for the expert assistance provided by Ms. Wendy Beeghley, Mr. Kyle Van de Graaf, Mr. Aaron Dufault, Ms. Angelika Hagen-Breaux, Mr. Jon Carey, and Mr. Jeff Haymes, Washington Department of Fish and Wildlife; Mr. Alex Letvin, Ms. Melodie Palmer-Zwahlen, and Ms. Jennifer Simon, California Department of Fish and Wildlife; Ms. Sandy Zeiner, Northwest Indian Fisheries Commission; and numerous other agency and tribal personnel in completing this report.

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LIST OF ACRONYMS AND ABBREVIATIONS

AABM	Aggregate Abundance Based Management
AEQ	adult equivalent
BO	biological opinion
CDFW	California Department of Fish and Wildlife
Council	Pacific Fishery Management Council
CPUE	catch per unit effort
EEZ	Economic Exclusive Zone
EIS	Environmental Impact Statement
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
FMP	fishery management plan
FONSI	finding of no significant impact
FRAM	Fishery Regulation Assessment Model
GSI	genetic stock identification
IPHC	International Pacific Halibut Commission
ISBM	Individual Stock Based Management
KMZ	Klamath Management Zone
KRFC	Klamath River fall Chinook
LCN	lower Columbia River natural (coho)
LCR	lower Columbia River (natural tule Chinook)
LRH	lower river hatchery (tule fall Chinook returning to hatcheries below Bonneville Dam)
LRW	lower river wild (Columbia River fall Chinook, primarily from the North Lewis River)
MSY	maximum sustainable yield
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
ODFW	Oregon Department of Fish and Wildlife
OCN	Oregon coastal natural (coho)
OPI	Oregon Production Index
PSC	Pacific Salmon Commission
PST	Pacific Salmon Treaty
RER	rebuilding exploitation rate
RMP	Resource Management Plan
RK	Rogue/Klamath (hatchery coho)
SAS	Salmon Advisory Subpanel
SCH	Spring Creek Hatchery (tule fall Chinook returning to Spring Creek Hatchery)
SI	Sacramento index
SONCC	Southern Oregon/Northern California Coast (coho)
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
WCVI	West Coast Vancouver Island
WDFW	Washington Department of Fish and Wildlife

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1.0 INTRODUCTION

This is the last in a series of three preseason reports prepared by the Pacific Fishery Management Council's (Council) Salmon Technical Team (STT) and staff. The reports document and help guide salmon fishery management in the exclusive economic zone (EEZ) from 3 to 200 nautical miles off the coasts of Washington, Oregon, and California, and within state territorial waters. This report summarizes the STT analysis of the 2016 ocean salmon fishery management measures adopted by the Council for submission to the U.S. Secretary of Commerce and characterizes their 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 2016 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 2016c) presented a statement of the purpose and need, a description of the affected environment, a description of 2016 ocean salmon regulation Alternatives being considered, and an analysis of the effects of those Alternatives on the affected environment. The first part of the EA (Preseason Report I; PFMC 2016b) included a description of the No-Action Alternative and an analysis of the effects of the No-Action Alternative on salmon stocks managed under the Pacific Coast Salmon Fishery Management Plan (FMP), which is one component of the affected environment. Along with the description and analysis of the Proposed Action in this report, these three parts of the EA will provide the necessary components to determine if a finding of no significant impact (FONSI) or Environmental Impact Statement (EIS) is warranted.

The Council's recommendations for the 2016 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) except as described below.

Under the Council's recommended salmon fisheries, salmon stocks originating from the Columbia River, Oregon, and California meet all of the applicable conservation objectives in the FMP. For several coho stocks north of these areas, the conservation objectives in the FMP could not be met even with no ocean fisheries, due to unprecedented low abundance forecasts. To address this situation, the Council's recommendations depart from the letter of the FMP in two ways, and thus require adoption by emergency rule. First, the Council recommends prohibiting the retention of coho north of Leadbetter Point, Washington, while allowing coho retention to the south. Second, the Council recommends limited fisheries north of Leadbetter Point targeting Chinook. These fisheries have minor incidental impacts on coho, and thus will result in very minor impacts on the coho stocks that are predicted to return in numbers below their FMP conservation objectives.

2.0 SELECTION OF FINAL MANAGEMENT MEASURES

The following figures and tables describe the Council-adopted management measures covering the period from May 1, 2016, to April 30, 2017:

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 2016 seasons are constrained primarily by: (1) Klamath River fall Chinook (KRFC) south of Cape Falcon, (2) endangered Sacramento River winter Chinook (SRWC) south of Point Arena, (3) KRFC and Queets River coho north of the OR/CA border, and (4) Washington Coastal coho and Puget Sound 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 2016-2017 management season include, but are not limited to, the following possibilities:

1. Adjustments in landing limits and days open for non-Indian commercial fisheries.
2. Changing the days or number of days of fishing allowed per calendar week for recreational fisheries.
3. Transfer of coho quotas among recreational port areas north of Cape Falcon.
4. Trading portions of Chinook and coho quotas between recreational and non-Indian commercial sectors north of Cape Falcon.
5. Routine openings and closings, and other management measures associated with quota management, including modifying open areas, bag limits, species retention limits, and mark-selective retention restrictions.
6. Transferring unused or exceeded quota to subsequent fisheries on an impact neutral, fishery equivalent basis.
7. Closing Oregon recreational and commercial fisheries scheduled to open March 15, 2017 if necessary to meet 2017 management objectives.
8. Closing California recreational fisheries scheduled to open April 1, 2017, or commercial fisheries scheduled to open April 16, 2017, if necessary to meet 2017 management objectives.
9. Adjustments to incidental Pacific halibut catch regulations in commercial fisheries, including landing and possession ratios and landing and possession limits per trip.

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

2.2 State Waters Fisheries

In addition to the seasons shown in Tables 1 and 2, the Oregon Department of Fish and Wildlife (ODFW) may permit fall fisheries for salmon in certain areas within state marine waters. Potential seasons off the Oregon coast include commercial and recreational fisheries at the mouths of the Tillamook, Chetco, and Elk rivers. Washington may also establish limited recreational salmon fisheries in state marine waters if

additional impacts on critical coho and/or Chinook stocks can be accommodated within management constraints. California will not establish any additional state marine water salmon fisheries in 2016.

3.0 SALMON FISHERY MANAGEMENT PLAN REQUIREMENTS

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

Biological objectives for stocks originating in the Council area and impacted by Council area ocean fisheries are listed in Table 3-1 of the FMP. The objectives generally consist of meeting spawning escapement numbers associated with maximum sustainable yield (S_{MSY}), overfishing limits (OFL), acceptable biological catch (ABC), and annual catch limits (ACL), or exploitation rate limits designed to support recovery of depressed stocks or to rebuild overfished stocks, while encompassing a long-term average harvest approximating MSY. For 2016, abundance forecasts for some coho stocks north of the Columbia River indicated that even without fishing these stocks would not meet the escapement objectives in Table 3-1 of the FMP. To address this the Council's recommendations include limited fisheries targeting Chinook with very low incidental impacts on coho.

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

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

The FMP also requires compliance with treaty fishing rights as described in Court orders in the *U.S. v. Washington* (Puget Sound), *Hoh v. Baldrige* (Washington coast), and *U.S. v. Oregon* (Columbia River) cases, and the Solicitor General opinion (Klamath River) governing allocation and management of shared salmon resources. Much of the North of Falcon forum is dedicated to annual negotiations establishing allocation among the tribes, non-Indian fishing sectors, and ocean and inside interests. The results of these negotiations allow the Council to complete final management measure recommendations while meeting its biological, administrative, and allocation objectives. For 2016, the State and Tribes were unable to reach an agreement regarding Puget Sound fisheries before the end of the Council's April meeting. Due to constraints on ocean fisheries to limit impacts on coho stocks expected to return in unusually low numbers, Council fisheries recommended for 2016 have unusually low impacts on Puget Sound stocks. This should allow the State and Tribes maximum flexibility to complete their negotiations while ensuring that Puget Sound fisheries combined with ocean fishery impacts do not exceed the applicable biological, administrative, and allocation objectives.

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

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

In addition to the allocation objectives associated with sharing between treaty Indian and non-Indian sectors, the Salmon FMP includes formulas for sharing Chinook and coho quotas north of Cape Falcon between commercial and recreational sectors, and among recreational port subareas, and for coho south of Cape Falcon between commercial and recreational sectors. The 2016 salmon management measures adopted by the Council meet the allocation requirements for fisheries north of Cape Falcon in the Salmon FMP, except that coho retention is allowed in the recreational fisheries south of Leadbetter Point and prohibited to the north - while the FMP requires an equal division between these geographic areas. This departure from the allocation formula in the FMP is necessary to protect northern coho stocks projected to return in record low numbers while allowing retention of healthier Columbia River coho stocks.

In support of the adoption of the 2016 salmon management measures, the Council reviewed the criteria used to evaluate requests for emergency action by the Secretary from Council Operating Procedure 10 (*italics below*) and provided the following preliminary rationale for considering a deviation from the FMP harvest allocation guidelines and escapement objectives:

1. *The issue was not anticipated or addressed in the salmon plan, or an error was made.*
   The issue does not appear to be caused by an error. Rather, the relatively healthy abundance of Chinook and the extremely low abundance of Washington coast and Puget Sound coho stocks present circumstances that are perhaps unprecedented and were not anticipated in the FMP to the extent encountered this year.

   Re: the allocation of coho in the recreational fishery: The recreational fishery in the Columbia River Subarea is much more dependent on coho to achieve the FMP objectives than Westport or the ports farther to the north. Therefore, the Council considered and adopted an alternative that varies from the coho harvest allocation guidelines. The result is the preferred alternative that recognizes those differences and therefore allocates the small number of harvestable coho to the Columbia River Subarea while relying on the ability of the northern ports to access harvestable Chinook to achieve the management objectives in the FMP.

   Re: stocks not meeting escapement objectives: None of the Alternatives would enable the coho stocks on the Washington coast to meet their FMP escapement objectives. Under Alternative III, fisheries off the Washington coast would be closed, resulting in zero fishery impacts to those stocks. Under the Council's final preferred alternative, coho retention north of Leadbetter Point is prohibited, and Chinook fisheries are limited in order to further minimize impacts on coho stocks.

2. *Waiting for a plan amendment to be implemented would have substantial adverse biological or economic consequences.*
   In the event that regulations that address non-retention of coho in the fishery were not able to move forward, there would be significant economic consequences to the ports and communities of the Columbia River, Westport, La Push and Neah Bay. The Alternatives should optimize the harvest of harvestable stocks while meeting conservation objectives to the best of our ability. A plan amendment could not be completed in time given that fisheries commence on May 1.

3. *In the case of allocation issues, the affected user representatives support the proposed emergency action.*
   The commercial troll and recreational fishery representatives involved in the North of Falcon process supported the Alternatives that went out for public review, including those that deviated from strict adherence to the FMP, as well as the Council's final preferred management measures.

4. *The action is necessary to meet FMP objectives.*
   The structure of the final management measures and the potential deviation from the strict terms of the FMP have the potential to better optimize harvest and conservation and thereby more fully meet FMP objectives. The final management measures allow some fishing targeting relatively healthy stocks while minimizing impacts on stocks suffering from low abundance.

5. *If the action is taken, long-term yield from the stock complex will not be decreased.*
   It is not anticipated that any aspect of the final management measures would decrease long-term yield. The potential deviation from the FMP allocation guidelines is intended to have the opposite effect by implementing coho non-retention regulations in areas of concern while considering modest harvest opportunity where appropriate. The final management measures all have relatively low impacts on Washington coast coho, ranging up to a few hundred fish. The comanagers considered past escapement levels and resulting performance for the affected stocks in developing fisheries with impacts at these levels, and concluded that these impacts would not affect the long-term yield from the stocks.

4.0 SPECIES LISTED UNDER THE ENDANGERED SPECIES ACT

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

ESU	Status	Federal Register Notice			
		Most Recent		Original Listing	
Chinook					
Sacramento River Winter	Endangered	76 FR 50447	8/15/2011	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					
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					
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					
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 FMP, or from annual management measures, to listed salmonid species. NMFS has also reinitiated consultation on certain ESUs when new information has become available on the status of the stocks or on the impacts of the FMP on the stocks. The consultation standards referred to in this document include (1) reasonable and prudent alternatives, (2) conservation objectives for which NMFS conducted Section 7 consultations and arrived at a no-jeopardy conclusion, and (3) NMFS requirements under Section 4(d) determinations. A list of current BOs in effect, the species they apply to, and their duration follows:

Date	Evolutionarily Significant Unit covered and effective period
3/8/1996	Snake River spring/summer and fall Chinook and sockeye (until reinitiated)
4/28/1999	Oregon Coastal natural coho, Southern Oregon/ Northern California coastal coho, Central California coastal coho (until reinitiated)
4/28/2000	Central Valley spring Chinook (until reinitiated)
4/27/2001	Hood Canal summer chum 4(d) limit (until reinitiated)
4/30/2001	Upper Willamette Chinook, Upper Columbia spring Chinook, Lake Ozette sockeye, Columbia River chum, and 10 steelhead ESUs (until reinitiated)
4/30/2004	Puget Sound Chinook (until reinitiated)
6/13/2005	California coastal Chinook (until reinitiated)
4/30/2010	Sacramento River winter Chinook (until reinitiated)
4/26/2012	Lower Columbia River Chinook (until reinitiated)
4/9/2015	Lower Columbia River natural coho (until reinitiated)

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

recovery of the species." Amendment 14 specified those listed ESUs and clarified which stocks in the FMP management unit were representative of the ESUs.
In a letter received by the Council on March 7, 2016, NMFS provided guidance on protective measures for species listed under the ESA during the 2016 fishing season. The letter summarized the requirements of NMFS' BOs on the effects of potential actions under the salmon FMP on listed salmon and provided the anticipated consultation standards of the BOs in preparation for the 2016 management season, as well as further guidance and recommendations for the 2016 management season.

The ESA consultation standards, exploitation rates, and other criteria in place for the 2016 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 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 listed Chinook and coho, Council-managed fisheries have substantive impacts on SRWC, Central Valley spring Chinook, California coastal Chinook, Snake River wild (SRW) fall Chinook, 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	
Snake River spring/summer (threatened)	Puget Sound (threatened)
Upper Willamette (threatened)	Upper Columbia River spring (endangered)
Sockeye	
Snake River (endangered)	Ozette Lake Sockeye (threatened)
Chum	
Columbia River (threatened)	Hood Canal summer (threatened)
Steelhead	
Southern California (endangered)	Central Valley, California (threatened)
South-central California coast (threatened)	Central California coast (threatened)
Upper Columbia River (endangered)	Upper Willamette River (threatened)
Middle Columbia River (threatened)	Lower Columbia River (threatened)
Snake River Basin (threatened)	Northern California (threatened)
Puget Sound (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 Pacific Salmon Commission (PSC) is the body formed by the governments of Canada and the United States to implement the PST.

5.1 Chinook Salmon Management

The current Chinook agreement under the PST was negotiated in 2008 and formally accepted by both the U.S. and Canada in December of 2008. This agreement took effect on January 1, 2009, and included a 30 percent reduction in the catch ceilings for aggregate abundance based management (AABM) fisheries off West Coast Vancouver Island (WCVI) and a 15 percent reduction in the catch ceilings for AABM fisheries in Southeast Alaska relative to the catch ceilings in effect for these fisheries since 1999. Under the terms of the 2009 PST Agreement, Council fisheries for Chinook salmon continue to be subject to the individual stock based management (ISBM) provisions of Annex 4, Chapter 3, adopted in 1999. These provisions require the adult equivalent (AEQ) exploitation rate by all U.S. fisheries south of the U.S./Canada border be reduced by 40 percent from the 1979-1982 base period for Chinook indicator stocks identified in Attachment V of the PST that fail to achieve their management objectives.

Many Chinook stocks of concern to the Council are affected by fisheries off Canada and Alaska. Maximum allowable catches by AABM fishery complexes off WCVI, Northern British Columbia, and Southeast Alaska are determined through the annual calibration of the PSC Chinook Model. Canadian fisheries that are not included in AABM complexes are managed under ISBM constraints, which require a 36.5 percent reduction in AEQ exploitation rates relative to the 1979-1982 base period on Chinook indicator stocks identified in Attachment IV of the PST that fail to achieve their management objectives. Expectations for Canadian and Alaskan fisheries harvest and stock abundance forecasts are incorporated into the Chinook Fishery Regulation Assessment Model (FRAM) to estimate total exploitation rate impacts from all marine fisheries (Table 5).

Key considerations for Canadian domestic fishery management for Chinook in 2016 include, (1) meeting domestic conservation obligations for Strait of Georgia and Fraser River stream-type stocks; (2) Chinook harvests by First Nations fisheries; and (3) incidental impacts during commercial and First Nations fisheries directed at sockeye, pink, and chum salmon. The fishery regulatory package off WCVI was driven by levels of allowable impact on WCVI and Lower Strait of Georgia Chinook and Interior Fraser (Thompson River) coho.

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 2002 PST Southern Coho Management Plan, and are based on abundance of the management units.

The categorical status of U.S. coho management units is reported to comply with obligations pursuant to the 2002 PST Southern Coho Management Plan. Categorical status is employed by the PSC under the 2002 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 2002 PST Southern Coho Management Plan uses the thresholds and stepped exploitation 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. For Washington coastal coho management units, the categorical status is determined by an exploitation rate calculated from the forecast abundance and the midpoint of the escapement goal range.

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 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. This is the exploitation rate limit for the Washington coastal management units in 2016 given the low status for all four of the management units this year.

For 2016, Puget Sound and Washington coast coho constraints are as follows:

FMP

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

PST Southern Coho Management Plan

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

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 2002 PST Southern Coho Management Plan.

c/ Categories (Abundant, Moderate, Low) correspond to the general exploitation rate ranges depicted in paragraph 3(a) of the 2002 PST Southern Coho Management Plan. For Washington Coast stocks, categorical status is determined by the exploitation rate required to achieve the midpoint of the escapemnt goal range given the current year's abundance.

Key considerations for Canadian fishery management for coho in 2016 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 Chinook, sockeye, pink 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 will be driven by Canadian domestic allowable impacts on the Thompson River component of the Interior Fraser management unit. With the exception of 2014, in recent years Canadian fisheries have been managed so as not to exceed a three percent maximum exploitation rate and are expected to do so again in 2016.

The projected status of Canadian coho management units in 2016 indicates continuing concerns for the condition of Interior Fraser coho. The Interior Fraser coho management unit remains in low status, constraining the total mortality fishery exploitation rate for 2016 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 2016 are:

- *Columbia River hatchery tules*. Combined production of Lower River Hatchery (LRH) and Spring Creek Hatchery (SCH) stocks returning to the Columbia River is predicted to be 223,300, which is slightly lower than the 2015 preseason expectation of 255,400. The 2016 LRH forecast abundance is 133,700, higher than the forecast of 94,900 in 2015. The 2016 SCH forecast abundance is 89,600, which is lower than last year's forecast of 160,500.

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, SRW fall Chinook, and Puget Sound Chinook.

6.1.2 Achievement of Objectives

Fishery quotas under the adopted management measures are presented in Table 4. Stock-specific management criteria and their forecast values are provided in Table 5. Projected fishery landings, bycatch, and bycatch mortality estimates are summarized in Table 6. Table 7 provides a breakdown of impacts by fishery and area for LCR tule Chinook.

- *LCR natural tule fall Chinook*. The projected exploitation rate in the adopted management measures is 38.2 percent, below the 41.0 percent maximum for 2016. LCR natural tule fall Chinook will not constrain ocean fisheries north of Cape Falcon in 2016.

- *LRW fall Chinook:* The adopted management measures have a projected ocean escapement of 22,400 adults, which is more than enough to meet the ESA consultation standard of an adult spawning escapement of at least 5,700 in the North Fork Lewis River. LRW Chinook will not constrain ocean fisheries north of Cape Falcon in 2016.

- *SRW fall Chinook*. The adopted management measures have an ocean exploitation rate of 40.9 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. SRW Chinook will not constrain ocean fisheries north of Cape Falcon in 2016.

- *Puget Sound Chinook:* Because the State of Washington and the Puget Sound treaty tribes did not reach agreement on a package of fisheries to be modeled prior to the Council's final adoption of the proposed action, it is not possible to provide model results showing the combined impacts of Council-area and Puget Sound fisheries on stocks affected by the Puget Sound fisheries. However, the impacts of Council-area fisheries on Puget Sound stocks are minimal and are well within the requirements for ESA-listed Puget Sound Chinook described in the March 7, 2016 letter from NMFS and the applicable Biological Opinion. The comanagers agreed to conservation objectives for Puget Sound Chinook and are continuing to work towards an agreement.

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 2016 Chinook harvest management south of Cape Falcon are:

- *Sacramento River Fall Chinook (SRFC).* The 2016 Sacramento Index (SI) forecast is 299,600, which is substantially lower than the 2015 preseason forecast of 652,000.
- *KRFC.* The forecast for this stock is 93,400 age-3, 45,100 age-4, and 3,700 age-5 fish. Last year's preseason forecast was for 342,200 age-3, 71,100 age-4, and 10,400 age-5 fish.
- *SRWC.* No abundance forecast is made for this stock. The geometric mean of the most recent three years of escapement is 3,981 fish which represents an increase in this quantity relative to last year.

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 30,909 adults, which is produced, in expectation, by a maximum exploitation rate of 25.0 percent (FMP control rule).*
- NMFS consultation standards and annual guidance for ESA-listed stocks as provided in Section 4.0 above. Relevant stocks for the area south of Cape Falcon include SRWC, California coastal Chinook, SRW fall Chinook, and LCR natural tule Chinook.

6.2.2 Achievement of Objectives

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

- *KRFC. The control rule-defined minimum of 30,909 natural area adult spawners is met by the adopted management measures.*
- *SRWC. The ESA consultation standard that (1) limits the age-3 impact rate in 2016 fisheries south of Point Arena to a maximum of 19.9 percent and (2) specifies time/area closures and minimum size limit constraints south of Point Arena, is met by the adopted management measures.*

- *California coastal Chinook. The ESA consultation standard that limits the forecast KRFC age-4 ocean harvest rate to a maximum of 16.0 percent is met by the adopted management measures.*
- *SRFC. The control rule-defined minimum of 122,000 hatchery and natural area adult spawners is met by the adopted management measures.*
- *LCR natural tule fall Chinook. The 2016 maximum exploitation rate of 41.0 percent is met by the adopted management measures.*
- *SRW fall Chinook*. SRW Chinook will not constrain ocean fisheries south of Cape Falcon in 2016.

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

7.0 COHO SALMON MANAGEMENT

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

- *OPI Hatchery coho.* The 2016 forecast for hatchery coho from the Columbia River and the coast south of Cape Falcon of 396,500 is lower than the 2015 forecast of 808,400. The Columbia River early coho forecast is 153,700 compared to the 2015 forecast of 515,200 and the Columbia River late coho forecast is 226,900, compared to the 2015 forecast of 261,900.
- *OCN coho.* The 2016 OCN forecast is 152,700 compared to the 2015 forecast of 206,600.
- *LCN coho.* The 2016 LCN forecast is 40,000 compared to the 2015 forecast of 35,900.
- *Washington coastal coho.* Grays Harbor, Queets, Hoh, and Quillayute Fall wild coho are forecast to be low in 2016 and will constrain ocean fisheries. The 2016 Queets wild coho forecast is 3,500 compared to the 2015 forecast of 7,500.
- *Puget Sound coho.* Among Puget Sound natural stocks, Skagit, Snohomish, Stillaguamish, and Strait of Juan de Fuca are in the critical category in 2016. Hood Canal coho are in the low category.
- *Interior Fraser (Thompson River) coho.* This Canadian stock continues to be depressed, but is unlikely to constrain 2016 ocean coho fisheries north of Cape Falcon.

7.1 Objectives

Key coho management objectives shaping management measures in 2016 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. Based on this guidance, the maximum allowable exploitation rates for 2016 are: a combined marine/freshwater exploitation rate not to exceed 20.0 percent for OCN coho, a combined exploitation rate in marine-area and mainstem Columbia River fisheries not to exceed 18.0 percent for LCN coho, and 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.

- 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. In 2016, Washington coastal, especially Queets, wild coho are the key management stocks for ocean fisheries north of Cape Falcon. Per the PST Southern Coho Management Plan,

Tribal and WDFW comanagers agreed to 2016 escapement objectives of 31,000 Grays Harbor wild coho, 2,900 Queets wild coho, 1,800 Hoh wild coho, and 4,000 Quillayute wild coho.

7.2 Achievement of Objectives

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

- *LCN coho.* The adopted management measures satisfy the maximum 18.0 percent exploitation rate for combined marine and mainstem Columbia River fisheries, with a marine exploitation rate of 7.2 percent and a mainstem Columbia River exploitation rate of 5.8 percent.

- *OCN coho.* The adopted management measures satisfy the maximum 20.0 percent exploitation rate for combined marine and freshwater fisheries, with a marine exploitation rate of 10.4 percent and a freshwater exploitation rate of 2.7 percent.

- *Washington coastal wild coho.* The adopted management measures provide ocean escapement numbers of 34,500, 3,200, 1,900, and 4,300 on Grays Harbor, Queets, Hoh, and Quillayute natural coho respectively. These ocean escapement levels meet management objectives agreed to by WDFW and the treaty tribes.

- *Interior Fraser coho.* The Southern U.S. exploitation rates in the adopted management measures comply with the 10.0 percent maximum required by the PST Southern Coho Management Plan.

As noted above, the projected abundances of Queets, Hoh, and Quillayute fall coho are below FMP escapement goals even without fishery impacts. Thus, the adopted management measures do not, by necessity, meet those goals. However, fisheries are structured to minimize impacts on these stocks by prohibiting coho retention north of Leadbetter Point, and by limiting Chinook fisheries in which these stocks may be incidentally impacted. As a result, impacts to these stocks are extremely low. Impacts from the Council fisheries are estimated at: Queets – 146 fish (4.3 percent), Hoh – 55 (2.7 percent), and Quillayute fall – 66 (1.5 percent).

The adopted management measures for coho fisheries satisfy NMFS ESA consultation standards and guidance, FMP conservation objectives (including those temporarily modified for 2016 by emergency rule), and all other objectives for relevant coho stocks other than and including those listed in Table 5.

8.0 PINK SALMON MANAGEMENT

Pink salmon are not sufficiently abundant to merit management consideration in 2016.

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 include some substantial changes compared to those adopted in 2015 to address expected low natural coho returns to Washington coastal and Puget Sound rivers. The 2016 Chinook TAC (total allowable catch) is reduced relative to 2015 in response

to lower abundance of Columbia River fall Chinook and to minimize coho encounters in Chinook directed fisheries. Coho fisheries are limited to retention in only one recreational fishery area and non-retention mortalities associated with Chinook-directed commercial fisheries and recreational fishery areas north of Leadbetter Point.

9.1 Commercial

Forty percent of the non-Indian troll Chinook quota is assigned to the May-June fishery, which opens initially May 1 through 3, then five days per week through May. A landing and possession limit of 40 Chinook per vessel per open period in all areas between the U.S./Canada border and Cape Falcon is in effect; no coho retention is allowed. In June, the fishery is reduced to three open periods. The summer fishery is open July 8 through August 23 for a total of four open periods. Coho retention is not allowed, and a landing and possession limit of 50 Chinook per vessel per open period is in effect. In both fisheries, Chinook sub-quotas were applied to the area between the U.S./Canada border and the Queets River; a Chinook sub-quota was also applied to the area between Leadbetter Point and Cape Falcon during the spring fishery.

The commercial fishery in the area south of Cape Falcon is primarily constrained by KRFC, where a relatively low abundance forecast results in a maximum allowable exploitation rate of 25.0 percent. Commercial fisheries south of Point Arena, and particularly south of Pigeon Point, are also constrained by conservation concerns for ESA-listed SRWC.

For the north and central Oregon coast south of Cape Falcon, Chinook fisheries opened on April 8 and will run through May. The fishery will be open most of June and July, less than half of August, most of September and the entire month of October. Weekly landing and possession limits will be in place for September and October. The October fishery will be restricted to inside the 40 fathom regulatory line.

For the Oregon KMZ, the Chinook fishery opened on April 8 and will run through May. The months of June and July have month-specific quotas with daily landing and possession limits. Unused or exceeded quota from June can be transferred to the July quota period on an impact neutral, fishery equivalent basis.

For the California KMZ, the adopted management measures allow for a September quota of 1,000 Chinook with daily landing and possession limits.

The Fort Bragg area will be open for approximately half of June, most of August, and the entire month of September.

The San Francisco area will open on May 6 and run through the end of the month. The fishery will then be open for the latter part of June, most of August, and all of September. The Monday through Friday fall area target zone fishery between Point Reyes and Point San Pedro will occur during the first half of October.

Fisheries south of Pigeon Point will open on May 1 and run continuously until June 30.

9.2 Recreational

No coho retention is allowed in the recreational fishery north of Leadbetter Point, WA. The recreational fisheries in those areas are limited to July 1 through the earlier of August 21 or attainment of sub-area Chinook guidelines. Both coho and Chinook retention is allowed in the area between Leadbetter Point and Cape Falcon from July 1 through the earlier of August 31 or attainment of the sub-area Chinook guideline or the quota of 18,900 marked coho.

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 fishery

beginning in late June for the area from Cape Falcon to the Oregon/California border and a non-mark-selective coho quota fishery beginning on September 3 for the area from Cape Falcon to Humbug Mountain.

Chinook fishing in the Oregon KMZ will open on May 28 and run continuously through August 7. The fishery will then reopen for the Labor Day weekend (September 3-5). The mark-selective coho quota fishery described above will allow for marked coho retention in the Oregon KMZ. The California KMZ will be open for four discrete periods: (1) the latter half of May, (2) the latter half of June, (3) mid-July through mid-August, and (4) September 1-5. The minimum size limit will be 24 inches in the Oregon KMZ and 20 inches in the California KMZ.

South of the KMZ, all areas opened on April 2. The fishery in the Fort Bragg area will be open through November 13 with a 20 inch minimum size limit. In the San Francisco area, the minimum size limit will be 24 inches through April 30, then 20 inches until the end of the season on October 31. From Pigeon Point to Point Sur, the season will end on July 15, and south of Point Sur, the season will close on May 31. The minimum size limit will be 24 inches for the duration of the season south of Pigeon Point. The closing dates in areas south of Point Arena reflect management measures intended to reduce impacts on SRWC.

9.3 Treaty Indian

The adopted management measures for Chinook fisheries are generally similar in structure as in recent years, but coho retention is prohibited in 2016. Chinook quotas were decreased due primarily to minimize impacts to Washington Coastal coho. The Treaty Indian troll fishery opens on May 1 with a Chinook only fishery and runs until June 30 with a 20,000 sub-quota. The summer fishery will open July 1 until August 31 with a sub-quota of 20,000 Chinook. 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 catch area expressed in terms of estimated potential exvessel value. Table 10 shows projected recreational fisheries 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 reductions in fishing-related income impacts may not necessarily reflect a net loss in income coastwide (e.g., other economic activities or activity in other places may be substituted in some cases), the reductions likely do indicate losses to businesses and individuals in affected communities that depend on fishing-related activities for their livelihood.

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 harvests or provide additional spawning escapement that contribute 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 (and Table 11) are based on projected deliveries by landing area. Historically there has been a divergence between these two measures. The difference is due to deliveries of salmon caught in certain catch areas to ports that mainly serve neighboring catch areas. This pattern is particularly true for areas between Humbug Mountain and Point Arena. In an attempt to account for this effect, landings and income impacts were assigned based on historically observed transfer patterns. The patterns are typically inferred from the most recent year's catch and landings data. For example, in 2015 there were apparently deliveries of salmon caught between Cape Falcon and Humbug Mountain to landing ports in the Oregon KMZ region; and deliveries of salmon caught between Horse Mountain and Point Arena to landings ports in the California KMZ region. There were also transfers of harvest between other catch areas and landings ports, but these were relatively smaller by comparison.

The expected harvest levels used to model commercial fishery impacts are taken from Table 6. These 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. In 2015, coastwide average Chinook weight per fish was relatively low compared with recent history, but exvessel prices were relatively high. However, if actual exvessel prices, average weight per fish, and/or transfers between catch areas and landing ports diverge substantially from the patterns assumed for these projections, then the actual distribution of commercial fisheries revenue and associated income impacts may differ from the values shown in Table 9 and Figure 3.

Fishing effort estimates for the recreational fishery south of Cape Falcon are based on measures developed by the STT for modeling biological impacts. The south of Cape Falcon projections use multi-year averages to predict effort for the coming year. Consequently, if the multi-year average for a particular area and time period happens to be higher than recent effort levels, 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. An analysis of the adopted Alternative using standard practices resulted in increased California recreational fishery effort and income impact projections compared to 2015, and also an increase compared to the recent five year average for areas south of Horse Mountain. However actual 2015 recreational fishing effort in California fisheries was substantially below preseason forecasts, likely due to low catch rates. Additionally, the existing fishing effort models do not account for reduced fishing opportunity due to closures south of Pt. Sur , and thus the 2016 recreational fishery effort and income impact projections may be somewhat inflated for the area south of Pigeon Point (Monterey Area).

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 alternatives. Coho quotas North of Cape Falcon for the summer mark-selective coho fishery are significantly lower than in recent years; while quotas for Chinook are also more restrictive compared with the recent past and are not sufficient to allow for a June Chinook fishery. For modeling projected effort and economic impacts of the summer recreational fishery, average 2009-2015 Washington coast angler success rates were applied to the recreational coho and Chinook quotas and catch projections. However, if actual CPUE or availability of coho and Chinook salmon in the recreational fishery diverge substantially from the values assumed for these projections, then the actual distribution of recreational fisheries effort and associated income impacts may differ from the values shown in Table 10 and Figure 4.

10.2 Community Impacts

Projected income impacts by coastal region for commercial and recreational salmon fisheries under the Proposed Action are shown in Figure 3 and Figure 4, and comparisons of impacts under the Proposed Action with the other Alternatives are summarized in Table 11. Projected income impacts from commercial salmon landings and processing under the Proposed Action are within the range analyzed under the Alternatives, and overall are about 43 percent below estimated total coastwide commercial fisheries income impacts from last year (Table 11). Regionally, commercial fisheries income impacts under the Proposed Action are projected to be below last year's levels and the 2011-2015 inflation-adjusted averages in all management areas (Figure 3).

Projected income impacts from expenditures by recreational salmon anglers under the Proposed Action are within the range analyzed under the Alternatives, and overall are about 7 percent above the estimated total coastwide recreational fisheries income impact from last year (Table 11). This increase is projected despite more restrictive seasons and as discussed above, is an artifact of a modeling approach that is based on longer term averages rather than previous season observations. Regionally, recreational fisheries income impacts under the Proposed Action are projected to be much lower than last year North of Cape Falcon, but at least somewhat higher than last year's estimate in all other management areas. Compared with the 2011-2015 inflation-adjusted average, recreational fisheries income impacts under the Proposed Action are projected to be lower North of Cape Falcon and in the KMZ, but at least somewhat higher in all other management areas (Figure 4).

10.3 Social Impacts

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

To the extent practicable, social impacts were considered when non-tribal commercial and recreational salmon seasons were shaped. To minimize regulatory complexity in recreational fisheries, season dates and regulations were kept relatively consistent within major management areas (i.e. North of Cape Falcon, Cape Falcon to Humbug Mountain, Klamath Management Zone, South of Point Arena). Minimum size limits either remain consistent throughout the season or decrease during the season, which, in addition to biological benefits, tend to increase regulatory compliance. Efforts were made to include important cultural events such as the Independence Day and Labor Day holidays as well as traditional fishing derby events. Commercial fisheries often include vessel limits per trip or per open period in an effort to stretch quota attainment over a greater period of time. Doing so can provide greater access for smaller vessels, increase safety at sea by making it easier to avoid inclement weather, expand marketability of landings, and improve consumer access. 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 import 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 proposed Chinook and coho quotas, Washington coastal treaty tribes are projected to have substantially lower ocean salmon fishery opportunities compared with 2015 (Table 6). The Klamath River tribal allocation under the Proposed Action is 7,404 KRFC, a substantial decrease from the 2015 allocation of 43,581, primarily due to the lower expected abundance of KRFC in 2016.

11.0 ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION

The Proposed Action, adoption of the 2016 ocean salmon regulations, was assessed relative to the environmental components and criteria established in Preseason Report II (Part 2 of this EA). The impacts of the Proposed Action on most target stocks and ESA-listed salmon fall within the range of impacts analyzed for the Alternatives in Preseason Report II. For stocks where the impacts of the Proposed Action fall outside the range of impacts under the Alternatives in Preseason Report II (SRFC, Skagit coho, Snohomish coho, Hood Canal coho, Stillaguamish coho, Strait of Juan de Fuca coho, Interior Fraser coho, LCN coho, and OCN coho), such impacts differ only in small amounts from those of the Alternatives or are the result of a lack of agreement on shaping fisheries within Puget Sound and are within the impact limitations of the FMP, ESA consultation standards, and PST (Table 11). Economic impacts of the Proposed Action fall within the range of impacts projected for the Alternatives in Preseason Report II.

The No-Action Alternative would result in many stocks not meeting conservation objectives, and thus would not meet the purpose and need of the Proposed Action. Under No Action, the seasons would be the same as in 2015. Comparisons to 2015 provided in Tables 9 and 10 and Figures 3 and 4 provide an indicator of the expected impact of the Action Alternative relative to No Action. Relative to No Action, as represented by the 2015 values, the Proposed Action would have slightly greater coastwide economic impacts from recreational fishing and considerably lower coastwide economic impacts from commercial fishing.

Because of the extremely low abundance projections for Queets, Hoh and Quillayute fall coho, regardless of the management measures, these stocks would not meet their FMP escapement goals:

- Queets
  - FMP escapement goal: 5,800 - 14,500 (S_{MSY}=5,800)
  - Preseason abundance estimate: 3,500
- Hoh
  - FMP escapement goal: 2,000 - 5,000 (S_{MSY}=2,520)
  - Preseason abundance estimate: 2,100
- Quillayute fall
  - FMP escapement goal: 6,300 – 15,800 (S_{MSY}=6,300)
  - Preseason abundance estimate: 4,500

While the recommended management measures are within the range of alternatives considered, they, like all of the Alternatives, do not result in these coho stocks meeting their escapement goals. In developing the final management measures, the Council attempted to minimize impacts on these stocks to preserve the long-term sustainability of the stocks, while allowing for limited fisheries targeting Chinook. The recommended management measures would result in very minimal impacts on these stocks (Queets – 146 fish (4.3 percent), Hoh – 55 (2.7 percent), and Quillayute fall – 66 (1.5 percent) and are thus not expected to impact the future productivity of the stocks. Minimal fishery impacts such as those likely to result from the recommended management measures are not likely to affect the status of these stocks.

As stated in Preseason Report II, it was not possible to discern differences in the effects of the Alternatives 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. Commercial troll management measures adopted by the Council for non-Indian ocean salmon fisheries, 2016.
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A. SEASON DESCRIPTIONS

North of Cape Falcon

Supplemental Management Information

1. Overall non-Indian TAC: 70,000 Chinook and 18,900 coho marked with a healed adipose fin clip (marked).
2. Non-Indian commercial troll TAC: 35,000 Chinook and the equivalent coho mortality of the commercial portion of the overall non-Indian TAC consisting of non-retention coho mortality in the commercial troll fishery North of Cape Falcon.

U.S./Canada Border to Cape Falcon

- May 1-3, May 6-31, June 3-5, June 10-16, and June 24-30 or 14,000 Chinook, no more than 4,600 of which may be caught in the area between the U.S./Canada border and the Queets River and no more than 4,600 of which may be caught in the area between Leadbetter Pt. and Cape Falcon (C.8).

May 1 through May 3 with a landing and possession limit of 40 Chinook per vessel for the open period. Then May 6 through May 31, five days per week, Friday through Tuesday with a landing and possession limit of 40 Chinook per vessel per open period. Then June 3-5, June 10-16, and June 24-30, with a landing and possession limit of 40 Chinook per vessel per open period (C.1, C.6). All salmon except coho (C.4, C.7). Chinook minimum size limit of 28 inches total length (B). 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 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 and halibut catch aboard, and destination. When it is projected that approximately 75% of the overall Chinook guideline has been landed, or approximately 75% of the Chinook subarea guideline has been landed in the area between the U.S./Canada border and the Queets River, or approximately 75% of the Chinook subarea guideline has been landed in the area between Leadbetter Pt. and Cape Falcon, inseason action will be considered to ensure the guideline is not exceeded. See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5). Vessels must land and deliver their fish within 24 hours of any closure of this fishery. Under state law, vessels must report their catch on a state fish receiving ticket. Vessels fishing or in possession of salmon while fishing north of Leadbetter Point must land and deliver their fish within the area and north of Leadbetter Point. Vessels fishing or in possession of salmon while fishing south of Leadbetter Point must land and deliver their fish within the area and south of Leadbetter Point, except that Oregon permitted vessels may also land their fish in Garibaldi, Oregon. Oregon State regulations require all fishers landing salmon into Oregon from any fishery between Leadbetter Point, Washington and Cape Falcon, Oregon must notify ODFW within one hour of delivery or prior to transport away from the port of landing by either calling 541-867-0300 ext. 271 or sending notification via e-mail to nfalcon.trollreport@state.or.us. Notification shall include vessel name and number, number of salmon by species, port of landing and location of delivery, and estimated time of delivery. Inseason actions may modify harvest guidelines in later fisheries to achieve or prevent exceeding the overall allowable troll harvest impacts (C.8).

U.S./Canada Border to Cape Falcon

- July 8-14, July 22-28, August 1-7, and August 15-23 or 21,000 Chinook, no more than 8,300 of which may be caught in the area between the U.S./Canada border and the Queets River (C.8).

Landing and possession limit of 50 Chinook per vessel per open period (C.1). 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 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 and halibut catch aboard, and destination. When it is projected that approximately 75% of the overall Chinook guideline has been landed, or approximately 75% of the Chinook subarea guideline has been landed in the area between the U.S./Canada border to the Queets River, inseason action will be considered to ensure the guideline is not exceeded. All salmon except coho; no chum retention north of Cape Alava, Washington in August and September (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). Mandatory Yelloweye Rockfish Conservation Area, Cape Flattery and Columbia Control Zones, and beginning August 8, Grays Harbor Control Zone closed (C.5, C.6). Vessels must land and deliver their fish within 24 hours of any closure of this fishery. Vessels fishing or in possession of salmon while fishing north of Leadbetter Point must land and deliver their fish within the area and north of Leadbetter Point. Vessels fishing or in possession of salmon while fishing south of Leadbetter Point must land and deliver their fish within the area and south of Leadbetter Point, except that Oregon permitted vessels may also land their fish in Garibaldi, Oregon. Under state law, vessels must report their catch on a state fish receiving ticket. Oregon State regulations require all fishers landing salmon into Oregon from any fishery between Leadbetter Point, Washington and Cape Falcon, Oregon must notify ODFW within one hour of delivery or prior to transport away from the port of landing by either calling 541-867-0300 ext. 271 or sending notification via e-mail to nfalcon.trollreport@state.or.us. Notification shall include vessel name and number, number of salmon by species, port of landing and location of delivery, and estimated time of delivery. Inseason actions may modify harvest guidelines in later fisheries to achieve or prevent exceeding the overall allowable troll harvest impacts (C.8).

TABLE 1. Commercial troll management measures adopted by the Council for non-Indian ocean salmon fisheries, 2016.
(Page 2 of 6)

A. SEASON DESCRIPTIONS

South of Cape Falcon

Supplemental Management Information

1. Sacramento River fall Chinook spawning escapement of 151,128 hatchery and natural area adults.
2. Klamath River fall Chinook spawning escapement of 30,909 natural area adults.
3. Klamath River recreational fishery allocation: 1,111 adult Klamath River fall Chinook.
4. Klamath tribal allocation: 7,404 adult Klamath River fall Chinook.
5. CA/OR share of Klamath River fall Chinook commercial ocean harvest: 60%/40%.
6. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission.

Cape Falcon to Humbug Mt.

- April 8-30;
- May 1-31;
- June 5-10, 15-30;
- July 8-31;
- August 8-12, 18-24;
- September 1-7, 15-30;
- October 1-31 (C.9.a).

Seven days per week. All salmon except coho (C.4, C.6, C.7). Chinook minimum size limit of 28 inches total length (B, C.1). All vessels fishing in the area must land their fish in the State of Oregon. See gear restrictions and definitions (C.2, C.3) and Oregon State regulations for a description of special regulations at the mouth of Tillamook Bay. Beginning September 1, no more than 40 Chinook per vessel per landing week (Thurs. through Wed.). Beginning October 1, open shoreward of the 40 fathom regulatory line (C.5.f).

In 2017, 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 2016. This opening could be modified following Council review at its March 2017 meeting.

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

- April 8-30;
- May 1-31;
- June 5-10 and 15-30 or a 720 Chinook quota;
- July 8 through the earlier of July 31 or a 200 Chinook quota (C.9.a).

Seven days per week. All salmon except coho (C.4, C.7). Chinook minimum size limit of 28 inches total length (B, C.1). Prior to June 1, all fish caught in this area must be landed and delivered in the State of Oregon. See compliance requirements (C.1, C.6) and gear restrictions and definitions (C.2, C.3).

June 5 through July 31 single daily landing and possession limit of 15 Chinook per vessel per day (C.8.f). Any remaining portion of the June Chinook quota may be transferred inseason on an impact neutral basis to the July quota period (C.8.b). All vessels fishing in this area must land and deliver all fish within this area or Port Orford within 24 hours of any closure of this fishery, and prior to fishing outside of this area (C.6). State regulations require fishers landing from any quota managed season in this area to notify ODFW within one hour of delivery or prior to transporting their catch to other locations by calling 541-867-0300 ext. 252 or sending notification via e-mail to KMZOR.trollreport@state.or.us, notification shall include vessel name and number, number of salmon by species, location of delivery, and estimated time of delivery.

In 2017, the season will open March 15 for all salmon except coho, with a 28 inch Chinook minimum size limit. This opening could be modified following Council review at its March 2017 meeting.

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

- September 9 through the earlier of September 27 or a 1,000 Chinook quota (C.9.b).

Five days per week, Friday through Tuesday. All salmon except coho (C.4, C.7). Chinook minimum size limit of 28 inches total length (B, C.1). Landing and possession limit of 20 Chinook per vessel per day (C.8.f). All fish caught in this area must be landed within the area and within 24 hours of any closure of the fishery and prior to fishing outside the area (C.10). See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed (C.5.e). See California State regulations for additional closures adjacent to the Smith and Klamath rivers. 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).

Humboldt South Jetty to Horse Mt.

Closed.

TABLE 1. Commercial troll management measures adopted by the Council for non-Indian ocean salmon fisheries, 2016.
(Page 3 of 6)

A. SEASON DESCRIPTIONS

Horse Mt. to Point Arena (Fort Bragg)

- June 13-30;
- August 3-27;
- September 1-30 (C.9.b).

Seven days per week. All salmon except coho (C.4, C.7). Chinook minimum size limit of 27 inches total length (B, C.1). All fish must be landed in California. All salmon caught in California prior to September 1 must be landed and offloaded no later than 11:59 p.m., August 30 (C.6). When the CA KMZ fishery is open, all fish caught in the area must be landed south of Horse Mountain (C.6). During September, all fish must be landed north of Point Arena (C.6). See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3).

In 2017, the season will open April 16-30 for all salmon except coho, with a 27 inch Chinook minimum size limit and the same gear restrictions as in 2016. All fish caught in the area must be landed in the area. This opening could be modified following Council review at its March 2017 meeting.

Point Arena to Pigeon Point (San Francisco)

- May 6-31;
- June 13-30;
- August 3-28;
- September 1-30 (C.9.b).

Seven days per week. All salmon except coho (C.4, C.7). Chinook minimum size limit of 27 inches total length prior to September 1, 26 inches thereafter (B, C.1). All fish must be landed in California. All salmon caught in California prior to September 1 must be landed and offloaded no later than 11:59 p.m., August 30 (C.6). During September, all fish must be landed south of Point Arena (C.6). See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3).

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

- October 3-7 and 10-14.

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

Pigeon Point to Point Sur (Monterey North)

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

Seven days per week. All salmon except coho (C.4, C.7). Chinook minimum size limit of 27 inches total length (B, C.1). All fish must be landed in California. All salmon caught in California prior to September 1 must be landed and offloaded no later than 11:59 p.m., August 30 (C.6). See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3).

Point Sur to U.S./Mexico Border (Monterey South)

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

Seven days per week. All salmon except coho (C.4, C.7). Chinook minimum size limit of 27 inches total length (B, C.1). All fish must be landed in California. All salmon caught in California prior to September 1 must be landed and offloaded no later than 11:59 p.m., August 30 (C.6). See compliance requirements (C.1) and gear restrictions and definitions (C.2, C.3).

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

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

	Chinook		Coho		
Area (when open)	Total Length	Head-off	Total Length	Head-off	Pink
North of Cape Falcon	28.0	21.5	-	-	None
Cape Falcon to OR/CA Border	28.0	21.5	-	-	None
OR/CA Border to Humboldt South Jetty	28.0	21.5	-	-	None
Horse Mt. to Pt. Arena	27.0	20.5	-	-	None
Pt. Arena to Pigeon Pt.					
< Sept. 1	27.0	20.5	-	-	None
≥ Sept. 1	26.0	19.5	-	-	None
Pigeon Pt. to U.S./Mexico Border	27.0	20.5	-	-	None

TABLE 1. Commercial troll management measures adopted by the Council for non-Indian ocean salmon fisheries, 2016.
(Page 4 of 6)

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

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

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

C.2. Gear Restrictions:

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

C.3. Gear Definitions:

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

Troll fishing gear defined: One or more lines that drag hooks behind a moving fishing vessel. In that portion of the fishery management area off Oregon and Washington, the line or lines must be affixed to the vessel and must not be intentionally disengaged from the vessel at any time during the fishing operation.

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

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

C.4. Vessel Operation in Closed Areas with Salmon on Board:

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

C.5. Control Zone Definitions:

a. *Cape Flattery Control Zone* - The area from Cape Flattery (48º23'00" N. lat.) to the northern boundary of the U.S. EEZ; and the area from Cape Flattery south to Cape Alava (48º10'00" N. lat.) and east of 125º05'00" W. long.
b. *Mandatory Yelloweye Rockfish Conservation Area* – The area in Washington Marine Catch Area 3 from 48°00.00' N. lat.; 125°14.00' W. long. to 48°02.00' N. lat.; 125°14.00' W. long. to 48°02.00' N. lat.; 125°16.50' W. long. to 48°00.00' N. lat.; 125°16.50' W. long. and connecting back to 48°00.00' N. lat.; 125°14.00' W. long.
c. *Grays Harbor Control Zone* - The area defined by a line drawn from the Westport Lighthouse (46° 53'18" N. lat., 124° 07'01" W. long.) to Buoy #2 (46° 52'42" N. lat., 124°12'42" W. long.) to Buoy #3 (46° 55'00" N. lat., 124°14'48" W. long.) to the Grays Harbor north jetty (46° 55'36" N. lat., 124°10'51" W. long.).
d. *Columbia Control Zone* - An area at the Columbia River mouth, bounded on the west by a line running northeast/southwest between the red lighted Buoy #4 (46°13'35" N. lat., 124°06'50" W. long.) and the green lighted Buoy #7 (46°15'09' N. lat., 124°06'16" W. long.); on the east, by the Buoy #10 line which bears north/south at 357° true from the south jetty at 46°14'00" N. lat.,124°03'07" W. long. to its intersection with the north jetty; on the north, by a line running northeast/southwest between the green lighted Buoy #7 to the tip of the north jetty (46°15'48" N. lat., 124°05'20" W. long.), and then along the north jetty to the point of intersection with the Buoy #10 line; and, on the south, by a line running northeast/southwest between the red lighted Buoy #4 and tip of the south jetty (46°14'03" N. lat., 124°04'05" W. long.), and then along the south jetty to the point of intersection with the Buoy #10 line.
e. *Klamath Control Zone* - The ocean area at the Klamath River mouth bounded on the north by 41°38'48" N. lat. (approximately 6 nautical miles north of the Klamath River mouth); on the west by 124°23'00" W. long. (approximately 12 nautical miles off shore); and on the south by 41°26'48" N. lat. (approximately 6 nautical miles south of the Klamath River mouth).

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

C.5. Control Zone Definitions (continued):

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

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

C.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 amount of salmon (by species) on board, the estimated time of arrival, and the specific reason the vessel is not able to meet special management area landing restrictions.

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

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

License applications for incidental harvest must be obtained from the International Pacific Halibut Commission (phone: 206-634-1838). Applicants must apply prior to mid-March 2017 for 2017 permits (*exact date to be set by the IPHC in early 2017*). Incidental harvest is authorized only during April, May, and June of the 2016 troll seasons and after June 30 in 2016 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 34,123 pound preseason allocation or the total Area 2A non-Indian commercial halibut allocation, NMFS will take inseason action to prohibit retention of halibut in the non-Indian salmon troll fishery.

May 1, 2016 through December 31, 2016, and April 1-30, 2017, license holders may land or possess no more than one Pacific halibut per each three Chinook, except one Pacific halibut may be possessed or landed without meeting the ratio requirement, and no more than 20 halibut may be possessed or landed per trip. Pacific halibut retained must be no less than 32 inches in total length (with head on). IPHC license holders must comply with all applicable IPHC regulations.

Incidental Pacific halibut catch regulations in the commercial salmon troll fishery adopted for 2016, prior to any 2016 inseason action, will be in effect when incidental Pacific halibut retention opens on April 1, 2017 unless otherwise modified by inseason action at the March 2017 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.

TABLE 1. Commercial troll management measures adopted by the Council for non-Indian ocean salmon fisheries, 2016.
(Page 6 of 6)

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

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 the June non-Indian commercial troll quotas in the Oregon KMZ may be transferred to the Chinook quota for the July open period if the transfer would not result in exceeding preseason impact expectations on any stocks.
c. NMFS may transfer fish between the recreational and commercial fisheries north of Cape Falcon if there is agreement among the areas' representatives on the Salmon Advisory Subpanel (SAS), and if the transfer would not result in exceeding preseason impact expectations on any stocks.
d. At the March 2017 meeting, the Council will consider inseason recommendations for special regulations for any experimental fisheries (proposals must meet Council protocol and be received in November 2016).
e. If retention of unmarked coho is permitted by inseason action, the allowable coho quota will be adjusted to ensure preseason projected impacts on all stocks is not exceeded.
f. Landing limits may be modified inseason to sustain season length and keep harvest within overall quotas.

C.9. State Waters Fisheries: Consistent with Council management objectives:

a. The State of Oregon may establish additional late-season fisheries in state waters.
b. The State of California may establish limited fisheries in selected state waters. Check state regulations for details.

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

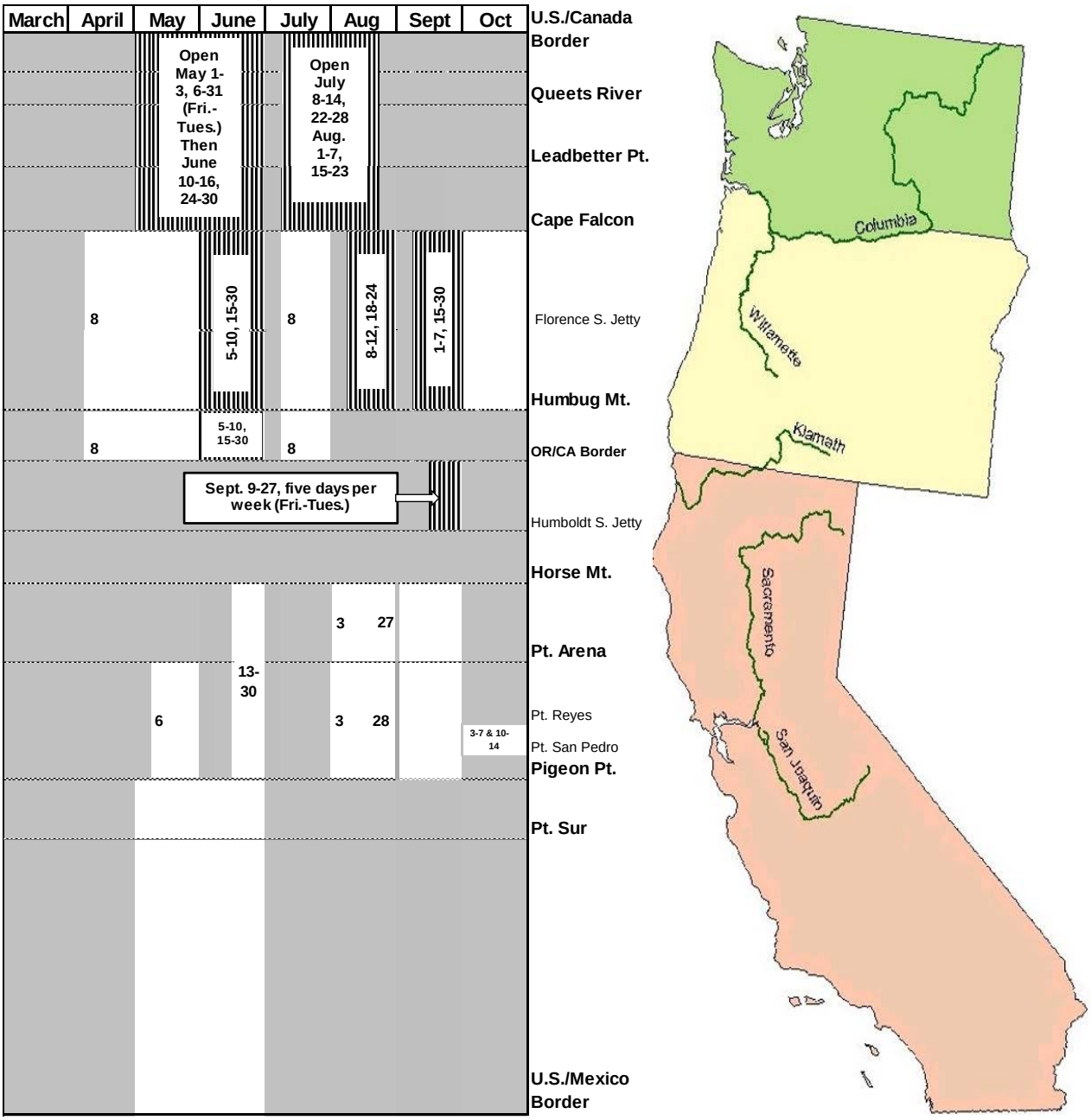

FIGURE 1. Council-adopted non-Indian commercial salmon seasons for 2016. Dates are the first or last days of the month unless otherwise specified.

TABLE 2. Recreational management measures adopted by the Council for non-Indian ocean salmon fisheries, 2016.
(Page 1 of 4)

A. SEASON DESCRIPTIONS

North of Cape Falcon

Supplemental Management Information

1. Overall non-Indian TAC: 70,000 Chinook and 18,900 coho marked with a healed adipose fin clip (marked).
2. Recreational TAC: 35,000 Chinook and the equivalent coho mortality of the recreational portion of the overall non-Indian coho TAC consisting of 18,900 marked coho retained in the recreational fishery in the Columbia River Subarea and non-retention coho mortality in the recreational fisheries in the Neah Bay, La Push, and Westport Subareas.
3. No Area 4B add-on fishery.
4. Buoy 10 fishery opens August 1 with an expected landed catch of 20,000 marked coho in August and September.

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

- July 1 through earlier of August 21 or a Subarea guideline of 6,200 Chinook (C.6).

Seven days per week. All salmon except coho; no chum beginning August 1; two fish per day (C.1). Beginning August 1, Chinook non-retention east of the Bonilla-Tatoosh line (C.4.a) during Council managed ocean fishery. Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook and coho recreational TACs for north of Cape Falcon (C.5).

Cape Alava to Queets River (La Push Subarea)

- July 1 through earlier of August 21 or a subarea guideline of 2,000 Chinook (C.6).

Seven days per week. All salmon except coho; two fish per day. Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook and coho recreational TACs for north of Cape Falcon (C.5).

Queets River to Leadbetter Point (Westport Subarea)

- July 1 through earlier of August 21 or a subarea guideline of 16,600 Chinook (C.6).

Seven days per week. All salmon except coho; one fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3). Grays Harbor Control Zone closed beginning August 8 (C.4.b). Inseason management may be used to sustain season length and keep harvest within the overall Chinook and coho recreational TACs for north of Cape Falcon (C.5).

Leadbetter Point to Cape Falcon (Columbia River Subarea)

- July 1 through earlier of August 31 or 18,900 marked coho subarea quota with a subarea guideline of 10,200 Chinook (C.6).

Seven days per week. All salmon; two fish per day, no more than one of which can be a Chinook (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3). Columbia Control Zone closed (C.4.c). Inseason management may be used to sustain season length and keep harvest within the overall Chinook and coho recreational TACs for north of Cape Falcon (C.5).

TABLE 2. Recreational management measures adopted by the Council for non-Indian ocean salmon fisheries, 2016.
(Page 2 of 4)

A. SEASON DESCRIPTIONS

South of Cape Falcon

Supplemental Management Information

1. Sacramento River fall Chinook spawning escapement of 151,128 hatchery and natural area adults.
2. Klamath River fall Chinook spawning escapement of 30,909 natural area adults.
3. Klamath River recreational fishery allocation: 1,111 adult Klamath River fall Chinook.
4. Klamath tribal allocation: 7,404 adult Klamath River fall Chinook.
5. Overall recreational coho TAC: 26,000 coho marked with a healed adipose fin clip (marked), and 7,500 coho in the non-mark-selective coho fishery.

Cape Falcon to Humbug Mt.

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

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

- Non-mark-selective coho fishery: September 3 through the earlier of September 30 or a landed catch of 7,500 coho (C.5).

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

The all salmon except coho season reopens the earlier of October 1 or attainment of the coho quota (C.5).

In 2017, the season between Cape Falcon and Humbug Mountain will open March 15 for all salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2016 (C.2, C.3).

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).

Cape Falcon to OR/CA Border

- All-salmon mark-selective coho fishery: June 25 through the earlier of August 7 or a landed catch of 26,000 marked coho (C.5).

Seven days per week. All salmon, two fish per day. All retained coho must be marked with a healed adipose fin clip (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3). The all salmon except coho season reopens the earlier of August 8 or attainment of the coho quota.

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).

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

- May 28 through August 7 and September 3 through September 5; except as provided above during the all-salmon mark-selective coho fishery (C.6).

Seven days per week. All salmon except coho, except as noted above in the all-salmon mark-selective coho fishery; two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B). See gear restrictions and definitions (C.2, C.3).

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

- May 16 through May 31, June 16 through June 30, July 16 through August 16, and September 1 through September 5 (C.6).

Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 20 inches total length (B). See gear restrictions and definitions (C.2, C.3). Klamath Control Zone closed in August (C.4.e). See California State regulations for additional closures adjacent to the Smith, Eel, and Klamath Rivers.

Horse Mt. to Point Arena (Fort Bragg)

- April 2 through November 13 (C.6).

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

In 2017, season opens April 1 for all salmon except coho, two fish per day (C.1). Chinook minimum size limit of 20 inches total length (B); and the same gear restrictions as in 2016 (C.2, C.3).

TABLE 2. Recreational management measures adopted by the Council for non-Indian ocean salmon fisheries, 2016.
(Page 3 of 4)

A. SEASON DESCRIPTIONS

Point Arena to Pigeon Point (San Francisco)

- April 2 through October 31 (C.6).

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

In 2017, season opens April 1 for all salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2016 (C.2, C.3).

Pigeon Point to Point Sur (Monterey North)

- April 2 through July 15 (C.6).

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

In 2017, season opens April 1 for all salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2016 (C.2, C.3).

Point Sur to U.S./Mexico Border (Monterey South)

- April 2 through May 31 (C.6).

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

In 2017, season opens April 1 for all salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length (B); and the same gear restrictions as in 2016 (C.2, C.3).

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

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

Area (when open)		Chinook	Coho	Pink
North of Cape Falcon		24.0	16.0	None
Cape Falcon to Humbug Mt.		24.0	16.0	None
Humbug Mt. to OR/CA Border		24.0	16.0	None
OR/CA Border to Horse Mt.		20.0	-	20.0
Horse Mt. to Pt. Arena		20.0	-	20.0
Pt. Arena to Pigeon Pt.	Through April 30	24.0	-	24.0
	After April 30	20.0	-	20.0
Pigeon Pt. to U.S./Mexico Border		24.0	-	24.0

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

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

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

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

a. *U.S./Canada Border to Pt. Conception, California*: No more than one rod may be used per angler; and no more than two single point, single shank barbless hooks are required for all fishing gear. [Note: ODFW regulations in the state-water fishery off Tillamook Bay may allow the use of barbed hooks to be consistent with inside regulations.]

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

TABLE 2. Recreational management measures adopted by the Council for non-Indian ocean salmon fisheries, 2016**.**
(Page 4 of 4)

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

C.3. Gear Definitions:

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

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

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

C.4. Control Zone Definitions:

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

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

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

d. *Stonewall Bank Yelloweye Rockfish Conservation Area*: The area defined by the following coordinates in the order listed:
44°37.46' N. lat.; 124°24.92' W. long.
44°37.46' N. lat.; 124°23.63' W. long.
44°28.71' N. lat.; 124°21.80' W. long.
44°28.71' N. lat.; 124°24.10' W. long.
44°31.42' N. lat.; 124°25.47' W. long.
and connecting back to 44°37.46' N. lat.; 124°24.92' W. long.

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

C.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 coho. To remain consistent with preseason expectations, any inseason action shall consider, if significant, the difference between observed and preseason forecasted 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.

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

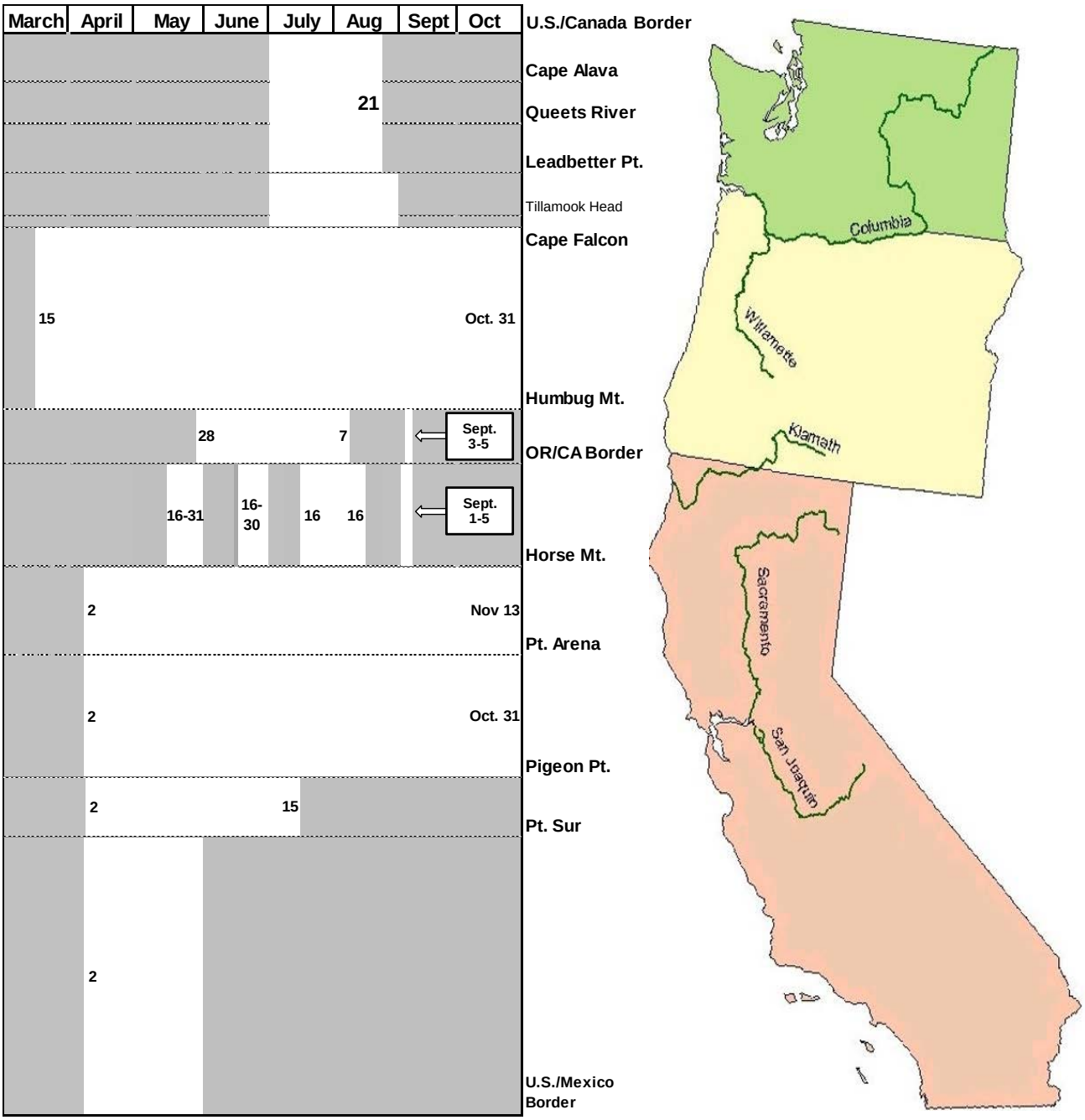

FIGURE 2. Council-adopted recreational salmon seasons for 2016. Dates are the first or last days of the month unless otherwise specified.

TABLE 3. Treaty Indian ocean troll management measures adopted by the Council for ocean salmon fisheries, 2016.
(Page 1 of 1)

A. SEASON DESCRIPTIONS

Supplemental Management Information

1. Overall Treaty-Indian TAC: 40,000 Chinook and 0 coho.

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

All salmon 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 August 31, or 20,000 preseason Chinook quota (C.5).

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

B. MINIMUM SIZE (Inches)

	Chinook		Coho		
Area (when open)	Total Length	Head-off	Total Length	Head-off	Pink
North of Cape Falcon	24.0 (61.0 cm)	18.0 (45.7 cm)	-	-	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 (All).

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 - That portion of the FMA between 48°10'00" N. lat. (Cape Alava.) and 47°3'70" N. lat. (Queets River) and east of 125°44'00" W. long.

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 - That portion of the FMA between 47°40'06" N. lat. (Destruction Island) and 46°53'18"N. lat. (Point Chehalis) and east of 125°08'30" W. long.

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

C.3. Quotas
- a. The quotas include troll catches by the S'Klallam and Makah tribes in Washington State Statistical Area 4B from May 1 through August 31.
- b. The Quileute Tribe will 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 2016 season (estimated harvest during the October ceremonial and subsistence fishery: 20 Chinook; 0 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 August harvest guideline on a fishery impact equivalent basis.

TABLE 4. Chinook and coho harvest quotas and guidelines (*) for 2016 ocean salmon fishery management measures adopted by the Council.

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	-
Subtotal Treaty Indian Ocean Troll	40,000	-
NON-INDIAN COMMERCIAL TROLL[b/]		
U.S./Canada Border to Cape Falcon (All Except Coho)	14,000	-
U.S./Canada Border to Cape Falcon (All Species)	21,000	-
Subtotal Non-Indian Commercial Troll	35,000	-
RECREATIONAL		
U.S./Canada Border to Cape Falcon (All Except Coho)	- *	-
U.S./Canada Border to Cape Alava[b/]	6,200 *	-
Cape Alava to Queets River[b/]	2,000 *	-
Queets River to Leadbetter Pt.[b/]	16,600 *	-
Leadbetter Pt. to Cape Falcon[b/c/]	10,200 *	18,900
Subtotal Recreational	35,000	18,900
TOTAL NORTH OF CAPE FALCON	110,000	18,900
SOUTH OF CAPE FALCON		
COMMERCIAL TROLL[a/]		
Humbug Mt. to OR/CA Border	920	-
OR/CA Border to Humboldt South Jetty	1,000	-
Subtotal Troll	1,920	-
RECREATIONAL		
Cape Falcon to OR/CA Border	-	33,500 [d/]
TOTAL SOUTH OF CAPE FALCON	1,920	33,500

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 in August and September of 37,600 Chinook and 20,000 marked coho.

d/ The quota consists of both mark-selective and non-mark-selective quotas of 26,000 and 7,500, respectively.

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

Key Stock/Criteria		Spawner Objective or Other Comparative Standard as Noted[b/]
		CHINOOK
PUGET SOUND:		
Elwha Summer/Fall	(0.1%)	≤ 10.0% Southern U.S. Rebuilding Exploitation Rate (NMFS ESA consultation standard)
Dungeness Spring	(0.1%)	≤ 6.0% Southern U.S. CERC (NMFS ESA consultation standard)
Mid-Hood Canal Summer/Fall	(2.7%)	≤ 12.0% Preterminal Southern U.S.(NMFS ESA consultation standard)
Skokomish Summer/Fall	(2.7%)	≤ 50.0% Total Rebuilding Exploitation Rate (NMFS ESA consultation standard)
Nooksack Spring	(0.7%)	≤ 7.0% Southern U.S. CERC, not to exceed in four out of five years (NMFS ESA consultation standard)
	NA	≤ 60.0% ISBM Index (PSC General Obligation) compliance assessed postseason
Skagit Summer/Fall	(0.3%)	≤ 50.0% Total Rebuilding Exploitation Rate (NMFS ESA consultation standard)
	NA	≤ 60.0% ISBM Index (PSC General Obligation) compliance assessed postseason
Skagit Spring	(1.2%)	≤ 38.0% Total Rebuilding Exploitation Rate (NMFS ESA consultation standard)
	NA	≤ 60.0% ISBM Index (PSC General Obligation) compliance assessed postseason
Stillaguamish Summer/Fall	(1.1%)	≤ 15.0% Southern U.S. Rebuilding Exploitation Rate (NMFS ESA consultation standard)
	NA	≤ 60.0% ISBM Index (PSC General Obligation) compliance assessed postseason
Snohomish Summer/Fall	(2.0%)	≤ 15.0% Southern U.S. Rebuilding Exploitation Rate (NMFS ESA consultation standard)
	NA	≤ 60.0% ISBM Index (PSC General Obligation) compliance assessed postseason
Lake Washington Summer/Fall	(2.8%)	≤ 20.0% Southern U.S. Rebuilding Exploitation Rate (NMFS ESA consultation standard)
	NA	≤ 60.0% ISBM Index (PSC General Obligation) compliance assessed postseason
Green River Summer/Fall	(2.8%)	≤ 12.0% Preterminal Southern U.S. CERC (NMFS ESA consultation standard)
	NA	≥ 1.800 Natural spawning escapement (Low Abundance Threshhold)
	NA	≤ 60.0% ISBM Index (PSC General Obligation) compliance assessed postseason
White River Spring	(0.5%)	≤ 20.0% Total Rebuilding Exploitation Rate (NMFS ESA consultation standard)
Puyallup Summer/Fall	(2.8%)	≤ 50.0% Total Rebuilding Exploitation Rate (NMFS ESA consultation standard)
Nisqually River Summer/Fall	(4.0%)	≤ 50.0% Total Rebuilding Exploitation Rate (NMFS ESA consultation standard)
WASHINGTON COAST:		
Hoko Fall	2.3	0.85 FMP MSY spawning escapement objective
	62.5%	≤ 60.0% ISBM Index (PSC General Obligation) compliance assessed postseason
Quillayute Fall	[d/]	3.0 FMP MSY spawning escapement objective
	172.8%	≤ 60.0% ISBM Index (PSC general obligation) not applicable because PSC escapement goal met
Hoh Fall	[d/]	1.2 FMP MSY spawning escapement objective
	97.4%	≤ 60.0% ISBM Index (PSC general obligation) not applicable because PSC escapement goal met
Queets Fall	[d/]	2.5 FMP MSY spawning escapement objective
	71.1%	≤ 60.0% ISBM Index (PSC general obligation) not applicable because PSC escapement goal met
Grays Harbor Fall	[d/]	13.5 FMP MSY spawning escapement objective
	72.0%	≤ 60.0% ISBM Index (PSC general obligation) not applicable because PSC escapement goal met

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

Key Stock/Criteria		Spawner Objective or Other Comparative Standard as Noted [b/]
CHINOOK		
COLUMBIA RIVER:		
Columbia Upriver Brights	579.4	74.0 Minimum ocean escapement to attain 40.0 adults over McNary Dam, with normal distribution and no mainstem harvest.
	107.8%	≤ 60.0% ISBM Index (PSC general obligation) not applicable because PSC escapement goal met
Deschutes Upriver Brights	62.6%	≤ 60.0% ISBM Index (PSC general obligation) not applicable because PSC escapement goal met
Mid-Columbia Brights	99.4	14.9 Minimum ocean escapement to attain 7.9 for Little White Salmon egg-take, assuming average conversion and no mainstem harvest.
Columbia Lower River Hatchery Tules[e/]	142.5	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)	38.2%	≤ 41.0% Total adult equivalent fishery exploitation rate (2016 NMFS ESA guidance). Value depicted uses preliminary 2016 inriver harvest rates.
Columbia Lower River Wild[c/] (threatened)	22.4	6.9 Minimum ocean escapement to attain MSY spawner goal of 5.7 for N. Lewis River fall Chinook (NMFS ESA consultation standard).
	110.4%	≤ 60.0% ISBM Index (PSC general obligation) not applicable because PSC escapement goal met
Spring Creek Hatchery Tules	100.7	8.2 Minimum ocean escapement to attain 6.0 adults for Spring Creek Hatchery egg-take, assuming average conversion and no mainstem harvest.
Snake River Fall (threatened) SRFI	40.9%	≤ 70.0% Of 1988-1993 base period exploitation rate for all ocean fisheries (NMFS ESA consultation standard).
Columbia Upriver Summers	95.6	29.0 Minimum ocean escapement to attain 12.1 adults over Rock Island Dam.
	66.7%	≤ 60.0% ISBM Index (PSC general obligation) not applicable because PSC escapement goal met
OREGON COAST:		
Nehalem Fall	218.4%	≤ 60.0% ISBM Index (PSC general obligation) not applicable because PSC escapement goal met
Siletz Fall	93.6%	≤ 60.0% ISBM Index (PSC general obligation) not applicable because PSC escapement goal met
Siuslaw Fall	233.5%	≤ 60.0% ISBM Index (PSC general obligation) not applicable because PSC escapement goal met

TABLE 5. Projected key stock escapements (thousands of fish) or management criteria for 2016 ocean fishery management measures adopted by the Council.[a/] (Page 3 of 4)

Key Stock/Criteria		Spawner Objective or Other Comparative Standard as Noted[b/]
CHINOOK		
CALIFORNIA:		
Klamath River Fall	30.909	30.909 2016 minimum natural area adult escapement (FMP control rule).
Federally recognized tribal harvest	50.0%	50.0% Equals 7.4 (thousand) adult fish for Yurok and Hoopa Valley tribal fisheries.
Spawner reduction rate	25.0%	≤ 25.0% FMP control rule.
Adult river mouth return	52.1	NA Total adults.
Age 4 ocean harvest rate	8.4%	≤ 16.0% NMFS ESA consultation standard for threatened California Coastal Chinook.
KMZ sport fishery share	10.2%	NA Equals 0.6 (thousand) adult fish for the KMZ sport fishery.
River recreational fishery share	15.0%	NA Equals 1.1 (thousand) adult fish for recreational inriver fisheries.
Sacramento River Winter (endangered)	12.8%	≤ 19.9% 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 2016 ESA Guidance).
Sacramento River Fall	151.1	≥ 122.0 2016 minimum hatchery and natural area adult escapement (FMP control rule).
Sacramento Index Exploitation Rate	49.6%	≤ 59.3% FMP control rule.
Ocean commercial impacts	83.7	Includes fall (Sept-Dec) 2015 impacts (9.2 thousand SRFC).
Ocean recreational impacts	40.1	Includes fall 2015 impacts (7.8 thousand SRFC).
River recreational impacts	24.6	NA Equals 16.6% of the total harvest.
Hatchery spawner goal	Met	22.0 Aggregate number of adults to achieve egg take goals at Coleman, Feather River, and Nimbus hatcheries.

TABLE 5. Projected key stock escapements (thousands of fish) or management criteria for 2016 ocean fishery management measures adopted by the Council.[a/] (Page 4 of 4)

Key Stock/Criteria		Spawner Objective or Other Comparative Standard as Noted [b/]
		COHO
Interior Fraser (Thompson River)	≤10% (0.8%)	≤ 10.0% 2016 Southern U.S. exploitation rate ceiling; PSC coho agreement.
Skagit	≤10% (0.8%)	≤ 20.0% 2016 total exploitation rate ceiling; FMP matrix; Value depicted is SUS exploitation rate[d/e/]
Stillaguamish	≤10% (0.6%)	≤ 20.0% 2016 total exploitation rate ceiling; FMP matrix; Value depicted is SUS exploitation rate[d/e/]
Snohomish	≤10% (0.6%)	≤ 20.0% 2016 total exploitation rate ceiling; FMP matrix; Value depicted is SUS exploitation rate[d/e/]
Hood Canal	≤45% (0.2%)	≤ 45.0% 2016 total exploitation rate ceiling; FMP matrix[d/e/]
Strait of Juan de Fuca	≤10% (0.9%)	≤ 20.0% 2016 total exploitation rate ceiling; FMP matrix; Value depicted is SUS exploitation rate[d/e/]
Quillayute Fall	4.3	4.0 2016 Comanager adult spawner agreement.[d/] Value depicted is ocean escapement.
Hoh	1.9	1.8 2016 Comanager adult spawner agreement.[d/] Value depicted is ocean escapement.
Queets Wild	3.2	2.9 2016 Comanager adult spawner agreement.[d/] Value depicted is ocean escapement.
Grays Harbor (Quinault Forecast)[f/]	34.5	31.0 2016 Comanager adult spawner agreement.[d/] Value depicted is ocean escapement.
Willapa Bay Natural	37.4	17.2 FMP MSY adult spawner estimate. Value depicted is ocean escapement.
Lower Columbia River Natural (threatened)	13.0% (7.2%)	≤ 18% Total marine and mainstem Columbia R. fishery exploitation rate (2016 NMFS ESA guidance). Value depicted is ocean, Buoy 10, and Columbia R. mainstem using 2015 harvest rates.
Upper Columbia[e/]	76%	≥ 50% Minimum percentage of the run to Bonneville Dam.
Columbia River Hatchery Early	118.2	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	181.7	9.7 Minimum ocean escapement to attain hatchery egg-take goal of 6.4 late adult coho, with average conversion and no mainstem or tributary fisheries.
Oregon Coastal Natural	13.1 (10.4%)	≤ 20.0% Marine and freshwater fishery exploitation rate (NMFS ESA consultation standard).
Southern Oregon/Northern California Coast (threatened)	7.0%	≤ 13.0% Marine fishery exploitation rate for R/K hatchery coho (NMFS ESA consultation standard).

a/ Reflects 2016 fisheries and abundance estimates.

b/ Ocean escapement is the number of salmon escaping ocean fisheries and entering freshwater with the following clarifications. Numbers in parentheses represent Council area exploitation rates. For Columbia River early and late coho stocks, ocean escapement represents the number of coho after the Buoy 10 fishery. Exploitation rates for OCN coho include impacts of freshwater fisheries. Values reported for Klamath River fall Chinook are natural area adult spawners. Values reported for Sacramento River fall Chinook are hatchery and natural area adult spawners.

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

d/ Annual management objectives may be different than FMP goals, and are subject to agreement between WDFW and the treaty tribes under U.S. District Court orders. 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 projected impacts of inriver fisheries that have not yet been shaped.

f/ Estimates based on a Grays Harbor coho ocean abundance forecast of 35,694.

TABLE 6. Preliminary projections of Chinook and coho harvest impacts for 2016 ocean salmon fishery management measures adopted by the Council.

Area and Fishery	Catch Projection	Bycatch Mortality[a/] Projection	Bycatch Projection[b/]	Observed in 2015 Catch	Observed in 2015 Bycatch Mortality
OCEAN FISHERIES:		**CHINOOK (thousands of fish)**			
NORTH OF CAPE FALCON					
Treaty Indian Ocean Troll	40.0	4.1	10.3	59.2	14.0
Non-Indian Commercial Troll	35.0	16.8	60.9	66.2	35.7
Recreational	35.0	6.5	35.9	42.2	10.2
CAPE FALCON TO HUMBUG MT.[c/]					
Commercial Troll	44.7	6.8	17.8	89.0	13.1 [d/]
Recreational	5.8	0.5	1.6	5.5	0.6
HUMBUG MT. TO HORSE MT. [c/]					
Commercial Troll	2.8	0.4	1.1	4.3	0.7 [d/]
Recreational	6.4	0.6	1.7	4.9	0.5 [d/]
SOUTH OF HORSE MT.					
Commercial Troll	81.1	12.4	32.3	109.9	16.8 [d/]
Recreational	43.8	3.9	10.7	33.8	3.0 [d/]
TOTAL OCEAN FISHERIES					
Commercial Troll	203.6	40.6	122.5	328.5	80.4
Recreational	91.0	11.6	49.9	86.3	14.4
INSIDE FISHERIES:					
Area 4B	-	-	-	-	-
Buoy 10	37.6	0.6	3.4	36.5	4.2 [d/]
OCEAN FISHERIES:		**COHO (thousands of fish)**			
NORTH OF CAPE FALCON					
Treaty Indian Ocean Troll	-	0.4	1.6	4.0	0.3
Non-Indian Commercial Troll	-	3.8	14.6	5.1	3.7
Recreational	18.9	11.4	72.8	80.1	15.9
SOUTH OF CAPE FALCON					
Commercial Troll	-	5.3	20.6	-	3.8
Recreational[e/]	33.5	13.7	67.5	19.4	6.3
TOTAL OCEAN FISHERIES					
Commercial Troll	0.0	9.6	36.8	9.0	7.8
Recreational	52.4	25.1	140.3	99.5	22.2
INSIDE FISHERIES:					
Area 4B	-	-	-	-	-
Buoy 10	20.0	3.8	14.8	57.7	10.3 [d/]

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: 17% (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/ Based on reported released Chinook or coho.

e/ 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 2016 ocean fisheries management measures adopted by the Council.

	Exploitation Rate (Percent)			
Fishery	LCN Coho	OCN Coho	RK Coho	LCR Tule
SOUTHEAST ALASKA	0.0%	0.0%	0.0%	1.9%
BRITISH COLUMBIA	0.2%	0.2%	0.1%	12.7%
PUGET SOUND/STRAIT/BAY	0.1%	0.0%	0.0%	0.4%
NORTH OF CAPE FALCON				
Treaty Indian Ocean Troll	0.0%	0.0%	0.0%	4.0%
Recreational	2.8%	0.5%	0.1%	2.3%
Non-Indian Troll	0.6%	0.1%	0.0%	4.9%
SOUTH OF CAPE FALCON				
Recreational:				0.1%
Cape Falcon to Humbug Mt.	2.6%	6.2%	0.5%	
Humbug Mt. to OR/CA border (KMZ)	0.1%	0.6%	1.3%	
OR/CA border to Horse Mt. (KMZ)	0.0%	0.3%	1.6%	
Fort Bragg	0.0%	0.5%	1.6%	
South of Pt. Arena	0.0%	0.3%	0.8%	
Troll:				1.3%
Cape Falcon to Humbug Mt.	0.5%	0.7%	0.1%	
Humbug Mt. 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%	0.3%	0.7%	
South of Pt. Arena	0.1%	0.4%	0.2%	
BUOY 10	1.8%	0.1%	0.0%	10.6%
ESTUARY/FRESHWATER	4.0%	2.7% [a/]	0.3% [a/]	
TOTAL	13.0%	13.1%	7.3%	38.2%

a/ Includes adult mortalities associated with PSC funded Chinook escapement monitoring studies in Oregon.

TABLE 8. Projected coho mark rates for 2016 mark-selective fisheries under Council adopted management measures (percent marked).

Area	Fishery	June	July	August	September
Canada					
Johnstone Strait	Recreational	-	32%	31%	-
West Coast Vancouver Island	Recreational	48%	33%	34%	31%
North Georgia Strait	Recreational	47%	47%	46%	40%
South Georgia Strait	Recreational	36%	53%	42%	46%
Juan de Fuca Strait	Recreational	50%	51%	50%	47%
Johnstone Strait	Troll	57%	45%	32%	43%
NW Vancouver Island	Troll	41%	35%	35%	27%
SW Vancouver Island	Troll	52%	47%	48%	50%
Georgia Strait	Troll	57%	55%	55%	48%
Puget Sound					
Strait of Juan de Fuca (Area 5)	Recreational	64%	56%	55%	55%
Strait of Juan de Fuca (Area 6)	Recreational	60%	56%	58%	53%
San Juan Island (Area 7)	Recreational	69%	62%	52%	36%
North Puget Sound (Areas 6 & 7A)	Net	-	54%	55%	38%
Council Area					
Neah Bay (Area 4/4B)	Recreational	57%	60%	55%	63%
LaPush (Area 3)	Recreational	67%	62%	70%	50%
Westport (Area 2)	Recreational	72%	70%	65%	61%
Columbia River (Area 1)	Recreational	77%	76%	69%	72%
Tillamook	Recreational	65%	58%	50%	41%
Newport	Recreational	59%	50%	47%	32%
Coos Bay	Recreational	45%	39%	29%	19%
Brookings	Recreational	38%	24%	21%	13%
Neah Bay (Area 4/4B)	Troll	55%	57%	56%	58%
LaPush (Area 3)	Troll	51%	57%	55%	58%
Westport (Area 2)	Troll	58%	64%	65%	59%
Columbia River (Area 1)	Troll	73%	72%	67%	59%
Tillamook	Troll	59%	56%	56%	51%
Newport	Troll	55%	51%	47%	44%
Coos Bay	Troll	44%	39%	34%	20%
Brookings	Troll	27%	30%	34%	47%
Columbia River					
Buoy 10	Recreational	-	-	-	65%

TABLE 9. Preliminary projected exvessel value by catch area under Council-adopted 2016 non-Indian commercial troll management measures compared with 2015 and the 2011-2015 average (inflation-adjusted 2015 dollars).

	Exvessel Value (thousands of dollars)[a/]			Percent Change	
Management Area	2016 Projected[b/]	2015	2011-2015 Average	From 2015 Modeled	From 2011-2015 Average
North of Cape Falcon	2,254	4,206	3,272	-46%	-31%
Cape Falcon to Humbug Mt.	2,878	6,180	6,315	-53%	-54%
Humbug Mt. to Horse Mt. (KMZ)	180	307	727	-41%	-75%
Horse Mt. to Pt. Arena (Fort Bragg)	1,430	4,350	4,748	-67%	-70%
South of Pt. Arena	3,792	4,006	7,981	-5%	-52%
Total South of Cape Falcon	8,279	14,843	19,771	-44%	-58%
West Coast Total	10,533	19,050	23,043	-45%	-54%

a/ Exvessel value estimates are not comparable to the community income impacts shown in Table 10.

b/ 2016 projections are based on expected catches in the Council management areas, 2015 exvessel prices and 2015 average weight per fish.

TABLE 10. Preliminary projected angler trips and associated state level personal income impacts under Council-adopted 2016 recreational ocean salmon fishery management measures compared to estimated 2015 and the 2011-2015 average.

	Angler Trips (thousands)			Coastal Community Income Impacts[a/] (thousands of dollars)[b/]			Percent Change in Income Impacts	
Management Area	2016 Projected	2015	2011-2015 Avg.	2016 Projected	2015	2011-2015 Avg.	Compared to 2015	Compared to 2011-2015 Avg.
North of Cape Falcon	37.3	100.5	93.4	7,195	19,409	17,839	-63%	-60%
Cape Falcon to Humbug Mt.	63.7	48.5	55.7	6,276	4,774	5,363	+31%	+17%
Humbug Mt. to Horse Mt. (KMZ)	23.7	17.9	35.4	3,166	2,396	4,880	+32%	-35%
Horse Mt. to Pt. Arena (Fort Bragg)	20.2	12.0	15.2	4,285	2,541	3,255	+69%	+32%
South of Pt. Arena	100.6	60.9	81.5	29,638	17,932	22,368	+65%	+33%
Total South of Cape Falcon	208.2	139.2	187.8	43,366	27,643	35,865	+57%	+21%
West Coast Total	245.5	239.8	281.2	50,561	47,052	53,704	+7%	-6%

a/ Income impacts are not comparable to exvessel values shown in Table 9.
b/ Dollar amounts are in inflation-adjusted 2015 values.

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

Environmental Component	No-Action Alternative[b/]	Alternative I	Alternative II	Alternative III	Proposed Action	2016 Criteria or Comparison
Chinook						
SRFC Spawning Escapement	153,346	154,684	160,348	163,552	151,128	≥ 122.0 2016 hatchery and natural area adult escapement (FMP control rule).
Exploitation Rate	49.0%	48.4%	46.5%	45.4%	49.6%	≤ 59.3% FMP control rule.
KRFC Spawning Escapement	**14,540**	30,909	30,909	30,909	30,909	≥30,909 2016 minimum natural area adult escapement (FMP control rule).
Spawner Reduction Rate	**65.0%**	25.0%	25.0%	25.0%	25.0%	≤ 25.0% FMP control rule.
Washington Coastal Coho						
Quillayute Fall Coho	**2.4**	4.0	4.2	4.3	4.3	4.0 2016 Comanager adult spawner agreement.[c/] Value depicted is ocean esc.
Hoh Coho	2.1	**1.6**	1.8	1.9	1.9	1.8 2016 Comanager adult spawner agreement.[c/] Value depicted is ocean esc.
Queets Wild Coho	**2.0**	**2.8**	3.0	3.2	3.2	2.9 2016 Comanager adult spawner agreement.[c/] Value depicted is ocean esc.
Grays Harbor Coho	**NA**	32.8	33.8	34.8	34.5	31.0 2016 Comanager adult spawner agreement.[c/] Value depicted is ocean esc.
Willapa Bay Natural Coho	**4.0**	35.5	37.1	38.6	37.4	17.2 2016 Comanager adult spawner agreement.[c/] Value depicted is ocean esc.
Puget Sound Coho						
Strait of Juan de Fuca Coho	**22.0%**	19.5% (5.3%)	16.5% (2.3%)	14.4% (0.3%)	≤10% (0.8%)	≤ 20.0% 2016 total exploitation rate ceiling; FMP matrix.[d/e/]
Skagit Coho	**70.0%**	**61.0%** (6.0%)	**58.1%** (2.6%)	**56.1%** (0.1%)	≤10% (0.6%)	≤ 20.0% 2016 total exploitation rate ceiling; FMP matrix.[d/e/]
Stillaguamish Coho	**100.0%**	**105.8%** (4.1%)	**103.5%** (1.8%)	**101.9%** (0.1%)	≤10% (0.6%)	≤ 20.0% 2016 total exploitation rate ceiling; FMP matrix.[d/e/]
Snohomish Coho	**89.0%**	**81.7%** (4.2%)	**79.3%** (1.8%)	**77.7%** (0.1%)	≤10% (0.9%)	≤ 20.0% 2016 total exploitation rate ceiling; FMP matrix.[d/e/]
Hood Canal Coho	**74.0%**	**70.9%** (6.2%)	**68.9%** (2.8%)	**67.4%** (0.1%)	≤45% (0.2%)	≤ 45.0% 2016 total exploitation rate ceiling; FMP matrix[d/e/]
Canadian Stocks						
Interior Fraser Coho	**17.6%**	**14.9%** (6.2%)	**11.3%** (2.7%)	8.9% (0.1%)	≤10% (0.8%)	≤ 10.0% Southen U.S. exploitation rate limit under the PST
ESA-Listed Salmon						
SRWC	17.1%	14.4%	13.6%	8.4%	12.8%	≤ 19.9% SRWC age-3 ocean impact rate in fisheries south of Pt. Arena.
California Coastal Chinook	**17.4%**	8.1%	8.5%	8.6%	8.4%	≤ 16.0% KRFC age-4 ocean harvest rate.
LCR Natural Tule Chinook	NA	39.7%	35.1%	29.1%	38.2%	≤ 41.0% Total adult equivalent fishery exploitation rate.
LCN Coho[f/]	**42.0%**	12.4%	8.4%	3.0%	13.0%	≤ 18.0% Total marine and mainstem Columbia fishery exploitation rate.
OCN coho[f/]	**27.0%**	12.9%	10.1%	7.4%	13.1%	≤ 20.0% Marine and freshwater fishery exploitation rate.
SONCC (RK) coho	11.9%	7.5%	6.7%	6.5%	7.0%	≤ 13.0% Marine fishery exploitation rate.

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	2016 Criteria or Comparison
Socioeconomics						
Commercial Community Personal Income Impacts (thousands of dollars)						
North of Cape Falcon	7,084	6,206	3,262	0	3,805	
Cape Falcon to Humbug Mt.	9,795	4,897	4,425	4,351	4,531	
KMZ	1,326	849	569	506	665	
Fort Bragg	7,254	1,718	2,096	2,238	2,234	
South of Pt. Arena	7,913	7,536	6,442	6,296	7,804	
West Coast Total	33,372	21,206	16,794	13,391	19,040	
Recreational Community Personal Income Impacts (thousands of dollars)						
North of Cape Falcon	19,409	12,761	5,994	0	7,195	
Cape Falcon to Humbug Mt.	4,774	6,276	5,907	4,268	6,276	
KMZ	2,396	3,166	2,775	2,947	3,166	
Fort Bragg	2,541	4,285	3,973	3,754	4,285	
South of Pt. Arena	17,932	31,204	30,392	27,183	29,638	
West Coast Total	47,052	57,692	49,041	38,152	50,561	

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

b/ Socioeconomic impacts under the No-Action Alternative are assumed equal to 2015 estimates.

c/ Natural spawning escapement targets for 2016 vary from the FMP conservation objectives as agreed to by WDFW and treaty tribes under the provisions of *Hoh v. Baldrige, U.S. v. Washington,* or subsequent U.S. District Court orders.

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. Values in parentheses indicate impacts in Council-area fisheries. Because the State of Washington and the Puget Sound treaty tribes did not reach agreement on a package of Puget Sound fisheries to be modeled prior to the Council's final adoption of the Proposed Action, it is not possible to provide model results showing the combined impacts of Council-area and Puget Sound fisheries on stocks affected by the Puget Sound fisheries. For the Proposed Action, values depict maximum Southern U.S. exploitation rates (total exploitation rates for Hood Canal coho) allowed under the Comprehensive Coho Management Plan. It is anticipated that state and tribal comanagers will structure inside fisheries that comply with stock specific exploitation rate constraints.

e/ Includes projected impacts of inriver fisheries.

f/ Impact rates listed under Alternatives I-III on LCN coho and OCN coho represent marine impacts. It is anticipated that when combined with freshwater impacts, the exploitation rates will meet, but not exceed, NMFS guidance. Total exploitation rates are shown for the No-Action Alternative and the Proposed Action, including freshwater impacts.

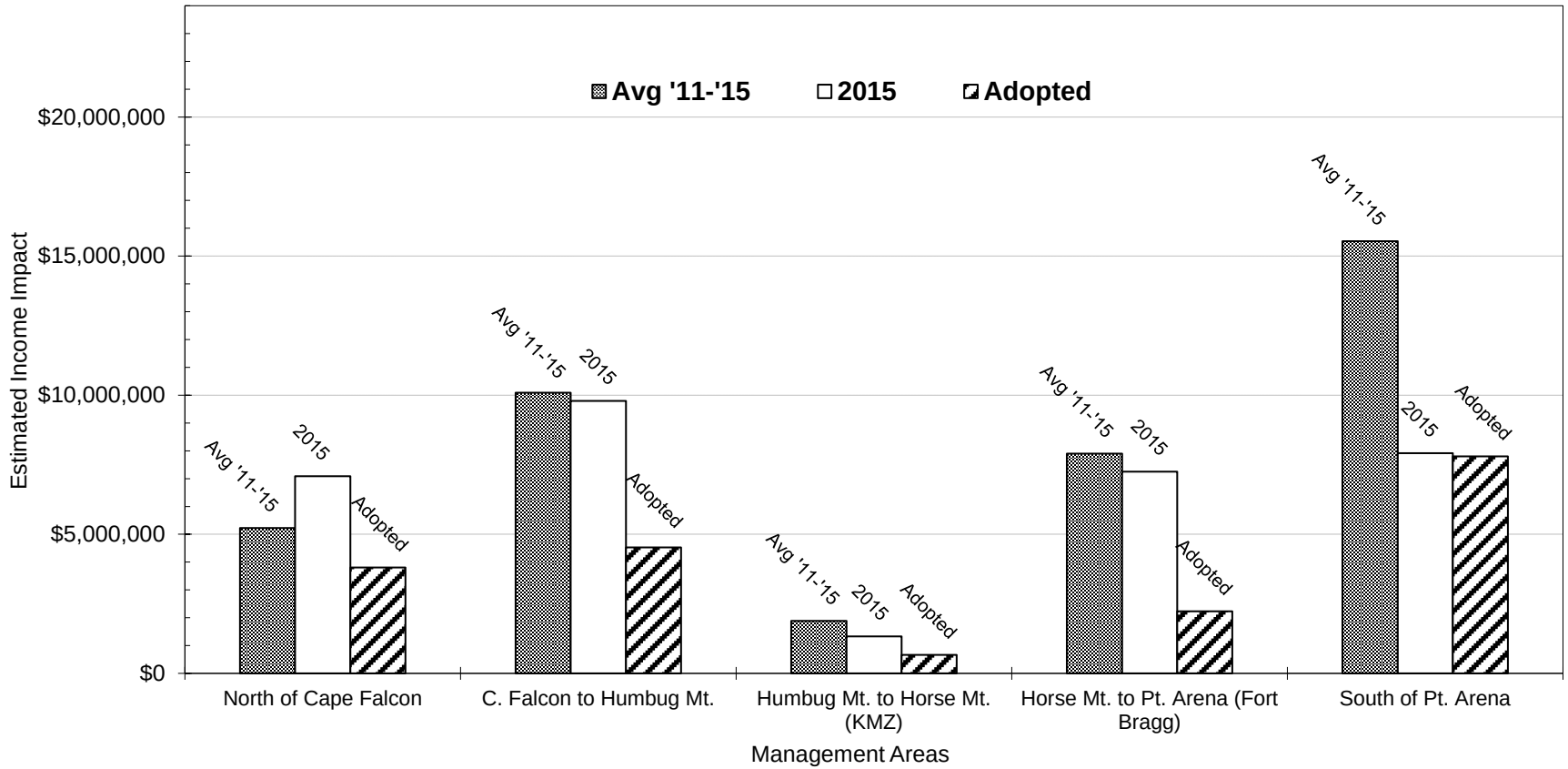

FIGURE 3. Projected coastal community personal income impacts associated with the 2016 commercial troll fishery under Council-adopted management measures compared to estimated 2015 and the 2011-2015 inflation-adjusted average (in 2015 dollars).

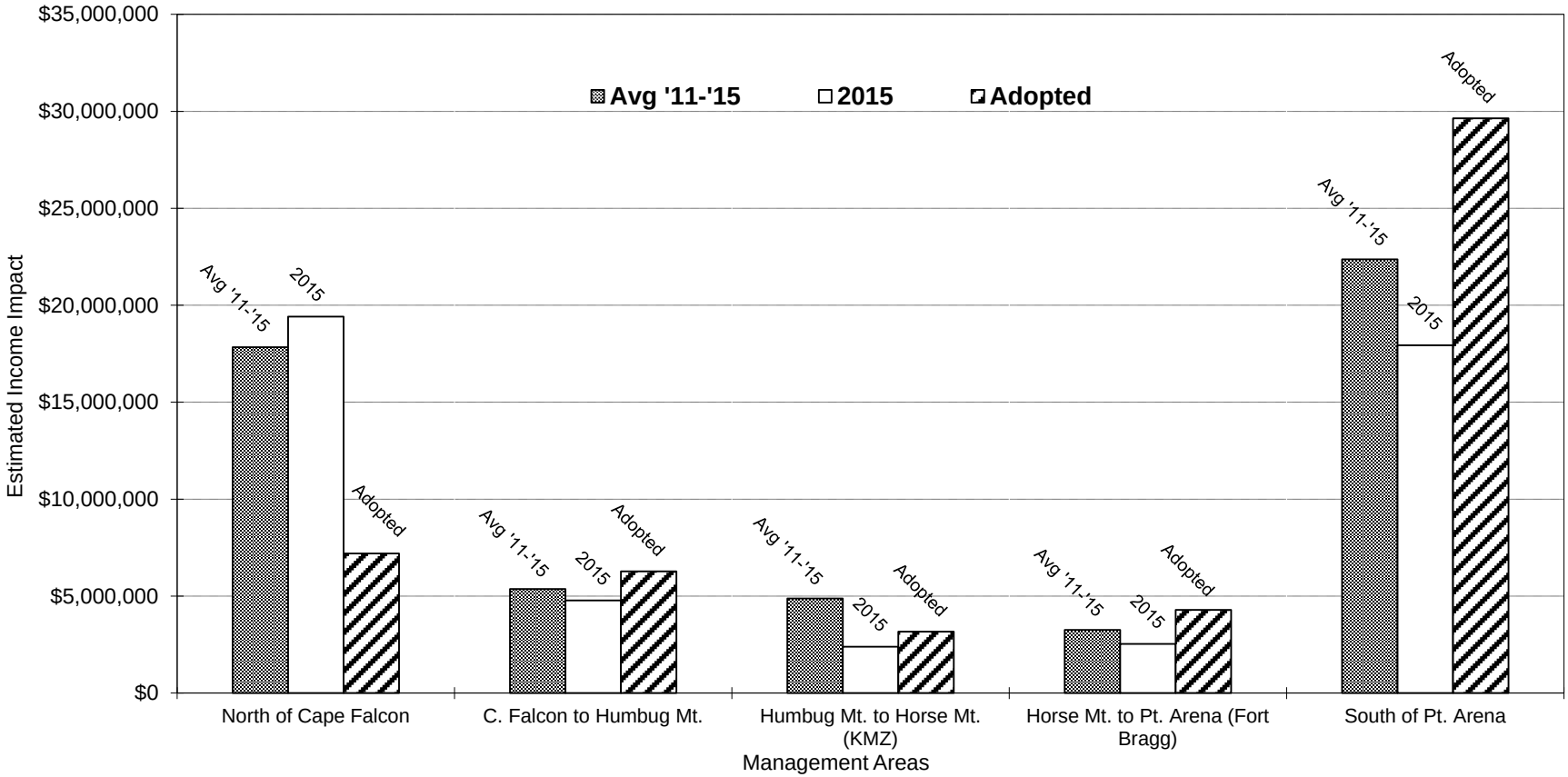

FIGURE 4. Projected coastal community personal income impacts associated with the 2016 recreational fishery under Council-adopted management measures compared to estimated 2015 and the 2011-2015 inflation-adjusted average (in 2015 dollars).

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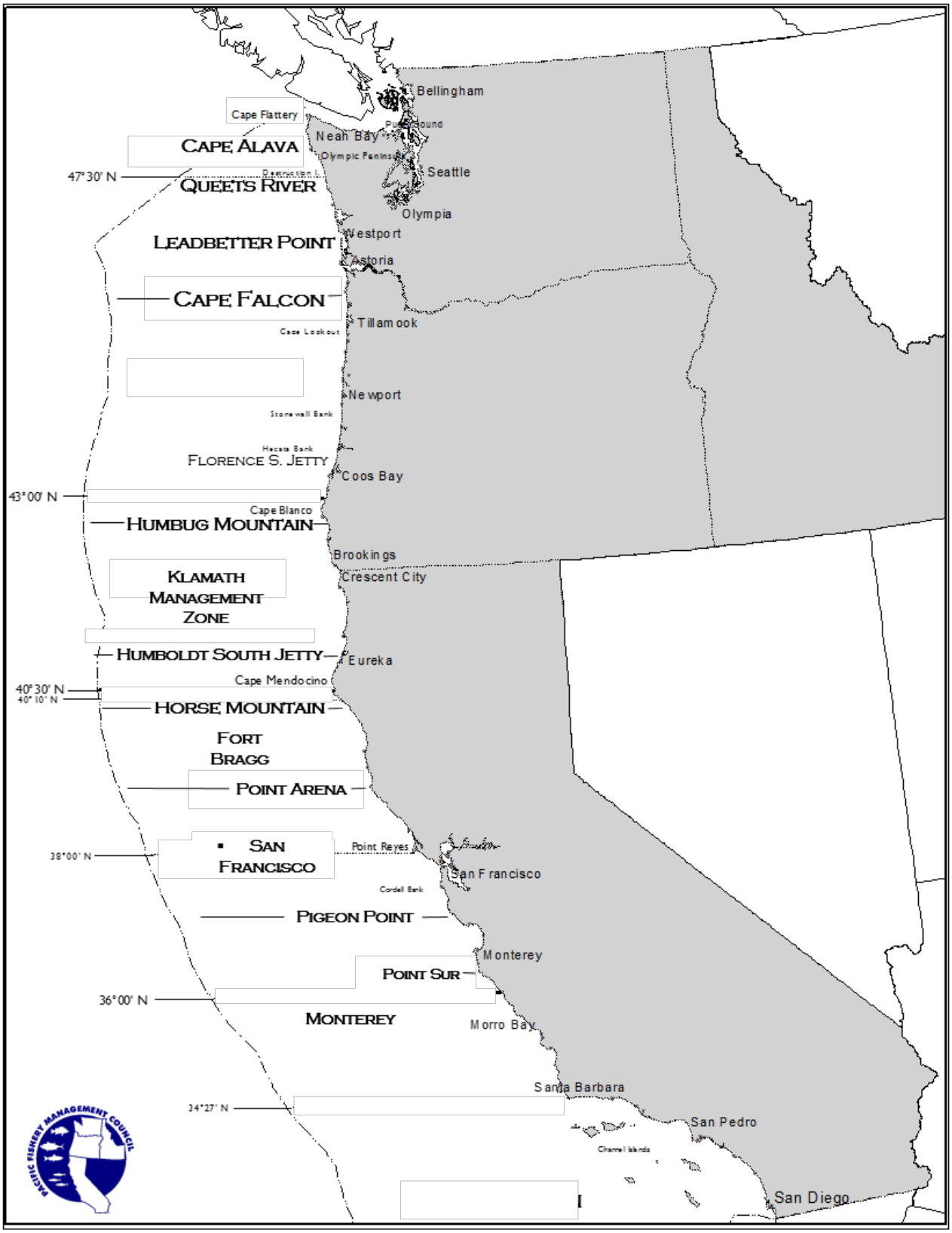

This map is for reference only and is not intended for use in navigation or fishery regulation.