

PRESEASON REPORT II
PROPOSED ALTERNATIVES
AND
ENVIRONMENTAL ASSESSMENT PART 2
FOR 2012
OCEAN SALMON FISHERY
REGULATIONS
REGULATION IDENTIFIER NUMBER 0648-XA921



Pacific Fishery Management Council
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MARCH 2012

PUBLIC HEARINGS ON SALMON ALTERNATIVES

All Hearings Begin at 7 p.m.

Monday, March 26
Chateau Westport
Beach Room
710 W Hancock
Westport, WA 98595
(360) 268-9101

Monday, March 26
Red Lion Hotel
South Umpqua Room
1313 N Bayshore Drive
Coos Bay, OR 97420
(541) 267-4141

Tuesday, March 27
Red Lion Hotel Eureka
Evergreen Room
1929 Fourth Street
Eureka, CA 95501
(707) 445-0844

*Public comment on the Alternatives will also be accepted during the April Council meeting on Monday, April 2, during the public comment period for Agenda Item E.2 at the Sheraton Seattle Hotel, 1400 Sixth Avenue, Seattle, WA 98101, Phone: 206-621-9000. **Written comments** received at the Council office **by midnight, on Monday, March 26, 2012** will be distributed to all Council members.*

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LIST OF ACRONYMS AND ABBREVIATIONS

AABM	Aggregate Abundance Based Management
AEQ	adult equivalent
BO	biological opinion
CDFG	California Department of Fish and Game
CFGC	California Fish and Game Commission
CO	central Oregon (Florence south jetty to Humbug Mt.)
Council	Pacific Fishery Management Council
CPUE	catch per unit effort
CWT	coded-wire tag
DPS	Distinct Population Segment
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
FB	Fort Bragg (Horse Mt. to Point Arena)
FRAM	Fishery Regulation Assessment Model
FMP	fishery management plan
FONSI	finding of no significant impact
GSI	genetic stock identification
IPHC	International Pacific Halibut Commission
ISBM	Individual Stock Based Management
KMZ	Klamath Management Zone (the ocean zone between Humbug Mountain and Horse Mountain where management emphasis is on Klamath River fall Chinook)
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 Columbia River wild fall Chinook, (bright fall Chinook returning primarily to the North Fork Lewis River).
MO	Monterey (Pigeon Point south)
NEPA	National Environmental Policy Act
MSA	Magnuson-Stevens Act
MSY	maximum sustainable yield
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
ODFW	Oregon Department of Fish and Wildlife
OCN	Oregon coastal natural (coho)
OPI	Oregon Production Index
OY	optimum yield
PSC	Pacific Salmon Commission
PST	Pacific Salmon Treaty
RER	rebuilding exploitation rate
RMP	Resource Management Plan
RK	Rogue/Klamath (hatchery coho)
SCH	Spring Creek Hatchery (tule fall Chinook returning to Spring Creek Hatchery)
SET	spawning escapement target
SF	San Francisco (Point Arena to Pigeon Point)
SI	Sacramento index
SONCC	Southern Oregon/Northern California Coast (coho ESU)

LIST OF ACRONYMS AND ABBREVIATIONS (continued)

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 document has been prepared by the staff of the Pacific Fishery Management Council (Council) and the Salmon Technical Team (STT) to describe the Council's proposed ocean salmon management Alternatives for 2012 and characterize their expected impacts on ocean salmon fisheries and the stocks which support them. The Council solicits public comments on the proposed management Alternatives in preparation for adopting final management recommendations at its April meeting. Oral and written comments may be presented at public hearings at the times and locations displayed on the inside front cover of this report. Additional comment will be accepted during the April Council meeting at the Sheraton Seattle Hotel, 1400 Sixth Avenue, Seattle, Washington. Written comments received at the Council office by March 26, 2012 will be copied and distributed to all Council members (Council staff cannot assure distribution of comments received after March 26).

This report also constitutes the second part of an Environmental Assessment (EA) to comply with National Environmental Policy Act (NEPA) requirements for the 2012 ocean salmon regulations. An EA is used to determine whether an action being considered by a Federal agency has significant environmental impacts. This part of the EA includes a statement of the purpose and need, a description of the affected environment, a description of 2012 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 2012b) 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 Preseason Report III (developed after the Council makes a final recommendation in April 2012), 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.

1.1 *Purpose and Need*

The purpose of this action, implementation of the 2012 ocean salmon fishery management measures, is to allow fisheries to harvest surplus production of healthy natural and hatchery salmon stocks within the constraints specified under the Salmon FMP, the Pacific Salmon Treaty (PST), and consultation standards established for ESA listed salmon stocks. In achieving this purpose, management measures must take into account the allocation of harvest among different user groups and port areas. Without this action, 2011 management measures would be in effect, which do not consider changes in abundance of stocks in the mixed stock ocean salmon fisheries. Therefore, this action is needed to ensure constraining stocks are not overharvested and that harvest of abundant stocks can be optimized and achieve the most overall benefit to the nation.

This action will also establish a rebuilding plan for Sacramento River fall Chinook (SRFC), which were determined to be overfished in 2010. This is needed to comply with the MSA requirement for adopting and implementing a rebuilding plan for an overfished stock within two years of an overfished status determination. Proposed rebuilding plan alternatives are presented in Appendix C.

The Salmon FMP establishes nine more general harvest-related objectives:

1. Establish ocean exploitation rates for commercial and recreational salmon fisheries that are consistent with requirements for stock conservation objectives, specified ESA consultation standards, or Council adopted rebuilding plans.
2. Fulfill obligations to provide for Indian harvest opportunity as provided in treaties with the United States, as mandated by applicable decisions of the Federal courts, and as specified in the October 4, 1993,

opinion of the Solicitor, Department of Interior, with regard to Federally-recognized Indian fishing rights of Klamath River Tribes.

3. Maintain ocean salmon fishing seasons that support established recreational and commercial fisheries, while meeting salmon harvest allocation objectives among ocean and inside recreational and commercial fisheries. These allocations will be fair and equitable, and fishing interests shall equitably share the obligations of fulfilling any treaty or other legal requirements for harvest opportunities.
4. Minimize fishery mortalities for those fish not landed from all ocean salmon fisheries as consistent with achieving optimum yield (OY) and bycatch management specifications.
5. Manage and regulate fisheries, so the OY encompasses the quantity and value of food produced, the recreational value, and the social and economic values of the fisheries.
6. Develop fair and creative approaches to managing fishing effort and evaluate and apply effort management systems as appropriate to achieve these management objectives.
7. Support the enhancement of salmon stock abundance in conjunction with fishing effort management programs to facilitate economically viable and socially acceptable commercial, recreational, and tribal seasons.
8. Achieve long-term coordination with the member states of the Council, Indian tribes with Federally recognized fishing rights, Canada, the North Pacific Fishery Management Council, Alaska, and other management entities which are responsible for salmon habitat or production. Manage consistent with the Pacific Salmon Treaty and other international treaty obligations.
9. In recommending seasons, to the extent practicable, promote the safety of human life at sea.

These objectives, along with the conservation objectives established under the ESA, provide "sideboards" for setting management measures necessary to implement the Salmon FMP, which conforms to the terms and requirements of the Magnuson-Stevens Act (MSA) and the National Standards Guidelines.

2.0 SELECTION OF FINAL MANAGEMENT MEASURES

The Council's final ocean salmon season recommendations will be based on the range of Alternatives presented in this report and guidance received from deliberations at management fora such as the north of Cape Falcon planning process (sponsored by the States of Washington and Oregon and the treaty Indian tribes in that area), Pacific Salmon Commission (PSC), and from public hearings sponsored by the Council and the States of Washington, Oregon, and California. Final recommendations concerning season dates, catch quotas, and exploitation rates may vary from the range of Alternatives presented in this report depending upon determination of allocations, allowable harvest levels, public comment, or the final impact analyses completed by the STT. Elements of the Alternatives may be recombined to alter season patterns and quotas, or measures such as bag limits, days of fishing per week, special landing restrictions, and other specific regulatory details may also change. In addition, inseason modification of management measures may be used to ensure achievement of the Council's management objectives.

Specific details pertaining to season structure and special management measures for the treaty Indian troll fishery north of Cape Falcon are established in tribal regulations. Chinook and coho quota levels for the treaty Indian troll fishery may be adjusted if significant changes in incidental fishing mortality result from tribal regulations, preseason or inseason.

The impact analyses presented in this document reflect uncertainties and limitations of information available at the time of the March 2012 Council meeting. At this point in the planning cycle, the STT's impact assessments reflect four key assumptions relative to stocks impacted by Canadian and Alaskan fisheries: (1) abundance levels for Canadian Chinook and coho stocks identical to 2011 forecasts; (2) catch levels for southeast Alaskan (SEAK), north-central British Columbia, and West Coast Vancouver Island (WCVI) fisheries equal to 2011 catch ceilings established under the aggregate abundance based management (AABM) provisions of the PST 2008 Agreement (WCVI outside sport catch assumed to equal the average of the 2008-2011 level), with minimum size limits identical to those in place for 2011; (3) 2011 observed catch levels and size limits for Canadian fisheries operating under individual stock based management (ISBM) regimes pursuant to the 2008 PST Agreement; and (4) base packages for management of Southern U.S. inside fisheries. In mid-March, U.S. and Canadian fishery managers will exchange information regarding preseason expectations for fisheries and the status of Chinook and coho stocks. Following this exchange, the PSC's Chinook Model will be calibrated by the PSC Chinook Technical Committee to determine the allowable catch ceilings under the 2008 PST Agreement. Abundances and fishery expectations will be adjusted in the Council's fishery planning models prior to the April Council meeting, and inside fisheries will be shaped by state and tribal co-managers both prior to and during the April Council meeting.

The adjustments of stock abundances and fishery expectations, and the shaping of inside fisheries as described above, may result in estimated stock impacts in the final regulations adopted by the Council that differ from those presented in this report. The final regulations adopted by the Council in April are intended to be consistent with Council's Salmon FMP objectives (including rebuilding plans), guidance provided by the National Marine Fisheries Service (NMFS), obligations under the PST, and other applicable law. This part of the EA analyzes the range of effects within which the final management measures are expected to fall; however, the final recommendations will be analyzed in Preseason Report III (the final part of this EA), whether or not they fall outside the range of Alternatives analyzed in this Report.

Any Alternative considered for adoption that deviates from Salmon FMP objectives or other applicable laws will require implementation by emergency rule. If an emergency rule appears to be necessary, the Council must clearly identify and justify the need for such an action consistent with emergency criteria established by the Council and NMFS.

3.0 SALMON TECHNICAL TEAM CONCERNS

3.1 *Need for Landing Requirements*

The STT recommends that landing restrictions be employed to require landings within the area where the fish are caught. Unless such restrictions are adopted, fleet mobility increases the difficulty of inseason management by compromising catch accountability and interpretation of biological data such as genetic stock identification (GSI) samples or coded-wire-tag (CWT) recoveries.

4.0 SALMON FISHERY MANAGEMENT PLAN REQUIREMENTS

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

Biological objectives for stocks originating in the Council area or impacted by Council area ocean fisheries are listed in Table 3-1 of the Salmon FMP. The objectives generally consist of meeting

spawning escapement numbers associated with maximum sustainable yield (S_{MSY}), overfishing limits (OFL), acceptable biological catch (ABC), and annual catch limits (ACL), or exploitation rate limits designed to support recovery of depressed stocks or to rebuild overfished stocks, while encompassing a long term average harvest approximating MSY.

Administrative objectives are requirements for meeting other applicable law outside of the Salmon FMP. These requirements include ESA consultation standards, international treaties, and tribal trust responsibilities. The Salmon FMP defers to NMFS consultation standards for salmon stocks listed under the ESA in regards to biological conservation objectives. Section 5.0 of this document provides greater detail on ESA listed stocks, while impacts of the Council adopted salmon management measures on ESA listed stocks are included in Table 5.

The Salmon FMP requires compliance with relevant terms of the PST. Section 6.0 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.

Treaty trust responsibilities of the Salmon FMP require the Council to abide by Court orders in the *U.S. v. Washington* (Puget Sound), *Hoh v. Baldrige* (Washington coast), and *U.S. v. Oregon* (Columbia River) cases, and the Solicitor General opinion (Klamath River) governing allocation and management of shared salmon resources. Much of the North of Falcon forum is dedicated to annual negotiations establishing allocation among the tribes, non-Indian fishing sectors, and ocean and inside interests. The results of these negotiations allow the Council to complete final management measure recommendations while meeting its biological, administrative, and allocation objectives.

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

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

In addition to the allocation objectives associated with sharing between treaty Indian and non-Indian sectors, the Salmon FMP includes formulas for sharing Chinook and coho quotas north of Cape Falcon between commercial and recreational sectors, and among recreational port subareas, and for coho south of Cape Falcon between commercial and recreational sectors. Alternatives for the 2012 salmon management measures adopted by the Council meet the allocation requirements for fisheries north of Cape Falcon in the Salmon FMP. There are insufficient coho available for a directed harvest south of Cape Falcon; therefore, the FMP allocation schedule guidance is to determine allocation during the preseason process.

5.0 SPECIES LISTED UNDER THE ENDANGERED SPECIES ACT

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

ESU	Status	Federal Register Notice			
		Most Recent		Original Listing	
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
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
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		
Snake River	Endangered	76 FR 50448	8/15/2011	56 FR 58619	11/20/1991
Ozette Lake	Threatened	76 FR 50448	8/15/2011	64 FR 14528	3/25/1999

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

A list of current BOs in effect, the species they apply to, and their duration follows:

Date	Evolutionarily Significant Unit covered and effective period
8-Mar-96	Snake River spring/summer and fall Chinook and sockeye (until reinitiated)
28-Apr-99	Oregon Coastal natural coho, Southern Oregon/ Northern California coastal coho, Central California coastal coho (until reinitiated)
28-Apr-00	Central Valley spring Chinook (until reinitiated)
27-Apr-01	Hood Canal summer chum 4(d) limit (until reinitiated)
30-Apr-01	Upper Willamette Chinook, Upper Columbia spring Chinook, Lake Ozette sockeye, Columbia River chum, and 10 steelhead ESUs (until reinitiated)
30-Apr-10	Sacramento River winter Chinook (until reinitiated)
30-Apr-04	Puget Sound Chinook (until reinitiated)
13-Jun-05	California coastal Chinook (until reinitiated)
28-Apr-08	Lower Columbia River natural coho (until reinitiated)
30-Apr-10	Lower Columbia River Chinook (April 30, 2012)

Amendment 12 to the Salmon FMP added the generic category “species listed under the ESA” to the list of stocks in the salmon management unit and modified respective escapement goals to include “manage consistent with NMFS jeopardy standards or recovery plans to meet immediate conservation needs and long-term recovery of the species.” Amendment 14 specified those listed ESUs and clarified which stocks in the FMP management unit were representative of the ESUs.

In a letter received by the Council on February 27, 2012, NMFS provided guidance on protective measures for species listed under the ESA during the 2012 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 2012 management season, as well as further guidance and recommendations for the 2012 management season.

The ESA consultation standards, exploitation rates, and other criteria in place for the 2012 management season are presented in Table 5. Some listed stocks are either rarely caught in Council fisheries (e.g., spring Chinook from the upper Columbia River) or already receive sufficient protection from other salmon FMP and ESA standards (e.g., Central Valley spring Chinook). NMFS has determined that management actions designed to limit catch from these ESUs, beyond what will be provided by harvest constraints for other stocks, are not necessary.

Of the listed Chinook and coho, Council-managed fisheries have a substantive impacts on Sacramento River winter Chinook (SRWC), Central Valley spring Chinook, California coastal Chinook, Snake River wild (SRW) fall Chinook, lower Columbia River (LCR) fall Chinook, and all of the coho stocks. 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)	

6.0 OBLIGATIONS UNDER THE PACIFIC SALMON TREATY

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

6.1 Chinook Salmon Management

A new agreement under the PST was negotiated in 2008 and formally accepted by both the U.S. and Canada in December of 2008. This new agreement took effect on January 1, 2009, and includes 30 percent reductions in the catch ceilings for AABM fisheries off the West Coast Vancouver Island and a 15 percent reduction in the catch ceilings for AABM fisheries in Southeast Alaska Chinook relative to the

catch ceilings in effect for these fisheries since 1999. Under the terms of the 2008 PST Agreement, Council fisheries for Chinook salmon continue to be subject to the 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 stocks failing to achieve escapement goals adopted by the PSC.

Many Chinook stocks of concern to the Council are affected by fisheries off Canada and Alaska. Maximum allowable catches by AABM fishery complexes off the 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 stocks that are not expected to achieve agreed MSY spawning escapement goals. 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 2012 include, (1) meeting domestic conservation obligations for WCVI, Strait of Georgia, and Fraser River spring stocks; (2) Chinook harvests by native fisheries; and (3) incidental impacts during commercial and native fisheries directed at sockeye, and chum salmon. It is anticipated that the details of the fishery regulatory package off WCVI will be driven by levels of allowable impact on WCVI and Lower Strait of Georgia Chinook and Interior Fraser (Thompson River) coho.

6.2 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 total allowable fishery exploitation rates. Based on preseason abundance forecasts, total allowable exploitation rates for U.S. management units in 2012 are summarized in the table below.

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 harvest rate goals from the Comprehensive Coho Agreement, developed by Washington and the Puget Sound tribes, and adopted by the Council as FMP conservation objectives in November 2009. Actual exploitation rate constraints for Canadian fisheries on U.S. coho management units are determined by formulas that specify sharing of allowable exploitation rates and a “composite rule.” The composite rule adjusts constraints for Canadian fishery exploitation rates based on the number of U.S. management units which fall in a given category. For example, if only one Washington coastal coho management unit is in low status, Canadian fisheries are constrained to a total exploitation rate on that unit of 12 percent; if two or more Washington coastal management units are in low status, the constraint becomes 10 percent. The most restrictive exploitation rate limit for Canadian fishery impacts on U.S. coho management units is 10 percent.

For Washington coastal coho management units, a range is reported for the allowable exploitation rates based on the relationship between the pre-season abundance forecast and the upper and lower values of the spawning escapement ranges corresponding to MSY production. Maximum exploitation rates are computed using the lower end of the escapement range and minimum exploitation rates are computed using the upper end of the escapement range. For purposes of reporting the categorical status, an allowable exploitation rate is computed using the mid-point of the MSY escapement range. However, the maximum allowable exploitation rate allowed under the PST is 65 percent.

For 2012, Puget Sound and Washington coast coho constraints are as follows:

PST Southern Coho Management Plan		
U.S. Management Unit	Total Exploitation Rate Constraint ^{a/}	Categorical Status ^{b/}
Skagit	35%	Moderate
Stillaguamish	50%	Abundant
Snohomish	40%	Moderate
Hood Canal	65%	Abundant
Strait of Juan de Fuca	40%	Moderate
Quillayute Fall ^{b/}	65%	Abundant
Hoh ^{b/}	65%	Abundant
Queets ^{b/}	65%	Abundant
Grays Harbor	65%	Abundant

a/ Preliminary. For Puget Sound and Washington Coast management units, the exploitation rate constraints reflect application of the 2002 PST Southern Coho Management Plan.

b/ 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 taking the midpoint of the range of exploitation rates associated with achieving the escapement goal ranges. The exploitation rate ranges are based on preseason abundance forecasts and the upper and lower ends of the escapement goal ranges. Maximum exploitation rates are computed using the lower end of the escapement range; minimum exploitation rates are computed using the upper end of the escapement range.

Key considerations for Canadian fishery management for coho in 2012 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, 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 (in previous years, Canadian fisheries were managed so as not to exceed a three percent maximum exploitation rate).

The projected status of Canadian coho management units in 2012 indicates continuing concerns for the condition of Interior Fraser coho. The Interior Fraser coho management unit is anticipated to remain in low status, resulting in a requirement to constrain the total mortality fishery exploitation rate for 2012 Southern U.S. fisheries to a maximum of 10.0 percent.

7.0 DESCRIPTION OF THE ALTERNATIVES

Detailed information on the proposed ocean salmon regulation Alternatives are presented in Tables 1 (non-Indian commercial), 2 (recreational), and 3 (treaty Indian). Significant changes from recent seasons are highlighted below.

7.1 Commercial

Alternatives for the area north of Cape Falcon reflect similar relative abundance of Chinook and coho as in 2011, with low abundance of Oregon Production Index (OPI) hatchery coho and tule fall Chinook. In 2012, allowable catch of Chinook will likely be increased due to an increased exploitation rate limit for LCR natural tule Chinook. Coho catch quotas will be similar to 2011.

Alternative I north of Cape Falcon assigns two-thirds of the troll Chinook quota to the May-June Chinook directed fishery; in Alternative II, seventy percent of the troll Chinook quota is assigned to the May-June fishery, and; in Alternative III sixty percent of the troll Chinook quota is assigned to the May-June fishery. In all Alternatives, the May-June fishery opens initially seven days per week with no landing and possession limit. The summer all-salmon fisheries for all Alternatives include Chinook and coho landing and possession limits. Coho retention regulations are similar to recent years, except that Alternative I includes a possible non-mark-selective period after September 1 if sufficient quota remains.

For areas south of Cape Falcon in 2012, each of the Alternatives allow for substantial commercial fishing opportunity relative to recent years, owing primarily to large KRFC and SRFC abundance forecasts. Constraints on commercial fishing opportunity south of Falcon will be due to the California Coastal Chinook consultation standard that limits the KRFC age-4 ocean harvest rate to a maximum of 16 percent and the exploitation rate limit on ESA listed LCR tulle Chinook. Commercial fisheries south of Point Arena will also be constrained by the maximum allowable age-3 impact rate on ESA listed SRWC.

For the North and Central Oregon coast south of Cape Falcon, all Alternatives for Chinook fisheries open on April 1 and generally run through October. Alternative I includes a 27 inch minimum total length size limit for the months of May through August. Alternative III has weekly landing and possession limits for the months of September and October.

For the Oregon KMZ, all Alternatives have April and May open, and then have monthly quota fisheries with daily landing and possession limits for June, July, and August. Alternative I also includes a 27 inch minimum total length size limit for the months of May through August, and a September quota fishery with a 28 in size limit. All Alternatives also allow transfer of unused quota to subsequent quota periods through August. Alternatives II and III are closed in September with the exception of genetic stock identification (GSI) non-retention sampling, which continues through October.

For the California KMZ, Alternative I and II are closed, with the exception of GSI non-retention sampling in Alternative II from May through September. Alternative III specifies a 6,000 fish quota in the last half of September and allows non retention GSI sampling from May through August.

All Alternatives in the Fort Bragg area include open fisheries in August and September. Alternatives I and III allow for variable amounts of July fishing opportunity. Alternatives II and III include GSI non-retention sampling during months closed to harvest.

In the San Francisco and Monterey areas, the fishery will open in May and run through September, with closures in June that vary in duration for each Alternative. For Alternative III, GSI non-retention sampling is specified for June, and this Alternative has the largest June harvest closure. The fall area target zone fishery is included in Alternative II during early October.

7.2 Recreational

In the area between the U.S. Canada Border and Cape Falcon, Alternatives I and II include Chinook directed recreational fisheries in June. Both Alternatives have an area-wide mark-selective Chinook quota; in Alternative I however, the subarea south of Leadbetter Point opens one week earlier and closes one week earlier than subareas to the north.

Alternatives I and II for subareas north of the Queets River are open seven days per week, Alternative III is open five days per week. For the Westport subarea, Alternative I is open seven days per week and Alternatives II and III are open five days per week; the Grays Harbor Control Zone is open all season in Alternative III due to the high forecast of Grays Harbor coho. For the Columbia River subarea, all

Alternatives are open seven days per week. There is an area 4B add-on fishery in Alternative III to help provide the Neah Bay subarea additional opportunity under the limited coho quota.

For the North and Central Oregon coast south of Cape Falcon, all Alternatives for Chinook fisheries open March 15 and run through September or October. Alternative I has a mark-selective coho quota fishery in July including the Oregon KMZ area and a non-mark-selective coho fishery through mid-September for the Cape Falcon to Humbug Mt. area. Alternative II has both a mark-selective coho quota fishery in July and a non-mark-selective coho quota fishery in September for the Cape Falcon to Humbug Mt. area. Alternative III only has a non-mark-selective coho quota fishery in September for the Cape Falcon to Humbug Mt. area. Non-mark-selective coho quotas are being considered because of the relatively high OCN and low OPI hatchery coho forecasts, which tend to reduce expected mark rates and increase the number of release mortalities on natural stocks.

Chinook fishing in both the Oregon and California KMZ will run at least from Memorial Day weekend through Labor Day (Alternative III). Alternatives I and II allow for longer seasons, beginning earlier in May and lasting later into September. Minimum size limits range from 22 to 24 inches in the Oregon KMZ and 20 to 24 inches in the California KMZ. The different size limits are intended to weigh access to abundant age-3 KRFC against consistency in areas to the north and south of the States' border.

South of the KMZ, all Alternatives open April 7. In the Fort Bragg and San Francisco areas, seasons run through mid-November for Alternative I, late-October for Alternative II and mid-October for Alternative III. In the Monterey area, seasons run through early-October, late-September, and early-September for Alternatives I, II, and III, respectively. The minimum size limit in Fort Bragg is 20 inches for all Alternatives. The San Francisco and Monterey areas will have a minimum size limit of 24 inches at the beginning of the season, which will then be reduced to 20 inches later in the season. The larger size limits specified for the beginning of the season are in place to meet the SRWC consultation standard that limits the age-3 impact rate in this region. The date at which the size limit is reduced varies among the Alternatives.

7.3 *Treaty Indian*

Alternatives are generally similar in structure as in recent years except that Alternative I has the provision that if the Chinook quota for the May-June fishery is not fully utilized, the excess fish may be transferred into the later all-salmon season.

7.4 *Sacramento River Fall Chinook Rebuilding Plan Alternatives*

The SRFC rebuilding plan has four components (see Appendix C for a complete description of the SRFC rebuilding plan):

- (1) an evaluation of the roles of fishing, marine and freshwater survival in the overfished determination,
- (2) determination of rebuilt criterion,
- (3) modifications to the harvest control rule, and
- (4) specification of a rebuilding period.

Only the harvest control rule component of the SRFC rebuilding plan alternatives could potentially affect the regulation Alternatives, and as a result impact the affected environment. The no-action rebuilding alternative employs the default control rule, which is defined by a maximum exploitation rate of 0.70 and a target spawning escapement of 122,000 natural and hatchery adults. Rebuilding alternative 1 retains the maximum exploitation rate of 0.70 but targets an escapement of 180,000, the upper end of the conservation objective. Rebuilding alternative 2 retains the spawning escapement objective of 122,000 but reduces the maximum exploitation rate to 0.65. Appendix C provides a full description of the SRFC rebuilding plan components and alternatives.

8.0 AFFECTED ENVIRONMENT AND ANALYSIS OF IMPACTS

Based on National Oceanic and Atmospheric Administration (NOAA) Administrative Order (NAO) 216-6 Section 6.02, the affected environment may consist of the following components:

- Target (FMP) species
- Social or economic environments
- Non-target species
- Essential Fish Habitat
- Public health or safety
- ESA listed (non-salmon) species or critical habitat
- Marine mammals
- Biodiversity or ecosystem function

8.1 *Salmon Stocks in the Fishery*

Target stocks include Chinook, coho, and pink salmon stocks identified in Appendix A, Table A-1 of Preseason Report I (Part 1 of this EA; PFMC 2012b), which includes several ESA listed Chinook and coho stocks. These ESA listed stocks are not targeted in Council area salmon fisheries, but will be included in the analysis of effects on target species because they are impacted coincidentally with targeted salmon stocks and frequently constrain access to targeted stocks. Environmental impacts to other ESA listed species (e.g., marine mammals) from the Alternatives will be analyzed in a later section of this EA.

A description of the historical baseline for this component of the affected environment is presented in the Review of 2011 Ocean Salmon Fisheries (PFMC 2012a). A more general description of salmon life history and population characteristics is presented in PFMC 2006. The current status (2012 ocean abundance forecasts) of the environmental components expected to be affected by the 2012 ocean salmon fisheries regulation Alternatives (FMP salmon stocks) are described in PFMC 2012b. The criteria used to evaluate whether there are significant effects from the Alternatives on target stocks are achievement of conservation objectives, rebuilding criteria, and ESA consultation standards for salmon FMP stocks. The Salmon FMP conservation objectives are based on the best available science and are intended to prevent overfishing while achieving optimum yield from West Coast salmon fisheries as required by the MSA. Rebuilding criteria are designed to rebuild SRFC as quickly as possible. The ESA consultation standards are likewise based on the best available science and are intended to ensure that fishery impacts do not appreciably reduce the likelihood of survival and recovery of listed species in the wild. FMP conservation objectives also include criteria for rebuilding overfished stocks. Therefore conservation objectives and consultation standards are appropriate indicators for determining the significance of fishery management actions referred to in NAO 216-6, Section 6.02.

8.1.1 Chinook Salmon

8.1.1.1 *North of Cape Falcon*

Abundance projections important to Chinook harvest management north of Cape Falcon in 2012 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 190,800, which is lower than the 2011 preseason expectation of 249,900. The 2012 LRH forecast abundance is 127,000 similar to the forecast of 133,500 in 2011. The 2012 SCH forecast abundance is 63,800, which is about half of last year's forecast of 116,400.

The primary Chinook salmon management objectives shaping the Alternatives north of Cape Falcon are:

- NMFS consultation standards and annual guidance for ESA listed stocks as provided in Section 5.0 above. Relevant stocks for the area north of Cape Falcon include, LCR natural tule Chinook, Columbia Lower River Wild (LRW) fall Chinook, and SRW fall Chinook, and.

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

- *LCR natural tule fall Chinook.* The Alternative 1 exploitation rate of 41.8 percent exceeds the 41.0 percent NMFS consultation standard maximum for all fisheries. The exploitation rates in Alternatives II and III are less than the maximum, assuming river fisheries are structured similarly to last year. It is expected that additional shaping of PSC fisheries prior to the April Council meeting will result in Alternative I reaching compliance with the ESA consultation standard. LCR tules are the constraining Chinook stock for fisheries north of Cape Falcon in 2012.
- *LRW fall Chinook:* Alternatives have projected spawning escapements of at least 16,000 adults in the North Fork Lewis River, which exceeds 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 2012.
- *SRW fall Chinook.* Alternatives have ocean exploitation rates of 50.3 percent or less of the base period exploitation rates, 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 2012.

All of the Alternatives for Chinook fisheries north of Cape Falcon satisfy NMFS ESA consultation standards and guidance, FMP conservation objectives, and all other objectives for relevant Chinook stocks other than those listed above (Table 5).

8.1.1.2 *South of Cape Falcon*

Status of Chinook stocks important to 2012 Chinook harvest management south of Cape Falcon are:

- *SRFC.* The SI forecast is 819,400 SRFC adults, which is slightly higher than the average Sacramento Index (SI) for years 1983-2011.
- *KRFC.* The age-3 forecast is 1,567,600 KRFC, which would represent the highest observed abundance on record. The age-4 forecast is 79,600 fish, which is below average. The age-5 forecast is 4,600 fish. Last year's preseason forecast was 304,600 age-3, 61,600 age-4, and 5,000 age-5 fish.
- *SRWC.* No abundance forecast is made for this stock, but returns continue to decline. The geometric mean of the most recent three years of escapement is 1,797 fish.

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

- NMFS consultation standards and annual guidance for ESA listed stocks as provided in Section 5.0 above. Relevant stocks for the area south of Cape Falcon include SRWC, California Coastal Chinook, SRW fall Chinook, and LCR natural tule Chinook.
- SRFC hatchery and natural-area spawner escapement goal of 122,000 to 180,000 adults (FMP conservation objective). Fisheries must also be designed to achieve, in expectation, an escapement greater than or equal to the S_{ACL} . For 2012, the S_{ACL} is 245,820 hatchery and natural area adult spawners. In addition, rebuilding plan alternatives under consideration require maximum exploitation rates of 0.70 or 0.65 and spawning escapements of 122,000 or 180,000.
- KRFC natural area spawning escapement of at least 40,700 adults, a spawner reduction rate not to exceed 68 percent (FMP conservation objective), and 50:50 tribal-non-tribal sharing of adult harvest (Department of Interior Solicitor Opinion). Fisheries must be designed to achieve, in expectation, an escapement greater than or equal to the S_{ACL} . For 2012, the S_{ACL} is 86,288 natural area adult spawners.

Fishery quotas under the Alternatives are presented in Table 4. Stock-specific management criteria and their forecast values under the Alternatives are provided in Table 5. Projected fishery landings, bycatch, and bycatch mortality under the Alternatives are summarized in Table 6. Table 7 provides a breakdown of impacts by fishery and area for LCR tule Chinook. Appendix A presents tables of SRWC impacts and KRFC harvest, by fishery/time/area under the three Alternatives. Descriptions pertaining to the achievement of key objectives for Chinook salmon management south of Cape Falcon are found below.

- *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 each of the Alternatives.
- *SRWC*. The ESA consultation standard that (1) limits the age-3 impact rate in 2012 fisheries south of Point Arena to a maximum of 13.7 percent and (2) specifies time/area closures and minimum size limit constraints south of Point Arena, is met by each of the Alternatives.
- *KRFC*. The S_{ACL} of 86,288 natural-area adult escapement, as well as the conservation objective, is met by each of the Alternatives.
- *SRFC*. The S_{ACL} of 245,820 hatchery and natural area adult spawners, the conservation objective, and the SRFC rebuilding plan alternatives, are met by each of the regulation Alternatives. Exploitation rates for each of the regulation Alternatives are less than the maximum allowed under the rebuilding plan alternatives.
- *LCR natural tule fall Chinook*. The Alternative 1 exploitation rate of 41.8 percent exceeds the 41.0 percent NMFS consultation standard maximum for all fisheries. The exploitation rates in Alternatives II and III are less than the maximum, assuming river fisheries are structured similarly to last year. It is expected that additional shaping of PSC fisheries prior to the April Council meeting will result in Alternative I reaching compliance with the ESA consultation standard.
- *SRW fall Chinook*. SRW Chinook will not constrain ocean fisheries south of Cape Falcon in 2012.

All of the Alternatives 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 other than those listed above (Table 5).

8.1.2 Coho Salmon

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

- *OPI Hatchery coho.* The 2012 forecast for hatchery coho from the Columbia River and the coast south of Cape Falcon of 341,700 is slightly lower than the 2011 forecast of 375,100. The Columbia River early coho forecast is 229,800 compared to the 2011 forecast of 216,000 and the Columbia River late coho forecast is 87,400, reduced compared to the 2011 forecast of 146,500.
- *OCN coho.* The 2012 OCN forecast is 291,000 compared to the 2011 forecast of 249,900.
- *LCN coho.* The 2012 LCN forecast is 30,100 compared to the 2011 forecast of 22,700.
- *Puget Sound coho.* Among Puget Sound natural stocks, Stillaguamish and Hood Canal are in the abundant category for 2012; Skagit, Snohomish, and Strait of Juan de Fuca are in the moderate category.
- *Interior Fraser (Thompson River) coho.* This Canadian stock continues to be depressed, and will continue to constrain 2012 ocean coho fisheries north of Cape Falcon.

Key coho salmon management objectives shaping the Alternatives are:

- NMFS consultation standards and annual guidance for ESA listed stocks as provided in Section 5.0 above. 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 2012 are: a combined marine/freshwater exploitation rate not to exceed 15.0 percent for OCN coho, a combined exploitation rate in marine-area and mainstem Columbia River fisheries not to exceed 15.0 percent for LCN coho, and a marine exploitation rate not to exceed 13.0 percent for Rogue/Klamath hatchery coho, used as a surrogate for the SONCC coho ESU. Furthermore, coho retention is prohibited in all California ocean fisheries.
- Salmon FMP conservation objectives and obligations under the 2002 PST Southern Coho Management Plan for stocks originating along the Washington coast, Puget Sound, and British Columbia as provided in Section 6.2 above. Because of the generally favorable forecasts for coho stocks in 2012, Interior Fraser coho is the only key management stock for ocean fisheries north of Cape Falcon. Because of their abundance status, Interior Fraser coho are subject to an exploitation rate ceiling of 10.0 percent in southern U.S. fisheries under the 2002 PST Southern Coho Management Plan.

Fishery quotas under the Alternatives are presented in Table 4. Stock-specific management criteria and their forecast values under the Alternatives are provided in Table 5. Projected fishery landings, bycatch, and bycatch mortality under the Alternatives 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.* All Alternatives satisfy the maximum 15.0 percent exploitation rate for combined marine and mainstem Columbia River fisheries, with marine exploitation rates ranging from 12.0 percent to 8.8 percent. However, marine exploitation rates greater than 10 percent are unlikely to sufficiently limit impacts to meet the needs of mainstem Columbia River fisheries, and will likely require further shaping before final management measures are adopted.

- *Interior Fraser coho.* Southern U.S. exploitation rates in all Alternatives exceed the 10.0 percent maximum required by the PST Southern Coho Management Plan. Shaping of the State and Tribal inside fisheries will occur during the North of Falcon process, and ocean fisheries may require further shaping before final management measures are adopted in order to comply with the PST limit.

All of the Alternatives for coho fisheries satisfy NMFS ESA consultation standards and guidance, FMP conservation objectives, and all other objectives for relevant coho stocks other than those listed above (Table 5).

8.1.3 Pink Salmon

Pink salmon are sufficiently abundant to merit management consideration only in odd numbered years. Therefore, pink salmon are not a consideration for management in 2012.

8.1.4 Summary of Environmental Impacts on Target Stocks

Stock forecasts for some Canadian stocks and the actual PST limits on AABM fisheries are not known at this time, and preliminary values have been used in the analyses presented in this report. These forecasts and limits will be available prior to the April Council meeting. Negotiations in the North of Falcon process will not be completed until the April Council meeting. These negotiations affect allocation of stock impacts primarily among inside fisheries (State, Tribal, recreational, various commercial sectors, etc.) but also between inside and ocean fisheries.

Environmental impacts on salmon stocks are assessed based on compliance with conservation objectives, ACLs, rebuilding plans, and ESA consultation standards. As noted in the description of the Alternatives (Tables 1, 2, and 3), if analyses using the updated values and the results of these negotiations do not result in compliance with FMP conservation objectives or ESA consultation standards, some Alternatives will not be viable and impacts in Council-area fisheries will need to be reduced to comply with all applicable objectives and standards. If updated values and negotiations result in compliance with applicable objectives and standards, Council area fishery impacts would not increase; therefore, the analysis of effects would include the upper bound of a reasonable range of effects under the Alternatives considered for 2012 Council area salmon fisheries.

8.1.4.1 Targeted Salmon Stocks

Based on current assumptions regarding Canadian, Alaskan, and inside fishery impacts, all target salmon stocks (non-ESA listed) meet their FMP conservation objectives under Alternatives I, II, and III except Interior Fraser (Thompson River) coho (Table 5). Impacts in Council area fisheries alone are well below maximum allowed exploitation rates for Interior Fraser coho, and further shaping of inside fisheries will be required to comply with the PST Southern Coho Management Plan.

All Alternatives comply with SRFC Rebuilding Plan alternatives. Under all of the rebuilding plan alternatives, projected spawning escapement would result in achieving the rebuilt criteria of a three year geometric mean spawning escapement greater than 122,000 (S_{MSY}) in one year, the shortest time possible. Spawning escapement is projected to exceed the 122,000 (default rebuilding plan and alternative 2) to 180,000 (alternative 1) targets of the rebuilding plan alternatives. The SI exploitation rates in regulation Alternatives I, II, and III are projected to be well below the SRFC rebuilding plan alternatives of 0.70 (default rebuilding plan and alternative 1) and 0.65 (alternative 2). The effects on target species of the SRFC rebuilding plan alternatives are not distinguishable from each other because fisheries south of Cape Falcon are constrained by ESA consultation standards for SRWC and California Coastal Chinook. Those constraints are expected to result in escapement levels well above the targets in the rebuilding plan alternatives.

8.1.4.2 *ESA Listed Salmon Stocks*

Based on current assumptions regarding Canadian, Alaskan, and inside fishery impacts, all ESA listed salmon stocks meet their ESA consultation standard under Alternative I except LCR natural tle Chinook and LCN coho (Table 5). Impacts in ocean fisheries alone are less than the maximum allowed exploitation rates for both stocks; however, under current assumptions for northern and inside fisheries, total exploitation rates exceed the allowed rates. Further shaping of Canadian, Alaskan, and inside fisheries may result in compliance with the ESA consultation standard; however, additional restrictions to Council area fisheries may be necessary to meet both consultation standards and inside fishery needs.

ESA consultation standards are met for all stocks under Alternative II; however, additional restrictions to Council area fisheries may be necessary to meet both ESA consultation standards for LCN coho and inside fishery needs (Table 5). Impacts on LCN coho necessary to prosecute Columbia River mainstem fisheries have not yet been estimated, although currently available impacts under Alternative II are within the range of impacts allocated in 2010 and 2011.

ESA consultation standards are met for all stocks under Alternative III and impacts on LCN coho available to shape Columbia River mainstem fisheries are greater than the range of impacts allocated in 2010 and 2011 (Table 5).

Council-area fisheries have a minor impact on ESA-listed Puget Sound Chinook and on most Chinook stocks subject to the 1999 PST Agreement. At this point there appears to be sufficient flexibility within Council and inside area fisheries as a whole to achieve protection for the Puget Sound Chinook ESU.

8.2 *Socioeconomics*

In general the Council manages the salmon fishery to meet escapement objectives for stocks that are expected to achieve optimum yields while rebuilding depressed stocks. While analysis of biological impacts is organized around salmon stocks that spawn in particular rivers, socioeconomic impacts under the regulatory Alternatives are analyzed by ocean fishery management areas as described in the Salmon FMP. These areas correlate to some extent with the ocean distribution of salmon stocks, although the various stocks are mixed in offshore waters. From north to south, the fishery management areas are (1) from the U.S./Canada border to Cape Falcon (45°46' N. lat.), which is on the Oregon coast south of the Columbia River mouth; (2) between Cape Falcon and Humbug Mountain (42°40'30" N. lat.) on Oregon's southern coast; (3) the Klamath Management Zone, which covers ocean waters from Humbug Mountain in southern Oregon to Horse Mountain (40°05' N. lat.) in northern California; (4) from Horse Mountain to Point Arena; and (5) from Point Arena to the U.S./Mexico border. There are also numerous subdivisions within these areas that are used to further balance stock conservation and harvest allocation needs. A map of the boundaries of these areas, also showing the main salmon ports, appears on the inside back cover of this report. The following analysis of impacts on fishing communities is organized around these broad management areas.

The Review of 2011 Ocean Salmon Fisheries (PFMC 2012a) provides an historical description of the salmon fishery affected environment. In addition to stock status assessments, the document reports socioeconomic impacts of historical fisheries and analyzes the current socioeconomic status of West Coast salmon fisheries. For the purpose of characterizing the economic impact of Council-area ocean salmon fisheries, commercial exvessel value and community level personal income impacts resulting from both commercial and recreational fishing activities are used.

The short-term economic effects of the proposed Alternatives for non-Indian fisheries are shown in Tables 9 and 10. Table 9 shows projected commercial troll impacts expressed in terms of estimated potential exvessel value. Table 10 shows projected recreational fisheries impacts in terms of the number

of projected angler-trips and community personal income impacts generated by those activities. Note that exvessel values shown under the Alternatives 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 1 and 2, which show estimated community income impacts under the commercial troll and recreational fishery Alternatives, respectively, compared to historical impacts in real (inflation-adjusted) dollars. In general, income impacts are estimates of the amount of income generated by the economic linkages associated with a particular activity. While reductions in income impacts may not necessarily reflect net losses, they are likely to indicate losses to businesses and individuals in a community that depends on that activity for livelihood.

Total economic effects under the Alternatives may vary more or less than is indicated by the short-term impacts on ocean fisheries reported below. Salmon that are not harvested in the ocean do not necessarily represent an economic loss, as they may become available for additional inside harvest or may provide additional spawning escapement. Alternatives that restrict 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) (i.e., lower costs for commercial harvesters and/or higher success rates for recreational fishers). Harvest forgone by both ocean fisheries and inside fisheries may impact future production, although the magnitude of that effect is uncertain depending on the resulting escapement level compared to MSY escapement and the nature of the spawner-recruit relationship.

Fishing effort estimates for the recreational fishery south of Cape Falcon are based on measures developed by the STT for modeling biological impacts. STT estimates for south of Cape Falcon use multi-year averages to predict effort for the coming year. Consequently, if the multi-year average for a particular time period and area happens to be higher than last year's year effort level, then the model may forecast an increase in effort for the coming year even though management measures may actually be relatively more constraining or *vice-versa*. Recreational fishery effort north of Cape Falcon was estimated using historical CPUE estimates applied to salmon quotas under the Alternatives. For the summer mark-selective coho fishery, average 2005-2011 Washington coho CPUE was applied to the coho quota under each Alternative. For the June Chinook fisheries in Alternatives I and II, average 2005-2011 Washington Chinook CPUE was used.

The expected harvests used to model commercial fishery impacts are taken from Table 6. The prior year's exvessel prices were assumed to be the best indicator of prices expected in the coming season. Coastwide average exvessel Chinook prices in 2011 were at their lowest level in inflation-adjusted terms since 2007. Relatively high exvessel prices in 2008-2010 were driven at least somewhat by limited local supplies, especially south of Cape Falcon. Supply constraints were relaxed somewhat in 2011 contributing to larger commercial harvests and lower average exvessel prices. If harvests increase again this year, then actual prices may be lower than assumed, meaning that salmon exvessel revenue and resulting commercial fisheries income impacts projected in this document may be overstated.

8.2.1 Alternative I

Under Alternative I, coastwide community personal income impacts from commercial salmon fisheries are projected to exceed levels of last year (2011) by nearly four times (293 percent) and the recent (2007-2011) inflation-adjusted average by more than five and a half times (472 percent). Coastwide recreational income impacts are projected to exceed last year's level by 62 percent and the inflation-adjusted 2007-2011 average by 86 percent.

Commercial and recreational fisheries income impacts are projected to exceed last year's level and the inflation-adjusted 2007-2011 average in all management areas. 2012 commercial fisheries income

impacts in the area north of Cape Falcon are projected to be 63 percent higher than in 2011 and 65 percent higher than the 2007-2011 inflation-adjusted average. Similarly, projected income impacts from recreational fisheries north of Cape Falcon are 56 percent higher than in 2011 and 47 percent higher than the 2007-2011 inflation-adjusted average.

All areas south of Cape Falcon would see commercial fisheries income impacts that are at least double their 2011 level and at least triple the 2007-2011 inflation-adjusted average. Recreational income impacts south of Cape Falcon are at least 47 percent higher in all management areas than last year (nearly two-thirds higher than last year in aggregate). Projected aggregate recreational income impacts south of Cape Falcon are more than double the south of Cape Falcon 2007-2011 inflation-adjusted average. Projected recreational income impacts were also more than double the 2007-2011 inflation-adjusted average in all management areas except Cape Falcon to Humbug Mountain, where the increase is projected to be 15 percent.

Income impacts under Alternative I are not projected to be significant. Combined commercial and recreational community income impacts are positive for all management areas compared with last year and recent year averages, and are within the observed historical range of impact levels.

8.2.2 Alternative II

Under Alternative II, coastwide community personal income impacts from commercial salmon fisheries are projected to exceed last year's level by nearly four times (287 percent) and the recent 2007-2011 inflation-adjusted average by more than five and a half times (464 percent). Coastwide recreational income impacts are projected to exceed last year's level by 50 percent and the inflation-adjusted 2007-2011 average by 72 percent.

Commercial and recreational fisheries income impacts are projected to exceed last year's level and the inflation-adjusted 2007-2011 average in all management areas. Commercial fisheries income impacts in 2012 in the area north of Cape Falcon are projected to be 46 percent higher than 2011 and 48 percent higher than the 2007-2011 inflation-adjusted average. Similarly, income impacts from recreational fisheries north of Cape Falcon are projected to be 33 percent higher than in 2011 and 26 percent higher than the 2007-2011 inflation-adjusted average.

With the exception of Horse Mountain to Point Arena where the projected increase is 44 percent, areas south of Cape Falcon would see commercial fisheries income impacts that are at least double their 2011 levels, and at least triple their 2007-2011 inflation-adjusted averages. Recreational income impacts in areas south of Cape Falcon are at least 47 percent higher than last year in all management areas (63 percent higher than last year in aggregate). Recreational income impacts south of Cape Falcon are projected to be more than double the 2007-2011 inflation-adjusted average in aggregate and in all management areas except Cape Falcon to Humbug Mountain, where the increase is projected to be 15 percent.

Income impacts under Alternative II are not projected to be significant. Combined commercial and recreational community income impacts are positive compared with last year and recent year averages in all management areas, and are within the observed historical range of impact levels.

8.2.3 Alternative III

Under Alternative III, coastwide community personal income impacts from commercial salmon fisheries are projected to exceed levels of last year by three and a half times (251 percent) and the recent inflation-adjusted average (2007-2011) by more than five times (411 percent). Coastwide recreational income

impacts are projected to exceed last year's level by 18 percent and the inflation-adjusted 2007-2011 average by 35 percent.

While commercial fisheries income impacts are projected to exceed last year's level and the inflation-adjusted 2007-2011 average in all management areas, recreational fisheries impacts are projected to be lower than recent levels in the northern management areas. Commercial fisheries income impacts in 2012 north of Cape Falcon are projected to be 12 percent higher than in 2011 and 14 percent higher than the 2007-2011 inflation-adjusted average. However, projected income impacts from recreational fisheries north of Cape Falcon are 7 percent lower than in 2011 and 12 percent lower than the 2007-2011 inflation-adjusted average.

Areas south of Cape Falcon are projected to see commercial fisheries income impacts that are at least double their 2011 levels and at least three and a half times the 2007-2011 inflation-adjusted average. Recreational income impacts south of Cape Falcon are 37 percent higher overall than last year, and 89 percent above the 2007-2011 inflation-adjusted average. Except Cape Falcon to Humbug Mountain where a decrease of 44 percent is projected, recreational income impacts are at least 62 percent higher than last year in every management area south of Cape Falcon. Recreational income impacts are more than double their 2007-2011 inflation-adjusted average in every management area south of Cape Falcon except Cape Falcon to Humbug Mountain where a decrease of 56 percent is projected.

Income impacts in communities south of Humbug Mountain under Alternative III are not projected to be significant, as combined commercial and recreational community income impacts are positive compared with recent activity, and within the observed historical range of impact levels. However communities between Cape Falcon and Humbug Mountain and north of Cape Falcon are projected to experience reduced recreational income impacts under this Alternative.

8.2.4 Summary of Impacts on the Socioeconomic Environment

The commercial fishery Alternatives are expected to generate higher total revenue and income impacts coastwide than in 2011 and compared with the 2007-2011 inflation-adjusted average. However this result masks regional differences along the coast. While revenues and income impacts from commercial fisheries south of Cape Falcon are projected to be substantially higher than in the recent past in all areas under all three Alternatives, north of Cape Falcon the increases are less pronounced, and under Alternative III commercial fishery revenues and income impacts are only slightly higher than in 2011 and the 2007-2011 inflation-adjusted average.

Total coastwide income impacts from recreational fisheries are projected to be considerably higher than in 2011 and the 2007-2011 inflation-adjusted average. However in general, projected increases in income impacts for recreational fisheries are smaller in percentage terms than the increases projected for commercial fisheries income impacts. Under Alternative III, communities in areas north of Humbug Mountain (North of Cape Falcon, and between Cape Falcon and Humbug Mountain) are projected to see reductions in recreational fisheries income impacts compared with last year and the recent inflation-adjusted average.

The SRFC rebuilding alternatives have no discernible economic impacts because 2012 fisheries are not constrained by the rebuilding plan, but by ESA consultation standards for SRWC and California Coastal Chinook.

8.3 *Non-target Fish Species*

Prior NEPA analyses have considered the effects of the ocean salmon fisheries on non-target fish species. Since then, ocean salmon fisheries have not changed substantially in terms of season length, areas, depth,

bag limits, etc. Nor is there any new information to suggest that the incidental nature of encounters of non-target species in ocean salmon fisheries has changed. Therefore, conclusions from previous environmental analyses indicating that effects on non-target fish species are low and not significant are still applicable, as discussed below. The differences between the Alternatives for the 2012 salmon fishery are not discernible with respect to their effect on non-target fish species.

Impacts to groundfish stocks from salmon troll fisheries continue to be managed as part of the open access groundfish fishery sector, and are at similar levels compared to recent years. Previous environmental analysis concluded that the amount of groundfish taken incidentally in the salmon fishery is very low and is not substantially altered by changes in the salmon fishery. (NMFS 2003; Appendix B). The 2012 ocean salmon regulation Alternatives are not expected to differ substantially from fisheries analyzed previously with respect to groundfish impacts; therefore, effects from the Alternatives to groundfish stocks are not significant.

Impacts to Pacific halibut from salmon troll fisheries continue to be managed under limits established through the International Pacific Halibut Commission (IPHC) process and under the Area 2A (Council area) catch sharing plan. Previous environmental analysis stated that data on the commercial segment of salmon fisheries show the co-occurrence rates for salmon and halibut, coastal pelagic species, highly migratory species, and non-Council managed fish species are low. (NMFS 2003; Appendix B). The 2012 ocean salmon regulation Alternatives include Pacific halibut landing restrictions within the range enacted in the past, and are not expected to differ substantially from earlier analyses with respect to Pacific halibut impacts; therefore, effects from the Alternatives to Pacific Halibut are not significant. Likewise, there are no changes to the salmon fishery for 2012 that would change impacts to other non-salmon fish species compared to previous analyses, therefore, effects from the alternatives to these species are not expected to be significant.

8.4 Marine Mammals

The commercial salmon troll fisheries off the coasts of Washington, Oregon, and California are classified as Category III fisheries, indicating a remote or no likelihood causing of incidental mortality or serious injury to marine mammals (75 FR 68468). Recreational salmon fisheries use similar gear and techniques as the commercial fisheries and are assumed to have similar encounter rates and impacts. The non-ESA listed marine mammal species that are known to interact with ocean salmon fisheries are California sea lion and harbor seals. Populations of both these species are at stable and historically high levels. There is no new information to suggest that the nature of interactions between California sea lions or harbor seals in ocean salmon fisheries has changed since the Category III determination. Therefore, the impacts from the 2012 salmon regulation Alternatives to non-ESA listed marine mammals are not expected to be significant, and there is no discernible difference between the effects of the Alternatives on these resources.

8.5 ESA Listed Species

Steller sea lion interaction with the Pacific Coast salmon fisheries is rare and NMFS has determined mortality and serious injury incidental to commercial salmon troll fishing operations have a negligible effect on this species (NMFS 2003; Appendix B). Available information indicates that Pacific Coast salmon fisheries are not likely to jeopardize the existence of the Guadalupe fur seal (NMFS 2003; Appendix B). No sea turtles have been reported taken by the ocean salmon fisheries off Washington, Oregon, or California, and NMFS has determined that commercial fishing by Pacific Coast salmon fisheries would pose a negligible threat to Pacific turtle species (NMFS 2003; Appendix B). There is no discernible difference between the effects of the Alternatives on these resources

The NMFS BO on Southern Resident killer whale DPS (NMFS 2008; Appendix B) concluded that ocean salmon fisheries were not likely to jeopardize the continued existence of the Southern Resident killer whales or adversely modify their critical habitat. NMFS has initiated a five year review of the Southern Resident killer whale ESA listing. There is new information that indicates salmon abundance in Puget Sound may correlate with killer whale population growth rate, and while this information is under review, it is possible that future consultation standards for Puget Sound and possibly Council area fisheries will change as a result of this new information. However, the 2012 ocean salmon regulations are covered by the NMFS 2008 BO, and on that basis it is expected that the 2012 regulations would not have significant impacts to Southern Resident killer whales. There is no discernible difference between the effects of the alternatives on killer whales.

Other ESA listed salmonid species present in Council area waters include sockeye and chum salmon, and steelhead trout. These species are rarely encountered in ocean salmon fisheries, and Alternatives for 2012 Council area ocean salmon fisheries are in compliance with applicable BOs for listed ESUs of these species as listed in Chapter 5 of this document. Because anticipated impacts are negligible, there are no significant impacts expected on listed sockeye or chum salmon or steelhead trout from the Alternatives analyzed in this EA, and there is no discernible difference between the effects of the Alternatives on these resources.

8.6 Seabirds

The types of vessels used in ocean salmon fisheries and the conduct of the vessels are not conducive to collisions or the introduction of rats other non-indigenous species to seabird breeding colonies. Other types of accidental bird encounters are a rare event for commercial and recreational ocean salmon fisheries (NMFS 2003; Appendix B). Therefore, there are no significant impacts expected on seabirds from the Alternatives analyzed in this EA, and there is no discernible difference between the effects of the Alternatives on seabirds.

8.7 Biodiversity and Ecosystem Function

The removal of adult salmon by the ocean fisheries is not considered to significantly affect the lower trophic levels or the overall marine ecosystem because salmon are not the only or primary predator in the marine environment (NMFS 2003; Appendix B). Therefore, no significant impacts are expected on biodiversity or ecosystem function from the Alternatives analyzed in this EA, and there is no discernible difference between the effects of the Alternatives on these resources.

8.8 Ocean and Coastal Habitats

Council Area salmon fisheries do not employ bottom contact gear, and there is no evidence of direct gear effects on fish habitat from Council-managed salmon fisheries on EFH for salmon or other managed species (PFMC 2006; Appendix B). Critical habitat for ESA listed salmon does not include Council area ocean water. Because Council area salmon fisheries are conducted at sea and without bottom contact gear, there is no interaction with unique geographic characteristics or other cultural, scientific, or historical resources such as those that might be listed on the National Register of Historical Places.

8.9 Public Health and Safety

Fisheries management can affect safety if, for example, season openings make it more likely that fishermen will have to go out in bad weather because fishing opportunities are limited. The Salmon FMP, however, has provisions to adjust management measures if unsafe weather affected fishery access. The Alternatives for 2012 ocean salmon regulations have season structures similar to those employed in previous salmon seasons and are not expected to result in any significant increase in the risk to human health or safety at sea (PFMC 2006; Appendix B). There are also no discernible differences between the effects of the Alternatives on the risk to human health or safety at sea.

8.10 Cumulative Impacts

Cumulative effects are caused by the aggregate of past, present, and reasonably foreseeable actions, including impacts outside the scope of the proposed action (in this case annual management measures). Two broad categories of cumulative impacts can be identified for salmon species affected by Council managed ocean commercial and recreational fisheries. The first category includes other ocean fisheries, some of which are managed by the Council, and inside fisheries prosecuted in internal waters (like Puget Sound) and in rivers as salmon migrate towards their spawning grounds. Fishing mortality also has some broader ecological effects, since it removes salmon that might otherwise be consumed by other ecosystem components. The second category comprises human activities that affect the sustainability of salmon populations. Because salmon spend part of their life cycle in fresh water, they are more vulnerable to a broad range of human activities (since humans spend most of their time on land) that affect the quantity and quality of these freshwater environments. These effects are generally well known and diverse. They include physical barriers to migration (dams), changes in water flow and temperature (often a secondary effect of dams or water diversion projects), and degradation of spawning environments (such as increased silt in the water from adjacent land use). A very large proportion of the long-term, and often permanent, declines in salmon stocks is attributable to this class of impacts. (For a detailed summary of non-fishing impacts to salmon habitat see Section 3.2.5 of the EFH Appendix A to Amendment 14.)

Consideration of cumulative effects is intrinsic to fishery management. When developing management measures, fishery managers try to account for all sources of mortality in a given population and the productivity of that population. This accounting does not have to be explicit, in that total mortality is exactly partitioned among each cause, except that natural and fishing mortality are distinguished. The aggregation accounts for a wide variety of effects, including past fishing mortality. Fishing mortality beyond the upcoming season is not accounted for in population models, but it can be broadly anticipated based on limits set by the management regime. Other actions (e.g., habitat degradation) are accounted for in estimates of natural mortality and population productivity. In the case of salmon, fishing mortality is reasonably accounted for because historical harvest is used to forecast expected harvest impacts based on proposed management Alternatives and quotas or allocations to other fisheries are known or foreseeable. Natural mortality is estimated and accounts for non-fishing impacts to a given population. By the same token, productivity estimates include reproductive success and recruitment to the adult, fishable population. This accounts for short- and long-term changes to spawning habitat, among other things. Although salmon's anadromous life cycle exposes key life stages to human-induced impacts, it makes the task of stock assessment much easier because spawning escapement can be estimated with a fair degree of certainty. Marine survival is harder to measure. But taken together, as part of the stock assessment, these measures effectively account for cumulative effects to salmon targeted by the proposed action. However, the effect of fishing on the ecosystem, due to the shift in balance between fishing and natural mortality, is much harder to predict. Fish removed by fishermen are unavailable to other trophic levels, to be eaten by predators or recycled by decomposers for example. These effects cannot be readily assessed, but there is no indication fishing mortality substantially contributes to ecosystem-wide effects.

Despite the effectiveness of these management models in accounting for cumulative impacts, uncertainty by itself can be considered an additional source of cumulative impacts. Although easier for salmon than other marine species, it is inherently difficult to precisely measure many population parameters. These multiple uncertainties have a compound effect, and in this sense, uncertainty produces cumulative effects that must be accounted for in decision making. For example, drop-off mortality cannot be measured directly and must be estimated. Similarly, estimating mortality from recreational fishing may be less precise than from commercial fishing because it is logistically more difficult to monitor fisheries with many thousands of participants fishing in the ocean, rivers, and streams. The cumulative effect of error in parameter estimates ultimately determines managers' success in setting management targets that ensure sustained exploitation across all users. The discussion of abundance predictors and comparison of

preseason predictions with postseason estimates, found in the Preseason Report I, shows predictions are generally accurate. In comparison to other fisheries, these cumulative errors have not detracted from management performance.

The Alternatives do not differ greatly in the context of cumulative impacts, since all other impacts besides those resulting from the proposed action, discussed here, apply equally to each of the Alternatives. For this reason, the direct impacts of the Alternatives, in this case the level of fishing mortality that would result, correlates directly with cumulative impacts. As a result, Alternatives that allow greater harvest (e.g., Alternative I in comparison to Alternative III north of Cape Falcon) produce a greater cumulative impact.

Cumulative impacts on salmon stocks and their habitat could be significant if conservation objectives are not met, which could result in adversely affecting the productivity of those stocks and associated economic benefits of fisheries, and could diminish the quality of habitat used by juvenile salmon and other terrestrial organisms. The final action, which will be analyzed in Preseason Report III, is expected to meet conservation objectives for all Salmon stocks in the FMP.

9.0 CONCLUSION

This analysis has identified no significant environmental impacts that would result from the 2012 ocean salmon regulation Alternatives, from final regulations selected from within the range presented in these Alternatives, or from SRFC rebuilding plan alternatives.

10.0 LIST OF AGENCIES AND PERSONS CONSULTED

The following public meetings were held as part of the salmon management process (Council-sponsored meetings in bold):

- October 5-6, 2011: **Salmon Technical Team/Scientific and Statistical Committee Salmon Subcommittee joint meeting**, Portland, Oregon.
- January 17-20, 2012: **Salmon Technical Team (Review preparation)**, Portland, Oregon.
- February 2: California Fish and Game Commission meeting, Sacramento, California.
- January 6-7: Washington Fish and Wildlife Commission meeting, Olympia, Washington.
- February 21-24: **Salmon Technical Team (Preseason Report I preparation)**, Portland, Oregon.
- February 28: California Department of Fish and Game Public Meeting, Santa Rosa, California.
Washington Department of Fish and Wildlife public meeting, Olympia, Washington.
Oregon Salmon Industry Group meeting, Newport, Oregon.
- March 4-5: Washington Fish and Wildlife Commission meeting, Spokane, Washington.
- March 2-7: **Pacific Fishery Management Council meeting**, Sacramento, California.
- March 7: California Fish and Game Commission meeting, Riverside, California.
- March 9: Oregon Fish and Wildlife Commission meeting, Corvallis, Oregon.
- March 12: North of Falcon and *U.S. v. Oregon Forums*, Olympia, Washington.
- March 26: North of Falcon, Ocean fisheries, and *U.S. v. Oregon Forums*, Olympia, Washington.
- March 26-27: **Public hearings on management options** in Westport, Washington; Coos Bay, Oregon; and Eureka, California.
- March 28: North of Falcon, Puget Sound fisheries, Lynwood, Washington.
- April 1-6: **Pacific Fishery Management Council meeting**, Seattle Washington.
- April 11-12: California Fish and Game Commission meeting, Eureka, California.
- April 13-14: Washington Fish and Wildlife Commission meeting, Olympia, WA.
- April 18: California Fish and Game Commission teleconference meeting.
- April 20: Oregon Fish and Wildlife Commission meeting, Salem, Oregon.

The following organizations were consulted and/or participated in preparation of supporting documents:

California Department of Fish and Game
Oregon Department of Fish and Wildlife
Washington Department of Fish and Wildlife

National Marine Fisheries Service, Sustainable Fisheries Division, Northwest Region
National Marine Fisheries Service, Sustainable Fisheries Division, Southwest Region
National Marine Fisheries Service, Northwest Fisheries Science Center
National Marine Fisheries Service, Southwest Fisheries Science Center
U.S. Fish and Wildlife Service, Columbia River Fisheries Program Office

Northwest Indian Fish Commission
Columbia River Intertribal Fish Commission
West Coast Indian Tribes

11.0 REFERENCES

- National Marine Fisheries Service (NMFS). 2003. Final Programmatic environmental impact statement for Pacific salmon fisheries management off the coasts of Southeast Alaska, Washington, Oregon, and California, and in the Columbia River basin. National Marine Fisheries Service Northwest Region, Seattle.
- NMFS. 2008. Endangered Species Act-section 7 formal consultation biological opinion: Effects of the 2008 Pacific Coast salmon plan fisheries on the southern resident killer whale distinct population segment (*Orcinus orca*) and their critical habitat. National Marine Fisheries Service Northwest Region, Seattle.
- Pacific Fishery Management Council (PFMC). 2006. Environmental assessment for the proposed 2006 management measures for the ocean salmon fishery managed under the Pacific Coast salmon plan. Pacific Fishery Management Council, Portland, Oregon.
- PFMC. 2012a. Review of 2011 ocean salmon fisheries. Pacific Fishery Management Council, Portland, Oregon.
- PFMC. 2012b. Preseason Report I: Stock abundance analysis and environmental assessment part 1 for 201 ocean salmon fishery management measures. Pacific Fishery Management Council, Portland, Oregon.

TABLE 1. Commercial troll management Alternatives adopted by the Council for non-Indian ocean salmon fisheries, 2012 (Page 1 of 10)

A. SEASON ALTERNATIVE DESCRIPTIONS		
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
North of Cape Falcon	North of Cape Falcon	North of Cape Falcon
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information
<p>1. Overall non-Indian TAC: 99,000 (non-mark-selective equivalent of 95,000) Chinook and 85,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Non-Indian commercial troll TAC: 47,500 Chinook and 13,600 marked coho.</p> <p>3. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	<p>1. Overall non-Indian TAC: 88,000 (non-mark-selective equivalent of 85,000) Chinook and 75,000 marked coho.</p> <p>2. Non-Indian commercial troll TAC: 42,500 Chinook and 12,000 marked coho.</p> <p>3. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	<p>1. Overall non-Indian TAC: 65,000 Chinook and 65,000 marked coho.</p> <p>2. Non-Indian commercial troll TAC: 32,500 Chinook and 10,400 marked coho.</p> <p>3. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>
<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> • May 1 through earlier of June 30 or 31,700 Chinook quota. <p>Seven days per week (C.1). All salmon except coho (C.7). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5). See gear restrictions and definitions (C.2, C.3). An inseason conference call will occur when it is projected that 24,975 Chinook have been landed to consider modifying the open period to five days per week and adding landing and possession limits to ensure the guideline is not exceeded.</p>	<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> • May 1 through earlier of June 30 or 29,750 Chinook quota. <p>Seven days per week (C.1). All salmon except coho (C.7). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5). See gear restrictions and definitions (C.2, C.3). An inseason conference call will occur when it is projected that 22,300 Chinook have been landed to consider modifying the open period to five days per week and adding landing and possession limits to ensure the guideline is not exceeded.</p>	<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> • May 1 through earlier of June 30 or 19,500 Chinook quota. <p>Seven days per week (C.1). All salmon except coho (C.7). Cape Flattery, Mandatory Yelloweye Rockfish Conservation Area, and Columbia Control Zones closed (C.5). See gear restrictions and definitions (C.2, C.3). An inseason conference call will occur when it is projected that 14,625 Chinook have been landed to consider modifying the open period to five days per week and adding landing and possession limits to ensure the guideline is not exceeded.</p>
<p>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.</p>		

TABLE 1. Commercial troll management Alternatives adopted by the Council for non-Indian ocean salmon fisheries, 2012. (Page 2 of 10)

A. SEASON ALTERNATIVE DESCRIPTIONS		
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> July 1 through earlier of September 18 or 15,800 preseason Chinook guideline (C.8) or a 13,600 marked coho quota (C.8.d) <p>July 1-5 then Saturday through Wednesday July 7-August 22 with a landing and possession limit of 40 Chinook and 35 coho per vessel per open period; Saturday through Tuesday August 25-September 18, with a landing and possession limit of 20 Chinook and 40 coho per vessel per open period (C.1). No earlier than September 1, if at least 5,000 marked coho remain on the quota, inseason action may be considered to allow non-selective coho retention (C.8). All Salmon except no chum retention north of Cape Alava, Washington in August and September (C.7). All coho must be marked except as noted above (C.8.d). See gear restrictions and definitions (C.2, C.3).</p>	<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> July 7 through earlier of September 18 or 12,750 preseason Chinook guideline (C.8) or a 12,000 marked coho quota (C.8.d). <p>Saturday through Tuesday through August 21 with a landing and possession limit of 30 Chinook and 40 coho per vessel per open period; Saturday through Tuesday August 25-September 18, with a landing and possession limit of 15 Chinook and 40 coho per vessel per open period (C.1). All Salmon except no chum retention north of Cape Alava, Washington in August and September (C.7). All coho must be marked (C.8.d). See gear restrictions and definitions (C.2, C.3).</p>	<p>U.S./Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> July 1 through earlier of September 18 or 13,000 preseason Chinook guideline (C.8) or an 10,400 marked coho quota (C.8.d). <p>July 1-5 then Saturday through Wednesday through August 22 with a landing and possession limit of 35 Chinook and 40 coho per vessel per open period; Saturday through Tuesday August 25-September 18, with a landing and possession limit of 10 Chinook and 30 coho per vessel per open period (C.1). All Salmon except no chum retention north of Cape Alava, Washington in August and September (C.7). All coho must be marked (C.8.d). See gear restrictions and definitions (C.2, C.3).</p>
<p>Mandatory Yelloweye Rockfish Conservation Area, Cape Flattery and Columbia Control Zones, and beginning August 1, Grays Harbor Control Zone Closed (C.5). 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.</p>		

TABLE 1. Commercial troll management Alternatives adopted by the Council for non-Indian ocean salmon fisheries, 2012. (Page 3 of 10)

A. SEASON ALTERNATIVE DESCRIPTIONS		
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
South of Cape Falcon	South of Cape Falcon	South of Cape Falcon
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information
<ol style="list-style-type: none"> 1. Sacramento River fall Chinook spawning escapement of 455,900 adults. 2. Sacramento Index exploitation rate of 44.4% 3. Sacramento River fall Chinook projected 3-year geometric mean spawning escapement of 186,600 adults. 4. Klamath River recreational fishery allocation: 66,400 adult Klamath River fall Chinook. 5. Klamath tribal allocation: 161,200 adult Klamath River fall Chinook. 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. 	<ol style="list-style-type: none"> 1. Sacramento River fall Chinook spawning escapement of 436,600 adults. 2. Sacramento Index exploitation rate of 46.7% 3. Sacramento River fall Chinook projected 3-year geometric mean spawning escapement of 184,000 adults. 4. Klamath River recreational fishery allocation: 71,200 adult Klamath River fall Chinook. 5. Klamath tribal allocation: 158,900 adult Klamath River fall Chinook. 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. 	<ol style="list-style-type: none"> 1. Sacramento River fall Chinook spawning escapement of 466,600 adults. 2. Sacramento Index exploitation rate of 43.1% 3. Sacramento River fall Chinook projected 3-year geometric mean spawning escapement of 188,100 adults. 4. Klamath River recreational fishery allocation: 70,200 adult Klamath River fall Chinook. 5. Klamath tribal allocation: 159,300 adult Klamath River fall Chinook. 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.
<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> • April 1-August 29 • September 1-October 31 (C.9). <p>Seven days per week (C.1). All salmon except coho (C.7). Chinook minimum size limit of 28 inches total length through April 30, 27 inches May 1 through August 29, and 28 inches thereafter (B). 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.</p> <p>In 2013, the season will open March 15 for all salmon except coho with the same size limit and gear restrictions as in 2012. This opening could be modified following Council review at its March 2013 meeting.</p>	<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> • April 1-August 29 • September 15-October 31 (C.9). <p>Seven days per week (C.1). All salmon except coho (C.7). Chinook minimum size limit of 28 inches total length (B). 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.</p> <p>In 2013, same as Alternative I</p>	<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> • April 1-August 29 • September 15-October 31 (C.9). <p>Seven days per week (C.1). All salmon except coho (C.7). Landing and possession limit of 100 Chinook per vessel per calendar week in September and October. Chinook minimum size limit of 28 inches total length (B). 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.</p> <p>In 2013, same as Alternative I</p>

TABLE 1. Commercial troll management Alternatives adopted by the Council for non-Indian ocean salmon fisheries, 2012. (Page 4 of 10)

A. SEASON ALTERNATIVE DESCRIPTIONS		
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
<p>Humbug Mt. to OR/CA Border (Oregon KMZ)</p> <ul style="list-style-type: none"> • April 1-May 31; • June 1 through earlier of June 30, or a 2,000 Chinook quota; • July 1 through earlier of July 31, or a 1,500 Chinook quota; • Aug. 1 through earlier of Aug. 29, or a 1,000 Chinook quota (C.9). • Sept. 1 through earlier of Sept. 30, or a 1,000 Chinook quota (C.9). <p>Seven days per week (C.1). All salmon except coho (C.7). Chinook minimum size limit of 28 inches total length through April 30, 27 inches May 1 through August 29, and 28 inches thereafter (B). June 1 through September 30, landing and possession limit of 30 Chinook per vessel per day. Any remaining portion of the June and/or July Chinook quotas may be transferred inseason on an impact neutral basis to the next open quota period (no transfer to September quota allowed) (C.8). Prior to June 1, all fish caught in this area must be landed and delivered in the State of Oregon. Beginning June 1, all vessels fishing in this area must land and deliver all fish within this area or Port Orford, within 24 hours of any closure in this fishery, and prior to fishing outside of this area (C.1, C.6). Oregon State regulations require all fishers landing salmon from any quota managed season within this area to notify Oregon Dept. of Fish and Wildlife (ODFW) within 1 hour of delivery or prior to transport away from the port of landing by either 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, port of landing and location of delivery, and estimated time of delivery. See gear restrictions and definitions (C.2, C.3).</p> <p>In 2013, 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 2013 meeting.</p>	<p>Humbug Mt. to OR/CA Border (Oregon KMZ)</p> <ul style="list-style-type: none"> • April 1-May 31; • June 1 through earlier of June 30, or a 1,500 Chinook quota; • July 1 through earlier of July 31, or a 1,200 Chinook quota; • Aug. 1 through earlier of Aug. 29, or a 1,000 Chinook quota (C.9). <p>Seven days per week (C.1). All salmon except coho (C.7). Chinook 28 inch total length minimum size limit (B). June 1 through August 29, landing and possession limit of 30 Chinook per vessel per day. Any remaining portion of the June and/or July Chinook quotas may be transferred inseason on an impact neutral basis to the next open quota period (C.8). Prior to June 1, all fish caught in this area must be landed and delivered in the State of Oregon. Beginning June 1, all vessels fishing in this area must land and deliver all fish within this area or Port Orford, within 24 hours of any closure in this fishery, and prior to fishing outside of this area (C.1, C.6). Oregon State regulations require all fishers landing salmon from any quota managed season within this area to notify Oregon Dept. of Fish and Wildlife (ODFW) within 1 hour of delivery or prior to transport away from the port of landing by either 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, port of landing and location of delivery, and estimated time of delivery. See gear restrictions and definitions (C.2, C.3).</p> <ul style="list-style-type: none"> • Sept. 1-Oct. 31 <p>Closed except for sufficient impacts to collect 800 genetic stock identification samples per month. All salmon must be released in good condition after collection of biological samples.</p> <p>In 2013, same as Alternative I</p>	<p>Humbug Mt. to OR/CA Border (Oregon KMZ)</p> <ul style="list-style-type: none"> • April 1-May 31; • June 1 through earlier of June 30, or a 1,400 Chinook quota; • July 1 through earlier of July 31, or a 1,100 Chinook quota • Aug. 1 through earlier of Aug. 29, or a 800 Chinook quota (C.9). <p>Seven days per week (C.1). All salmon except coho (C.7). Chinook 28 inch total length minimum size limit (B). June 1 through August 29, landing and possession limit of 30 Chinook per vessel per day. Any remaining portion of the June and/or July Chinook quotas may be transferred inseason on an impact neutral basis to the next open quota period (C.8). Prior to June 1, all fish caught in this area must be landed and delivered in the State of Oregon. Beginning June 1, all vessels fishing in this area must land and deliver all fish within this area or Port Orford, within 24 hours of any closure in this fishery, and prior to fishing outside of this area (C.1, C.6). Oregon State regulations require all fishers landing salmon from any quota managed season within this area to notify Oregon Dept. of Fish and Wildlife (ODFW) within 1 hour of delivery or prior to transport away from the port of landing by either 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, port of landing and location of delivery, and estimated time of delivery. See gear restrictions and definitions (C.2, C.3).</p> <ul style="list-style-type: none"> • Sept. 1-Oct. 31 <p>Closed except for sufficient impacts to collect 200 genetic stock identification samples per month. All salmon must be released in good condition after collection of biological samples.</p> <p>In 2013, same as Alternative I</p>

TABLE 1. Commercial troll management Alternatives adopted by the Council for non-Indian ocean salmon fisheries, 2012. (Page 5 of 10)

A. SEASON ALTERNATIVE DESCRIPTIONS		
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
<p>OR/CA Border to Humboldt South Jetty (California KMZ) Closed.</p>	<p>OR/CA Border to Horse Mt. (California KMZ) <ul style="list-style-type: none"> • May 1-Sept. 30 Closed except for sufficient impacts to collect 800 genetic stock identification samples per month. All salmon must be released in good condition after collection of biological samples.</p>	<p>OR/CA Border to Humboldt South Jetty (California KMZ) <ul style="list-style-type: none"> • May 1-August 29 Closed except for sufficient impacts to collect 200 genetic stock identification samples per month. All salmon must be released in good condition after collection of biological samples.</p> <p> <ul style="list-style-type: none"> • September 16 through earlier of September 30, or 6,000 Chinook quota (C.9). Seven days per week (C.1). All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length (B). Landing and possession limit of 15 Chinook per vessel per day. All fish caught in this area must be landed within the area. 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 Humboldt Mt. 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).</p>
<p>Humboldt South Jetty to Horse Mt. Closed.</p>		<p>Humboldt South Jetty to Horse Mt. <ul style="list-style-type: none"> • May 1-September 30 Closed except for collection of the genetic stock identification samples noted above. All salmon must be released in good condition after collection of biological samples.</p>

TABLE 1. Commercial troll management Alternatives adopted by the Council for non-Indian ocean salmon fisheries, 2012. (Page 6 of 10)

A. SEASON ALTERNATIVE DESCRIPTIONS		
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> July 14 through Aug. 29; Sept. 1-30 (C.9). <p>Seven days per week (C.1). All salmon except coho (C.7). Chinook 27 inch total length minimum size limit (B). All fish must be landed in California and offloaded within 24 hours of the August 29 closure. During September, all fish caught in the area must be landed north of Point Arena (C.1). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2013, the season will open April 16-30 for all salmon except coho, with a 27 inch Chinook minimum size limit. All fish caught in the area must be landed in the area. This opening could be modified following Council review at its March 2013 meeting.</p>	<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> May 1-July 31 <p>Closed except for sufficient impacts to collect 800 genetic stock identification samples per month. All salmon must be released in good condition after collection of biological samples.</p> <ul style="list-style-type: none"> August 1-29; September 1-30 (C.9). <p>Seven days per week (C.1). All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length (B). All fish must be landed in California and offloaded within 24 hours of the August 29 closure. During September, all fish caught in the area must be landed north of Point Arena (C.1). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2013, same as Alternative I.</p>	<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> May 1-June 30 <p>Closed except for sufficient impacts to collect 200 genetic stock identification samples per month. All salmon must be released in good condition after collection of biological samples.</p> <ul style="list-style-type: none"> July 10 through August 29; September 1-30 (C.9). <p>Seven days per week (C.1). All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length (B). All fish must be landed in California and offloaded within 24 hours of the August 29 closure. During September, all fish caught in the area must be landed in the area (C.1). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2013, same as Alternative I.</p>
<p>Pt. Arena to Pigeon Pt. (San Francisco)</p> <ul style="list-style-type: none"> May 1-31; June 23 through August 29; September 1-30 (C.9). <p>Seven days per week (C.1). All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length prior to September 1, 26 inches thereafter (B). All fish must be landed in California and offloaded within 24 hours of the August 29 closure. During September, all fish caught in the area must be landed south of Point Arena. See gear restrictions and definitions (C.2, C.3).</p>	<p>Pt. Arena to Pigeon Pt. (San Francisco)</p> <ul style="list-style-type: none"> May 1-31; June 10 through August 29; September 1-30 (C.9). <p>Seven days per week (C.1). All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length prior to September 1, 26 inches thereafter (B). All fish must be landed in California and offloaded within 24 hours of the August 29 closure. During September, all fish caught in the area must be landed south of Point Arena. See gear restrictions and definitions (C.2, C.3).</p> <p>Pt. Reyes to Pt. San Pedro (Fall Area Target Zone)</p> <ul style="list-style-type: none"> October 1-12 <p>Monday through Friday. All salmon except coho (C.7). Chinook minimum size limit 26 inches total length (B). All vessels fishing in this area must land and deliver all fish between Point Arena and Pigeon Point (C.1). See gear restrictions and definitions (C.2, C.3).</p>	<p>Pt. Arena to Pigeon Pt. (San Francisco)</p> <ul style="list-style-type: none"> May 1-31; June 26 through August 29; September 1-30 (C.9). <p>Seven days per week (C.1). All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length prior to September 1, 26 inches thereafter (B). All fish must be landed in California and offloaded within 24 hours of the August 29 closure. During September, all fish caught in the area must be landed south of Point Arena. All fish caught in the area when the KMZ quota fisheries are open must be landed south of Horse Mt. (C.1, C.6). See gear restrictions and definitions (C.2, C.3).</p> <ul style="list-style-type: none"> June 1-25 <p>Closed except for sufficient impacts to collect 200 genetic stock identification samples. All salmon must be released in good condition after collection of biological samples.</p>
<p>Pigeon Pt. to Point Sur (Monterey)</p> <p>Same as Pt. Arena to Pigeon Pt.</p>	<p>Pigeon Pt. to Point Sur (Monterey)</p> <p>Same as Pt. Arena to Pigeon Pt.</p>	<p>Pigeon Pt. to Point Sur (Monterey)</p> <p>Same as Pt. Arena to Pigeon Pt.</p>

TABLE 1. Commercial troll management Alternatives adopted by the Council for non-Indian ocean salmon fisheries, 2012. (Page 7 of 10)

A. SEASON ALTERNATIVE DESCRIPTIONS		
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
<p>Pt. Sur to U.S./Mexico Border (South of Monterey)</p> <ul style="list-style-type: none"> • May 1 through August 29 • September 1-30 (C.9). <p>Seven days per week (C.1). All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length prior to September 1, 26 inches thereafter (B). All fish must be landed in California and offloaded within 24 hours of the August 29 closure. During September, all fish caught in the area must be landed south of Point Arena. See gear restrictions and definitions (C.2, C.3).</p>	<p>Pt. Sur to U.S./Mexico Border (South of Monterey)</p> <p>Same as Pt. Arena to Pigeon Pt.</p>	<p>Pt. Sur to U.S./Mexico Border (South of Monterey)</p> <ul style="list-style-type: none"> • May 1-31 • August 1-29 (C.9). <p>Seven days per week (C.1). All salmon except coho (C.7). Chinook minimum size limit of 27 inches total length (B). All fish must be landed in California and offloaded within 24 hours of the August 29 closure. See gear restrictions and definitions (C.2, C.3).</p> <ul style="list-style-type: none"> • June 1-July 31 • Sept 1-30 <p>Closed except for sufficient impacts to collect 200 genetic stock identification samples per month. All salmon must be released in good condition after collection of biological samples.</p>
<p>California State regulations require all salmon be made available to a CDFG 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 CDFG, shall immediately relinquish the head of the salmon to the state. (California Fish and Game Code §8226)</p>		
B. MINIMUM SIZE (Inches) (See C.1)		

Area (when open)	Chinook		Coho		Pink
	Total Length	Head-off	Total Length	Head-off	
North of Cape Falcon	28.0	21.5	16.0	12.0	None
Cape Falcon to OR/CA Border					
Alt. I: Prior to May 1	28.0	21.5	-	-	None
May 1-Aug 29	27.0	20.5	-	-	None
Beginning Sept. 1	28.0	21.5	-	-	None
Alt II&III	28.0	21.5	-	-	None
OR/CA Border to Humboldt South Jetty.	27.0	20.5	-	-	None
Horse Mt. to Pt. Arena	27.0	20.5	-	-	None
Pt. Arena to U.S./Mexico Border					
Prior to Sept. 1	27.0	20.5	-	-	None
Beginning Sept. 1	26.0	19.5	-	-	None

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. Salmon may be landed in an area that has been closed more than 96 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 be landed in an area that has been closed less than 96 hours only if they meet the minimum size, landing/possession limit, or other special requirements for the areas in which they were caught and landed.

States may require fish landing/receiving tickets be kept on board the vessel for 90 days 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 (FMA) 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 90° angle.

C.4. Transit Through Closed Areas with Salmon on Board: It is unlawful for a vessel to have troll or recreational gear in the water while transiting any area closed to fishing for a certain species of salmon, while possessing that species of salmon; however, fishing for species other than salmon is not prohibited if the area is open for such species, and no salmon are in possession.

C.5. Control Zone Definitions:

- a. *Cape Flattery Control Zone* - The area from Cape Flattery (48°23'00" N. lat.) to the northern boundary of the U.S. EEZ; and the area from Cape Flattery south to Cape Alava (48°10'00" N. lat.) and east of 125°05'00" 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° 36'00" 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 six 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 six nautical miles south of the Klamath River mouth).

TABLE 1. Commercial troll management Alternatives adopted by the Council for non-Indian ocean salmon fisheries, 2012. (Page 9 of 10)

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

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 CDFG 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. License applications for incidental harvest must be obtained from the International Pacific Halibut Commission (phone: 206-634-1838). Applicants must apply prior to April 1 of each year. Incidental harvest is authorized only during May and June troll seasons and after June 30 if quota remains and if announced on the NMFS hotline (phone: 800-662-9825). ODFW and Washington Department of Fish and Wildlife (WDFW) will monitor landings. If the landings are projected to exceed the 30,568 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.

Alternative I-Status Quo: Beginning May 1, license holders may land no more than one Pacific halibut per each 3 Chinook, except one Pacific halibut may be landed without meeting the ratio requirement, and no more than 35 halibut may be landed per trip. Pacific halibut retained must be no less than 32 inches in total length (with head on).

Alternative II: Beginning May 1, license holders may land no more than one Pacific halibut per each 4 Chinook, except one Pacific halibut may be landed without meeting the ratio requirement, and no more than 20 halibut may be landed per trip. Pacific halibut retained must be no less than 32 inches in total length (with head on).

Alternative III: Beginning May 1, license holders may land no more than one Pacific halibut per each 5 Chinook, except one Pacific halibut may be landed without meeting the ratio requirement, and no more than 15 halibut may be landed per trip. Pacific halibut retained must be no less than 32 inches in total length (with head on).

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 Alternatives adopted by the Council for non-Indian ocean salmon fisheries, 2012. (Page 10 of 10)

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 on a fishery impact equivalent basis.
 - b. Chinook remaining from the June and/or July non-Indian commercial troll quotas in the Oregon KMZ may be transferred to the Chinook quota for the next open period on a fishery impact equivalent basis.
 - c. NMFS may transfer fish between the recreational and commercial fisheries north of Cape Falcon on a fishery impact neutral, fishery equivalent basis if there is agreement among the areas' representatives on the Salmon Advisory Subpanel (SAS).
 - d. At the March 2013 meeting, the Council will consider inseason recommendations for special regulations for any experimental fisheries (proposals must meet Council protocol and be received in November 2012).
 - d. If retention of unmarked coho is permitted by inseason action, the allowable coho quota will be adjusted to ensure preseason projected mortality of critical stocks is not exceeded.
 - e. 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 Department of Fish and Game (CDFG) Code, Section 8232.5, the definition of the Klamath Management Zone (KMZ) for the ocean salmon season shall be that area from Humbug Mt., Oregon, to Horse Mt., California.

TABLE 2. Recreational management Alternatives adopted by the Council for non-Indian ocean salmon fisheries, 2012. (Page 1 of 9)

A. SEASON ALTERNATIVE DESCRIPTIONS		
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
North of Cape Falcon	North of Cape Falcon	North of Cape Falcon
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information
<p>1. Overall non-Indian TAC: 99,000 (non-mark-selective equivalent of 95,000) Chinook and 85,000 coho marked with a healed adipose fin clip (marked).</p> <p>2. Recreational TAC: 51,500 (non-mark selective equivalent of 47,500) Chinook and 71,400 marked coho.</p> <p>3. No Area 4B add-on fishery.</p> <p>4. Buoy 10 fishery opens Aug. 1 with an expected landed catch of 7,600 marked coho in August and September.</p> <p>5. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	<p>1. Overall non-Indian TAC: 88,000 (non-mark-selective equivalent of 85,000) Chinook and 75,000 marked coho</p> <p>2. Recreational TAC: 45,500 (non-mark selective equivalent of 42,500) Chinook and 63,000 marked coho.</p> <p>3. No Area 4B add-on fishery.</p> <p>4. Buoy 10 fishery opens Aug. 1 with an expected landed catch of 8,300 marked coho in August and September.</p> <p>5. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>	<p>1. Overall non-Indian TAC: 65,000 Chinook and 65,000 marked coho.</p> <p>2. Recreational TAC: 32,500 Chinook and 54,600 marked coho.</p> <p>3. Area 4B add-on fishery of with a quota of 4,000 marked coho following the closure of the Neah Bay fishery (C.6).</p> <p>4. Buoy 10 fishery opens Aug. 1 with an expected landed catch of 9,000 marked coho in August and September.</p> <p>5. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries.</p>
<p>U.S./Canada Border to Leadbetter Point</p> <ul style="list-style-type: none"> • June 16 through earlier of June 30 or a coastwide marked Chinook quota of 8,000 (C.5). <p>Seven days per week. Two fish per day, all salmon except coho, all Chinook must be marked with a healed adipose fin clip (C.1). Chinook 24-inch total length minimum size limit (B). See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>U.S./Canada Border to Leadbetter Point</p> <ul style="list-style-type: none"> • June 16 through earlier of June 23 or a coastwide marked Chinook quota of 6,000 (C.5). <p>Seven days per week. Two fish per day, all salmon except coho, all Chinook must be marked with a healed adipose fin clip (C.1). Chinook 24-inch total length minimum size limit (B). See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	
<p>Leadbetter Point to Cape Falcon</p> <ul style="list-style-type: none"> • June 9 through earlier of June 22 or a coastwide marked Chinook quota of 8,000 (C.5). <p>Seven days per week. Two fish per day, all salmon except coho, all Chinook must be marked with a healed adipose fin clip (C.1). Chinook 24-inch total length minimum size limit (B). See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Leadbetter Point to Cape Falcon</p> <ul style="list-style-type: none"> • June 16 through earlier of June 22 or a coastwide marked Chinook quota of 6,000 (C.5). <p>Seven days per week. Two fish per day, all salmon except coho, all Chinook must be marked with a healed adipose fin clip (C.1). Chinook 24-inch total length minimum size limit (B). See gear restrictions (C.2). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	

TABLE 2. Recreational management Alternatives adopted by the Council for non-Indian ocean salmon fisheries, 2012. (Page 2 of 9)

A. SEASON ALTERNATIVE DESCRIPTIONS		
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
<p>U.S./Canada Border to Cape Alava (Neah Bay)</p> <ul style="list-style-type: none"> July 1 through earlier of September 23 or 7,430 marked coho subarea quota with a subarea guideline of 4,700 Chinook. (C.5). <p>Seven days per week. All salmon except no chum beginning August 1; two fish per day. All coho must be marked (C.1). Beginning August 1, Chinook non-retention east of the Bonilla-Tatoosh line (C.4.a) during Council managed ocean fishery. See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook and coho recreational TACs for north of Cape Falcon (C.5).</p>	<p>U.S./Canada Border to Cape Alava (Neah Bay)</p> <ul style="list-style-type: none"> June 24 through earlier of September 23 or 6,550 marked coho subarea quota with a subarea guideline of 4,300 Chinook. (C.5). <p>Seven days per week. All salmon except no chum beginning August 1. Two fish per day, only one of which can be a Chinook. All retained coho must be marked (C.1). Beginning August 1, Chinook non-retention east of the Bonilla-Tatoosh line (C.4.a) during Council managed ocean fishery. See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>U.S./Canada Border to Cape Alava (Neah Bay)</p> <ul style="list-style-type: none"> July 3 through earlier of September 23 or 4,940 marked coho subarea quota with a subarea guideline of 3,500 Chinook. (C.5). <p>Tuesday through Saturday. All salmon, two fish per day, no more than one of which can be a Chinook. All retained coho must be marked (C.1). Beginning August 1, Chinook non-retention east of the Bonilla-Tatoosh line (C.4.a) during Council managed ocean fishery. See gear restrictions and definitions (C.2, C.3). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>
<p>Cape Alava to Queets River (La Push Subarea)</p> <ul style="list-style-type: none"> July 1 through earlier of September 23 or 1,810 marked coho subarea quota with a subarea guideline of 2,050 Chinook. (C.5). September 29 through earlier of October 14 or 50 marked coho quota or 50 Chinook quota (C.5) in the area north of 47°50'00" N. lat. and south of 48°00'00" N. lat. <p>Seven days per week. All salmon; two fish per day. All coho must be marked (C.1). 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).</p>	<p>Cape Alava to Queets River (La Push Subarea)</p> <ul style="list-style-type: none"> June 24 through earlier of September 23 or 1,590 marked coho subarea quota with a subarea guideline of 1,850 Chinook. (C.5). September 29 through earlier of October 14 or 50 marked coho quota or 50 Chinook quota (C.5) in the area north of 47°50'00" N. lat. and south of 48°00'00" N. lat. <p>Seven days per week. All salmon; two fish per day, no more than one of which can be a Chinook. All coho must be marked (C.1). 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).</p>	<p>Cape Alava to Queets River (La Push Subarea)</p> <ul style="list-style-type: none"> July 3 through earlier of September 23 or 1,420 marked coho subarea quota with a subarea guideline of 1,550 Chinook. (C.5). <p>Tuesday through Saturday. All salmon, two fish per day, no more than one of which can be a Chinook. All retained coho must be marked (C.1).</p> <ul style="list-style-type: none"> September 29 through earlier of October 14 or 50 marked coho quota or 50 Chinook quota (C.5) in the area north of 47°50'00" N. lat. and south of 48°00'00" N. lat. <p>Tuesday through Saturday. All salmon; two fish per day, no more than one of which can be a Chinook. All coho must be marked (C.1).</p> <p>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).</p>

TABLE 2. Recreational management Alternatives adopted by the Council for non-Indian ocean salmon fisheries, 2012. (Page 3 of 9)

A. SEASON ALTERNATIVE DESCRIPTIONS		
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
<p>Queets River to Leadbetter Point (Westport Subarea)</p> <ul style="list-style-type: none"> July 1 through earlier of September 23 or 26,410 marked coho subarea quota with a subarea guideline of 25,600 Chinook (C.5). <p>Seven days per week. All salmon; two fish per day, no more than one of which can be a Chinook. All coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Grays Harbor Control Zone closed beginning August 1 (C.4). 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).</p>	<p>Queets River to Leadbetter Point (Westport Subarea)</p> <ul style="list-style-type: none"> June 24 through earlier of September 23 or 23,310 marked coho subarea quota with a subarea guideline of 23,200 Chinook (C.5). <p>Sunday through Thursday. All salmon, two fish per day, no more than one of which can be a Chinook. All retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Grays Harbor Control Zone closed beginning August 1 (C.4). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Queets River to Leadbetter Point (Westport Subarea)</p> <ul style="list-style-type: none"> July 1 through earlier of September 23 or 20,890 marked coho subarea quota with a subarea guideline of 19,100 Chinook (C.5). <p>Sunday through Thursday. All salmon, two fish per day, no more than one of which can be a Chinook. All retained coho must be marked (C.1). 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 recreational TAC for north of Cape Falcon (C.5).</p>
<p>Leadbetter Point to Cape Falcon (Columbia River Subarea)</p> <ul style="list-style-type: none"> June 23 through earlier of September 30 or 35,700 marked coho subarea quota with a subarea guideline of 11,100 Chinook (C.5). <p>Seven days per week. All salmon; two fish per day, no more than one of which can be a Chinook. All coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Columbia Control Zone closed (C.4). 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).</p>	<p>Leadbetter Point to Cape Falcon (Columbia River Subarea)</p> <ul style="list-style-type: none"> June 23 through earlier of September 30 or 31,500 marked coho subarea quota with a subarea guideline of 10,100 Chinook (C.5). <p>Seven days per week. All salmon, two fish per day, only one of which can be a Chinook. All retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Columbia Control Zone closed (C.4). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>	<p>Leadbetter Point to Cape Falcon (Columbia River Subarea)</p> <ul style="list-style-type: none"> June 30 through earlier of September 30 or 27,300 marked coho subarea quota with a subarea guideline of 8,300 Chinook (C.5). <p>Seven days per week. All salmon, two fish per day, only one of which can be a Chinook. All retained coho must be marked (C.1). See gear restrictions and definitions (C.2, C.3). Columbia Control Zone closed (C.4). Inseason management may be used to sustain season length and keep harvest within the overall Chinook recreational TAC for north of Cape Falcon (C.5).</p>

TABLE 2. Recreational management Alternatives adopted by the Council for non-Indian ocean salmon fisheries, 2012. (Page 4 of 9)

A. SEASON ALTERNATIVE DESCRIPTIONS		
South of Cape Falcon	South of Cape Falcon	South of Cape Falcon
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information
<ol style="list-style-type: none"> 1. Sacramento River fall Chinook spawning escapement of 455,900 adults. 2. Sacramento Index exploitation rate of 44.4% 3. Sacramento River fall Chinook projected 3-year geometric mean spawning escapement of 186,600 adults. 4. Klamath River recreational fishery allocation: 66,400 adult Klamath River fall Chinook. 5. Klamath tribal allocation: 161,200 adult Klamath River fall Chinook. 6. Overall recreational TAC: 14,000 marked coho and 5,000 unmarked coho. 7. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission. 	<ol style="list-style-type: none"> 1. Sacramento River fall Chinook spawning escapement of 436,600 adults. 2. Sacramento Index exploitation rate of 46.7% 3. Sacramento River fall Chinook projected 3-year geometric mean spawning escapement of 184,000 adults. 4. Klamath River recreational fishery allocation: 71,200 adult Klamath River fall Chinook. 5. Klamath tribal allocation: 158,900 adult Klamath River fall Chinook. 6. Overall recreational TAC: 11,000 marked coho and 3,000 unmarked coho. 7. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission. 	<ol style="list-style-type: none"> 1. Sacramento River fall Chinook spawning escapement of 466,600 adults. 2. Sacramento Index exploitation rate of 43.1% 3. Sacramento River fall Chinook projected 3-year geometric mean spawning escapement of 188,100 adults. 4. Klamath River recreational fishery allocation: 70,200 adult Klamath River fall Chinook. 5. Klamath tribal allocation: 159,300 adult Klamath River fall Chinook. 6. Overall recreational TAC: 10,000 unmarked coho. 7. Fisheries may need to be adjusted to meet NMFS ESA consultation standards, FMP requirements, other management objectives, or upon receipt of new allocation recommendations from the California Fish and Game Commission.

TABLE 2. Recreational management Alternatives adopted by the Council for non-Indian ocean salmon fisheries, 2012. (Page 5 of 9)

A. SEASON ALTERNATIVE DESCRIPTIONS		
South of Cape Falcon	South of Cape Falcon	South of Cape Falcon
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> Except as provided below during the all-salmon mark-selective and non-mark-selective coho fisheries, the season will be March 15 through October 31 (C.6). All salmon except coho; two fish per day (C.1). See gear restrictions and definitions (C.2, C.3). Cape Falcon to OR/CA border all-salmon mark-selective coho fishery: July 1 through earlier of July 31 or a landed catch of 14,000 marked coho. Seven days per week. All salmon, two fish per day. All retained coho must be marked (C.1). Any remainder of the mark selective coho quota will be transferred on an impact neutral basis to the September non-selective coho quota listed below. The all salmon except coho season reopens the earlier of August 1 or attainment of the coho quota, through August 31. Cape Falcon to Humbug Mt. non-mark-selective coho fishery: September 1 through the earlier of September 15 or a landed catch of 5,000 non-mark-selective coho quota (C.5). Thursday through Saturday all salmon, two fish per day; Sunday through Wednesday, all salmon except coho, two fish per day. The all salmon except coho season reopens the earlier of September 16 or attainment of the coho quota (C.5). Open days may be adjusted inseason to utilize the available coho quota (C.5). <p>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).</p> <p>In 2013, the season between Cape Falcon and Humbug Mt. will open March 15 for all salmon except coho, two fish per day (B, C.1, C.2, C.3).</p>	<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> Except as provided below during the all-salmon mark-selective and non-mark-selective coho fisheries, the season will be March 15 through October 31 (C.6). All salmon except coho; two fish per day through September 30, one fish per day thereafter (C.1). See gear restrictions and definitions (C.2, C.3). Cape Falcon to Humbug Mt. all-salmon mark-selective coho fishery: July 1 through earlier of July 31 or a landed catch of 11,000 marked coho. Seven days per week. All salmon, two fish per day. All retained coho must be marked (C.1). Any remainder of the mark selective coho quota will be transferred on an impact neutral basis to the September non-selective coho quota listed below. The all salmon except coho season reopens the earlier of August 1 or attainment of the coho quota, through August 31. Cape Falcon to Humbug Mt. non-mark-selective coho fishery: September 1 through the earlier of September 15 or a landed catch of 3,000 non-mark-selective coho quota (C.5). Thursday through Saturday all salmon, two fish per day; Sunday through Wednesday, all salmon except coho, two fish per day. The all salmon except coho season reopens the earlier of September 16 or attainment of the coho quota (C.5). Open days may be adjusted inseason to utilize the available coho quota (C.5). <p>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).</p> <p>In 2013, same as Alternative I</p>	<p>Cape Falcon to Humbug Mt.</p> <ul style="list-style-type: none"> Except as provided below during the non-mark-selective coho fishery, the season will be March 15 through September 30 (C.6). All salmon except coho; two fish per day (C.1). See gear restrictions and definitions (C.2, C.3). Cape Falcon to Humbug Mt. non-mark-selective coho fishery: September 1 through the earlier of September 22 or a landed catch of 10,000 non-mark-selective coho quota (C.5). Thursday through Saturday all salmon, two fish per day; Sunday through Wednesday, all salmon except coho, two fish per day. The all salmon except coho season reopens the earlier of September 23 or attainment of the coho quota (C.5). Open days may be adjusted inseason to utilize the available coho quota (C.5). <p>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).</p> <p>In 2013, same as Alternative I</p>

TABLE 2. Recreational management Alternatives adopted by the Council for non-Indian ocean salmon fisheries, 2012. (Page 6 of 9)

A. SEASON ALTERNATIVE DESCRIPTIONS		
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
<p>Humbug Mt. to OR/CA Border. (Oregon KMZ)</p> <ul style="list-style-type: none"> • Except as provided above during the all-salmon mark-selective coho fishery, the season will be May 1 through September 9 (C.6). <p>All salmon except coho, except as noted above in the all-salmon mark-selective coho fishery. Seven days per week, 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).</p>	<p>Humbug Mt. to OR/CA Border. (Oregon KMZ)</p> <ul style="list-style-type: none"> • May 12 through September 9 (C.6). <p>All salmon except coho. Seven days per week, 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).</p>	<p>Humbug Mt. to OR/CA Border. (Oregon KMZ)</p> <ul style="list-style-type: none"> • May 26 through September 3 (C.6). <p>All salmon except coho. Seven days per week, two fish per day (C.1). Chinook minimum size limit of 22 inches total length (B). See gear restrictions and definitions (C.2, C.3).</p>
<p>OR/CA Border to Horse Mt. (California KMZ)</p> <ul style="list-style-type: none"> • May 1 through September 9 (C.6). <p>All salmon except coho. Seven days per week, 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.</p>	<p>OR/CA Border to Horse Mt. (California KMZ)</p> <ul style="list-style-type: none"> • May 12 through September 9 (C.6). <p>All salmon except coho. Seven days per week, two fish per day (C.1). Chinook minimum size limit of 22 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.</p>	<p>OR/CA Border to Horse Mt. (California KMZ)</p> <ul style="list-style-type: none"> • May 26 through September 3 (C.6). <p>All salmon except coho. Seven days per week, 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). Klamath Control Zone closed in August (C.4.e). See California State regulations for additional closures adjacent to the Smith, Eel, and Klamath rivers.</p>
<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> • April 7 through November 11. <p>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).</p> <p>In 2013, season opens April 6 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 2012 (C.2, C.3).</p>	<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> • April 7 through October 28. <p>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).</p> <p>In 2013, same as Alternative 1.</p>	<p>Horse Mt. to Point Arena (Fort Bragg)</p> <ul style="list-style-type: none"> • April 7 through October 14. <p>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).</p> <p>In 2013, same as Alternative 1.</p>
<p>Point Arena to Pigeon Point (San Francisco)</p> <ul style="list-style-type: none"> • April 7 through November 11. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length through July 5; 20 inches thereafter (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2013, season opens April 6 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 2012 (C.2, C.3).</p>	<p>Point Arena to Pigeon Point (San Francisco)</p> <ul style="list-style-type: none"> • April 7 through October 28. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length through July 31; 20 inches thereafter (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2013, same as Alternative 1.</p>	<p>Point Arena to Pigeon Point (San Francisco)</p> <ul style="list-style-type: none"> • April 7 through October 14. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length through June 30; 20 inches thereafter (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2013, same as Alternative 1.</p>

TABLE 2. Recreational management Alternatives adopted by the Council for non-Indian ocean salmon fisheries, 2012. (Page 7 of 9)

A. SEASON ALTERNATIVE DESCRIPTIONS		
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
<p>Pigeon Point to U.S./Mexico Border (Monterey)</p> <ul style="list-style-type: none"> April 7 through October 7. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length through July 5; 20 inches thereafter (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2013, season opens April 6 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 2012 (C.2, C.3).</p>	<p>Pigeon Point to U.S./Mexico Border (Monterey)</p> <ul style="list-style-type: none"> April 7 through September 23. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length through July 31; 20 inches thereafter (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2013, same as Alternative 1.</p>	<p>Pigeon Point to U.S./Mexico Border (Monterey)</p> <ul style="list-style-type: none"> April 7 through September 9. <p>Seven days per week. All salmon except coho, two fish per day (C.1). Chinook minimum size limit of 24 inches total length through June 30; 20 inches thereafter (B). See gear restrictions and definitions (C.2, C.3).</p> <p>In 2013, same as Alternative 1.</p>
<p>California State regulations require all salmon be made available to a CDFG 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 CDFG, shall immediately relinquish the head of the salmon to the state. (California Fish and Game Code §8226)</p>		

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	Alt. I and II	24.0	16.0	None
	Alt. III	22.0	-	None
OR/CA Border to Horse Mountain	Alt I	20.0	-	20.0
	Alt. II	22.0	-	22.0
	Alt. III	24.0	-	24.0
Horse Mt. to Pt. Arena		20.0	-	20.0
Pt. Arena. to U.S./Mexico Border:	Alt. I – Apr. 7 to July 5	24.0	-	24.0
	Alt. I – July 6 to Nov. 11	20.0	-	20.0
	Alt. II – Apr. 7 to July 31	24.0	-	24.0
	Alt. II – Aug. 1 to Oct. 28	20.0	-	20.0
	Alt. III – Apr. 7 to June 30	24.0	-	24.0
	Alt. III - July 1 to Oct. 14	20.0	-	20.0

TABLE 2. Recreational management Alternatives adopted by the Council for non-Indian ocean salmon fisheries, 2012. (Page 8 of 9)

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.
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 salmon for all licensed and juvenile anglers aboard has 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 Point 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 Point Conception, California*: Single point, single shank, barbless circle hooks (see gear definitions below) are required when fishing with bait by any means other than trolling, and no more than two such hooks shall be used. When angling with two hooks, the distance between the hooks must not exceed five inches when measured from the top of the eye of the top hook to the inner base of the curve of the lower hook, and both hooks must be permanently tied in place (hard tied). Circle hooks are not required when artificial lures are used without bait.
- C.3. Gear Definitions:
- a. *Recreational fishing gear defined*: Angling tackle consisting of a line with no more than one artificial lure and/or natural bait attached. Off Oregon and Washington, the line 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 Point 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°28'00" N. lat., 124°45'00" W. long.), then in a straight line to Bonilla Point (48°35'30" N. lat., 124°43'00" 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° 36'00" 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 six 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).

TABLE 2. Recreational management measures adopted by the Council for non-Indian ocean salmon fisheries, 2012. (Page 9 of 9)

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

- 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 on a fishery impact equivalent basis 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.
 - c. Chinook and coho may be transferred between the recreational and commercial fisheries north of Cape Falcon on a fishery impact equivalent basis if there is agreement among the representatives of the Salmon Advisory Subpanel (SAS).
 - d. Fishery managers may consider inseason action permitting the retention of unmarked coho. Such a consideration may also include a change in bag limit of two salmon, no more than one of which may be a coho. If retention of unmarked coho is permitted by inseason action, the allowable coho quota will be adjusted to ensure preseason projected mortality of critical stocks is not exceeded.
 - e. Marked coho remaining from the June/July through August Cape Falcon to OR/CA border recreational coho quota may be transferred inseason to the September Cape Falcon to Humbug Mt. non-mark-selective recreational fishery on a fishery impact equivalent basis.
- 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.

TABLE 3. Treaty Indian troll management Alternatives adopted by the Council for ocean salmon fisheries, 2012. (Page 1 of 2)

A. SEASON ALTERNATIVE DESCRIPTIONS		
ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III
Supplemental Management Information	Supplemental Management Information	Supplemental Management Information
<p>1. Overall Treaty-Indian TAC: 55,000 Chinook and 55,000 coho.</p> <p>2. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries</p>	<p>1. Overall Treaty-Indian TAC: 50,000 Chinook and 47,500 coho.</p> <p>2. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries</p>	<p>1. Overall Treaty-Indian TAC: 40,000 Chinook and 40,000 coho.</p> <p>2. Overall Chinook and/or coho TACs may need to be reduced or fisheries adjusted to meet NMFS ESA guidance, FMP requirements, upon conclusion of negotiations in the North of Falcon forum, or upon receipt of preseason catch and abundance expectations for Canadian and Alaskan fisheries</p>
<ul style="list-style-type: none"> • May 1 through the earlier of June 30 or 22,000 Chinook quota. <p>All salmon except coho. If the Chinook quota for the May-June fishery is not fully utilized, the excess fish may be transferred into the later all-salmon season. 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).</p> <ul style="list-style-type: none"> • July 1 through the earlier of September 15, or 33,000 preseason Chinook quota, or 55,000 coho quota. <p>All Salmon. See size limit (B) and other restrictions (C).</p>	<ul style="list-style-type: none"> • May 1 through the earlier of June 30 or 25,000 Chinook quota. <p>All salmon except coho. If the Chinook quota for the May-June fishery is not fully utilized, the excess fish cannot be transferred into the later all-salmon season on an impact neutral basis. If the Chinook quota is exceeded, the excess will be deducted from the later all-salmon season. See size limit (B) and other restrictions (C).</p> <ul style="list-style-type: none"> • July 1 through the earlier of September 15, or 25,000 preseason Chinook quota, or 47,500 coho quota. <p>All salmon. See size limit (B) and other restrictions (C).</p>	<ul style="list-style-type: none"> • May 1 through the earlier of June 30 or 20,000 Chinook quota. <p>All salmon except coho. If the Chinook quota for the May-June fishery is not fully utilized, the excess fish cannot be transferred into the later all-salmon season. If the Chinook quota is exceeded, the excess will be deducted from the later all-salmon season. See size limit (B) and other restrictions (C).</p> <ul style="list-style-type: none"> • July 1 through the earlier of September 15, or 20,000 preseason Chinook quota, or 40,000 coho quota. <p>All salmon. See size limit (B) and other restrictions (C)</p>

TABLE 3. Treaty Indian troll management Alternatives adopted by the Council for ocean salmon fisheries, 2012. (Page 2 of 2)

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

C. REQUIREMENTS, DEFINITIONS, RESTRICTIONS, OR EXCEPTIONS

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

S'KLALLAM - Washington State Statistical Area 4B (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°07'36" N. lat. (Sand Pt.) and 47°31'42" 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°44'00" 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 September 15.
- b. The Quileute Tribe will continue a ceremonial and subsistence fishery during the time frame of September 15 through October 15 in the same manner as in 2004-2011. Fish taken during this fishery are to be counted against treaty troll quotas established for the 2012 season (estimated harvest during the October ceremonial and subsistence fishery: 100 Chinook; 200 coho).

C.4. Area Closures

- a. The area within a six nautical mile radius of the mouths of the Queets River (47°31'42" N. lat.) and the Hoh River (47°45'12" N. lat.) will be closed to commercial fishing.
- b. A closure within two nautical miles of the mouth of the Quinault River (47°21'00" N. lat.) may be enacted by the Quinault Nation and/or the State of Washington and will not adversely affect the Secretary of Commerce's management regime.

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

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

TABLE 4. Chinook and coho harvest quotas and guidelines (*) for 2012 ocean salmon fishery management Alternatives adopted by the Council.

Fishery or Quota Designation	Chinook for Alternative			Coho for Alternative		
	I	II	III	I	II	III
NORTH OF CAPE FALCON						
TREATY INDIAN OCEAN TROLL^{a/}						
U.S./Canada Border to Cape Falcon (All Except Coho)	22,000	25,000	20,000	-	-	-
U.S./Canada Border to Cape Falcon (All Species)	33,000	25,000	20,000	55,000	47,500	40,000
Subtotal Treaty Indian Ocean Troll	55,000	50,000	40,000	55,000	47,500	40,000
NON-INDIAN COMMERCIAL TROLL^{b/}						
U.S./Canada Border to Cape Falcon (All Except Coho)	31,700	29,750	19,500	-	-	-
U.S./Canada Border to Cape Falcon (All Species)	15,800	12,750	13,000	13,600	12,200	10,400
Subtotal Non-Indian Commercial Troll	47,500	42,500	32,500	13,600	12,200	10,400
RECREATIONAL						
U.S./Canada Border to Cape Falcon (All Except Coho) ^{c/}	8,000 *	6,000 *	-	-	-	-
U.S./Canada Border to Cape Alava ^{b/}	4,700 *	4,300 *	3,500	7,430	6,550	4,940
Cape Alava to Queets River ^{b/}	2,100 *	1,900 *	1,600	1,860	1,640	1,470
Queets River to Leadbetter Pt. ^{b/}	25,600 *	23,200 *	19,100	26,410	23,310	20,890
Leadbetter Pt. to Cape Falcon ^{b/d/}	11,100 *	10,100 *	8,300	35,700	31,500	27,300
Subtotal Recreational	51,500	45,500	32,500	71,400	63,000	54,600
TOTAL NORTH OF CAPE FALCON	154,000	138,000	105,000	140,000	122,700	105,000
SOUTH OF CAPE FALCON						
COMMERCIAL TROLL^{a/}						
Humbug Mt. to OR/CA Border	5,500	3,700	3,300	-	-	-
OR/CA Border to Horse Mt.	-	-	6,000	-	-	-
Subtotal Troll	5,500	3,700	9,300	-	-	-
RECREATIONAL						
Cape Falcon to Oregon/California Border	-	-	-	19,000 ^{e/}	14,000 ^{e/}	10,000 ^{a/}
TOTAL SOUTH OF CAPE FALCON	5,500	3,700	9,300	19,000	14,000	10,000

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

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

c/ Quotas are mark-selective for Chinook, equivalent to unmarked quotas of 4,000 in Alternative I and 3,000 in Alternative II.

d/ Does not include Buoy 10 fishery. Expected catch in August and September: Alternative I - 7,600 marked coho; Alternative II - 8,300 marked coho; Alternative III - 9,000.

e/ The quota consists of both mark-selective and non-mark-selective quotas: 14,000 and 5,000 in Alternative I; 11,000 and 3,000 in Alternative II, respectively.

TABLE 5. Projected key stock escapements (thousands of fish) or management criteria for 2012 ocean fishery Alternatives adopted by the Council.^{a/} (Page 1 of 3)

Key Stock/Criteria	Projected Ocean Escapement ^{b/} or Other Criteria (Council Area Impacts in Parenth)			Spawner Objective or Other Comparative Standard as Noted
	Alternative I	Alternative II	Alternative III	
CHINOOK				
Columbia Upriver Brights	352.7	353.3	353.9	74.0 Minimum ocean escapement to attain 60.0 adults over McNary Dam, with normal distribution and no mainstem harvest.
Mid-Columbia Brights	90.6	90.7	90.9	11.0 Minimum ocean escapement to attain 4.7 adults for Bonneville Hatchery and 2.0 for Little White Salmon Hatchery egg-take, assuming average conversion and no mainstem harvest.
Columbia Lower River Hatchery Tules	126.4	129.0	133.8	23.8 Minimum ocean escapement to attain 12.6 adults for hatchery egg-take, with average conversion and no lower river mainstem or tributary harvest.
Columbia Lower River Natural Tules (threatened)	41.8%	40.6%	38.1%	≤ 41.0% Total adult equivalent fishery exploitation rate (2012 NMFS ESA guidance).
Columbia Lower River Wild ^{c/} (threatened)	16.1	16.2	16.2	6.9 Minimum ocean escapement to attain MSY spawner goal of 5.7 for N. Lewis River fall Chinook (NMFS ESA consultation standard).
Spring Creek Hatchery Tules	59.9	61.4	65.2	8.2 Minimum ocean escapement to attain 7.0 adults for Spring Creek Hatchery egg-take, assuming average conversion and no mainstem harvest.
Snake River Fall (threatened) SRFI	50.3%	47.4%	41.8%	≤ 70.0% Of 1988-1993 base period exploitation rate for all ocean fisheries (NMFS ESA consultation standard).
Klamath River Fall	86.3	86.3	86.3	≥ 86.3 2012 preseason ACL.
Federally recognized tribal harvest	50.0%	50.0%	50.0%	50.0% Equals 161.2, 158.9, and 159.3 (thousand) adult fish for Yurok and Hoopa Valley tribal fisheries.
Spawner Reduction Rate	68.0%	68.0%	68.0%	≤ 68.0% FMP; equals 183.4, 183.4, and 183.4 (thousand) fewer natural area adult spawners due to fishing.
Adult river mouth return	381.0	383.5	382.9	NA Total adults.
Age 4 ocean harvest rate	15.9%	15.4%	15.6%	≤ 16.0% NMFS ESA consultation standard for threatened California Coastal Chinook.
KMZ sport fishery share	10.0%	10.1%	8.9%	No Council guidance for 2012.
River recreational fishery share	41.2%	44.8%	44.1%	NA Equals 66.4, 71.2, and 70.2 (thousand) adult fish for recreational inriver fisheries.
Sacramento River Winter (endangered)	13.7%	13.7%	13.2%	≤ 13.7% Age-3 ocean impact rate in fisheries south of Pt. Arena. In addition, the following season restrictions apply: <u>Recreational</u> - 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. <u>Commercial</u> - 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. Minimum size limit ≥ 26 inches total length (NMFS 2012 ESA Guidance).

TABLE 5. Projected key stock escapements (thousands of fish) or management criteria for 2012 ocean fishery Alternatives adopted by the Council.^{a/} (Page 2 of 3)

Key Stock/Criteria	Projected Ocean Escapement ^{b/} or Other Criteria (Council Area Impacts in Parend)			Spawner Objective or Other Comparative Standard as Noted
	Alternative I	Alternative II	Alternative III	
Sacramento River Fall	455.9	436.6	466.6	≥ 245.82 2012 preseason ACL and minimum spawners under default rebuilding plan. ≥ 286.79 Minimum spawners under alternative rebuilding plan control rule.
Sacramento Index Exploitation Rate	44.4%	46.7%	43.1%	≤ 70.0% F _{ACL} exploitation rate under the default rebuilding plan control rule. ≤ 65.0% Maximum exploitation rate under the alternative rebuilding plan control rule.
Projected 3-year geometric mean	186.6	184.0	188.1	≥ 122.0 Adult spawners: rebuilding target for the one year rebuilding period.
Ocean commercial impacts	189.4	212.9	180.7	All alternatives include fall (Sept-Dec) 2011 impacts (1.8 thousand SRFC).
Ocean recreational impacts	99.8	98.8	96.1	All alternatives include fall 2011 impacts (6.6 thousand SRFC).
River recreational impacts	74.2	71.1	76.0	No guidance in 2012.
Hatchery spawner goal	Met	Met	Met	22.0 Aggregate number of adults to achieve egg take goals at Coleman, Feather River, and Nimbus hatcheries.
COHO				
Interior Fraser (Thompson River)	12.0% (5.3%)	11.3% (4.6%)	10.7% (4.0%)	≤ 10.0% 2012 Southern U.S. exploitation rate ceiling; 2002 PSC coho agreement.
Skagit	32.6% (5.0%)	32.0% (4.3%)	31.5% (3.7%)	≤ 35.0% 2012 total exploitation rate ceiling; FMP matrix ^{d/}
Stillaguamish	29.6% (3.5%)	29.2% (3.0%)	28.8% (2.5%)	≤ 50.0% 2012 total exploitation rate ceiling; FMP matrix ^{d/}
Snohomish	30.4% (3.5%)	30.0% (3.0%)	29.6% (2.5%)	≤ 40.0% 2012 total exploitation rate ceiling; FMP matrix ^{d/}
Hood Canal	47.2% (5.3%)	46.8% (4.6%)	46.4% (4.0%)	≤ 65.0% 2012 total exploitation rate ceiling; FMP matrix ^{d/}
Strait of Juan de Fuca	15.3% (4.2%)	14.7% (3.6%)	14.3% (3.2%)	≤ 40.0% 2012 total exploitation rate ceiling; FMP matrix ^{d/}
Quillayute Fall	31.2	31.4	31.6	6.3 FMP MSY adult spawner estimate ^{d/} . Value depicted is ocean escapement.
Hoh	12.1	12.3	12.5	2.5 FMP MSY adult spawner estimate ^{d/} . Value depicted is ocean escapement.
Queets Wild	29.0	29.5	30.1	5.8 FMP MSY adult spawner estimate ^{d/} . Value depicted is ocean escapement.
Grays Harbor	136.6	137.8	138.8	24.4 FMP MSY adult spawner estimate ^{d/} . Value depicted is ocean escapement.
Lower Columbia River Natural (threatened)	12.0%	10.5%	8.8%	≤ 15.0% Total marine and mainstem Columbia River fishery exploitation rate (2012 NMFS ESA guidance). Value depicted is ocean fishery exploitation rate only.
Upper Columbia ^{e/}	>50%	>50%	>50%	≥ 50% Minimum percentage of the run to Bonneville Dam.
Columbia River Hatchery Early	173.0	178.7	187.6	36.7 Minimum ocean escapement to attain hatchery egg-take goal of 14.2 early adult coho, with average conversion and no mainstem or tributary fisheries.
Columbia River Hatchery Late	53.9	57.3	61.5	9.6 Minimum ocean escapement to attain hatchery egg-take goal of 6.2 late adult coho, with average conversion and no mainstem or tributary fisheries.
Oregon Coastal Natural	12.0%	10.9%	11.5%	≤ 15.0% Marine and freshwater fishery exploitation rate (NMFS ESA consultation standard).
Southern Oregon/Northern California Coast (threatened)	5.2%	5.1%	5.2%	≤ 13.0% Marine fishery exploitation rate for R/K hatchery coho (NMFS ESA consultation standard).

TABLE 5. Projected key stock escapements (thousands of fish) or management criteria for 2012 ocean fishery Alternatives analyzed by the STT.^{a/} (Page 3 of 3)

a/ Projections in the table assume a WCVI mortality for coho of the 2011 preseason level. Chinook fisheries in Southeast Alaska, North Coast BC, and WCVI troll and outside sport fisheries were assumed to have the same exploitation rates as expected preseason in 2011, as modified by the 2008 PST agreement. Assumptions for these Chinook fisheries will be changed prior to the April meeting when allowable catch levels for 2012 under the PST are known.

b/ Ocean escapement is the number of salmon escaping ocean fisheries and entering freshwater with the following clarifications. Ocean escapement for Puget Sound stocks is the estimated number of salmon entering Area 4B that are available to U.S. net fisheries in Puget Sound and spawner escapement after impacts from the Canadian, U.S. ocean, and Puget Sound troll and recreational fisheries have been deducted. Numbers in parentheses represent Council area exploitation rates for Puget sound coho stocks. For Columbia River early and late coho stocks, ocean escapement represents the number of coho after the Buoy 10 fishery. Exploitation rates for LCN coho include all marine impacts prior to the Buoy 10 fishery. Exploitation rates for OCN coho include impacts of freshwater fisheries.

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. Total exploitation rate includes Alaskan, Canadian, Council area, Puget Sound, and freshwater fisheries and is calculated as total fishing mortality divided by total fishing mortality plus spawning escapement. These total exploitation rates reflect the initial base package for inside fisheries developed by state and tribal comanagers. It is anticipated that total exploitation rates will be adjusted by state and tribal comanagers during the preseason planning process to comply with stock specific exploitation rate constraints.

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

TABLE 6. Preliminary projections of Chinook and coho harvest impacts for 2012 ocean salmon fishery management Alternatives adopted by the Council. (Page 1 of 2)

Area and Fishery	2012 Catch Projection			2012 Bycatch Mortality ^{a/} Projection			2012 Bycatch Projection ^{b/}			Observed in 2011	
	I	II	III	I	II	III	I	II	III	Catch	Bycatch Mortality
OCEAN FISHERIES^{c/}:											
CHINOOK (thousands of fish)											
NORTH OF CAPE FALCON											
Treaty Indian Ocean Troll	55.0	50.0	40.0	6.7	6.0	4.7	18.1	16.0	12.7	34.6	4.4
Non-Indian Commercial Troll	47.5	42.5	32.5	10.6	9.3	7.5	34.8	30.4	24.7	29.7	6.9
Recreational	51.5	45.5	32.5	6.9	5.9	3.4	28.2	24.4	14.6	30.8	3.7
CAPE FALCON TO HUMBUG MT.											
Commercial Troll	234.0	197.6	197.9	72.7	61.4	61.5	218.5	184.4	184.7	27.8	3.7
Recreational	16.1	16.0	8.2	3.1	3.1	1.6	7.9	7.9	4.4	2.6	0.2
HUMBUG MT. TO HORSE MT.											
Commercial Troll	7.1	5.1	10.7	2.2	3.3	3.8	6.7	10.4	11.4	3.7	1.8 ^{d/}
Recreational	45.6	41.8	34.9	8.8	8.1	6.8	38.6	35.4	29.5	10.8	3.7 ^{d/}
SOUTH OF HORSE MT.											
Commercial	230.4	249.3	222.8	71.6	78.2	69.6	215.1	235.1	209.2	67.4	20.9 ^{d/}
Recreational	102.3	97.9	100.2	19.9	19.0	19.5	74.9	71.7	73.4	39.2	10.2 ^{d/}
TOTAL OCEAN FISHERIES											
Commercial Troll	574.1	544.5	503.9	163.9	158.3	147.2	493.1	476.4	442.8	163.2	37.8
Recreational	215.5	201.2	175.8	38.8	36.2	31.3	149.6	139.4	121.8	83.4	17.8
INSIDE FISHERIES:											
Area 4B	-	-	-	-	-	NA	-	-	NA	-	-
Buoy 10	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.9	1.1 ^{d/}

TABLE 6. Preliminary projections of Chinook and coho harvest impacts for 2012 ocean salmon fishery management Alternatives adopted by the Council. (Page 2 of 2)

Area and Fishery	2012 Catch Projection			2012 Bycatch Mortality ^{a/} Projection			2012 Bycatch Projection ^{b/}			Observed in 2011	
	I	II	III	I	II	III	I	II	III	Catch	Bycatch Mortality
COHO (thousands of fish)											
NORTH OF CAPE FALCON											
Treaty Indian Ocean Troll ^{e/}	55.0	47.5	40.0	3.7	3.5	2.9	6.5	6.6	5.4	13.6	1.0
Non-Indian Commercial Troll ^{e/}	13.6	12.0	10.4	13.4	12.2	9.1	46.4	42.3	30.9	3.5	2.4
Recreational	71.4	63.0	54.6	19.8	17.3	14.2	90.6	78.5	61.2	45.6	13.6
SOUTH OF CAPE FALCON											
Commercial Troll	-	-	-	8.0	7.8	8.3	30.6	30.0	31.8	0.0	9.9
Recreational ^{e/}	19.0	14.0	10.0	13.5	12.2	7.8	67.8	62.7	41.7	13.1	10.3
TOTAL OCEAN FISHERIES											
Commercial Troll	68.6	59.5	50.4	25.1	23.5	20.3	83.5	78.9	68.1	17.1	13.3
Recreational	90.4	77.0	64.6	33.3	29.5	22.0	158.4	141.2	102.9	58.7	24.0
INSIDE FISHERIES:											
Area 4B ^{e/}	-	-	4.0	-	-	1.1	-	-	7.2	-	-
Buoy 10	7.6	8.3	9.0	1.9	2.0	2.1	7.6	8.1	8.3	7.6	2.3 ^{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: 16% (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 2012 ocean fisheries management Alternatives adopted by the Council.

Fishery	Exploitation Rate (Percent)											
	LCN Coho			OCN Coho			RK Coho			LCR Tule		
	I	II	III	I	II	III	I	II	III	I	II	III
SOUTHEAST ALASKA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	2.6%	2.7%
BRITISH COLUMBIA	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	16.0%	16.0%	16.3%
PUGET SOUND/STRAIT	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.4%	0.4%	0.4%
NORTH OF CAPE FALCON												
Treaty Indian Ocean Troll	2.4%	2.1%	1.8%	0.6%	0.5%	0.4%	0.0%	0.0%	0.0%	5.3%	4.8%	3.7%
Recreational	5.1%	4.5%	3.8%	1.0%	0.8%	0.7%	0.1%	0.0%	0.0%	3.0%	2.7%	2.1%
Non-Indian Troll	1.8%	1.6%	1.2%	0.5%	0.5%	0.3%	0.0%	0.0%	0.0%	5.3%	5.0%	3.9%
SOUTH OF CAPE FALCON												
Recreational:												
Cape Falcon to Humbug Mt.	1.4%	1.1%	0.8%	2.8%	2.1%	3.0%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%
Humbug Mt. OR/CA border (KMZ)	0.1%	0.1%	0.0%	0.3%	0.3%	0.2%	0.6%	0.7%	0.4%			
OR/CA border to Horse Mt. (KMZ)	0.1%	0.1%	0.0%	0.4%	0.4%	0.3%	1.8%	1.7%	1.6%			
Fort Bragg	0.0%	0.0%	0.0%	0.3%	0.3%	0.3%	1.0%	1.0%	1.0%			
South of Pt. Arena	0.0%	0.0%	0.0%	0.3%	0.3%	0.3%	0.6%	0.6%	0.6%	2.5%	2.1%	1.7%
Troll:												
Cape Falcon to Humbug Mt.	0.7%	0.6%	0.6%	0.8%	0.8%	0.8%	0.1%	0.1%	0.1%			
Humbug Mt. OR/CA border (KMZ)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
OR/CA border to Horse Mt. (KMZ)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%			
Fort Bragg	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.4%	0.2%	0.8%			
South of Pt. Arena	0.0%	0.0%	0.0%	0.3%	0.4%	0.2%	0.2%	0.3%	0.2%			
BUOY 10	0.8%	0.8%	0.9%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	6.6%	6.8%	7.1%
ESTUARY/FRESHWATER	N/A	N/A	N/A	4.2%	4.3%	4.3%	0.2%	0.2%	0.2%			
TOTAL^{a/}	12.0%	10.5%	8.8%	12.0%	10.9%	11.5%	5.2%	5.1%	5.2%	41.8%	40.6%	38.1%

a/ Totals do not include estuary/freshwater or Buoy 10 for LCN coho and RK coho.

TABLE 8. Projected coho mark rates for 2012 fisheries under base period fishing patterns (percent marked).

Area	Fishery	June	July	August	Sept
Canada					
Johnstone Strait	Recreational	-	34%	35%	-
West Coast Vancouver Island	Recreational	39%	21%	14%	13%
North Georgia Strait	Recreational	55%	55%	55%	49%
South Georgia Strait	Recreational	52%	57%	50%	53%
Juan de Fuca Strait	Recreational	49%	50%	47%	46%
Johnstone Strait	Troll	63%	52%	38%	49%
NW Vancouver Island	Troll	30%	27%	27%	28%
SW Vancouver Island	Troll	43%	39%	40%	42%
Georgia Strait	Troll	62%	62%	62%	58%
Puget Sound					
Strait of Juan de Fuca (Area 5)	Recreational	50%	49%	47%	48%
Strait of Juan de Fuca (Area 6)	Recreational	51%	48%	48%	46%
San Juan Island (Area 7)	Recreational	54%	55%	57%	42%
North Puget Sound (Areas 6 & 7A)	Net	-	45%	53%	51%
Council Area					
Neah Bay (Area 4/4B)	Recreational	42%	49%	47%	51%
LaPush (Area 3)	Recreational	50%	48%	50%	39%
Westport (Area 2)	Recreational	54%	53%	48%	40%
Columbia River (Area 1)	Recreational	62%	59%	54%	57%
Tillamook	Recreational	49%	44%	37%	21%
Newport	Recreational	44%	38%	35%	21%
Coos Bay	Recreational	31%	27%	18%	8%
Brookings	Recreational	24%	16%	14%	7%
Neah Bay (Area 4/4B)	Troll	47%	47%	46%	41%
LaPush (Area 3)	Troll	44%	49%	44%	44%
Westport (Area 2)	Troll	42%	46%	47%	45%
Columbia River (Area 1)	Troll	53%	53%	47%	50%
Tillamook	Troll	47%	43%	42%	38%
Newport	Troll	42%	40%	35%	32%
Coos Bay	Troll	30%	28%	23%	13%
Brookings	Troll	19%	22%	24%	38%
Columbia River					
Buoy 10	Recreational	-	-	-	59%

TABLE 9. Preliminary projected exvessel value under Council-adopted 2012 non-Indian commercial troll regulatory Alternatives compared to 2011 and the 2007-2011 average (inflation adjusted).

Management Area	Alternative	Exvessel Value (thousands of dollars) ^{a/}				
		2012 Projected ^{b/}	2011 Actual	Percent Change from 2011	2007-2011 Average ^{c/}	Percent Change From 2007-2011 Average
North of Cape Falcon	I	3,122	1,903	+64%	1,988	+57%
	II	2,792		+47%		+40%
	III	2,149		+13%		+8%
Cape Falcon to Humbug Mt.	I	17,394	2,073	+739%	1,344	+1,195%
	II	14,685		+608%		+993%
	III	14,706		+609%		+995%
Humbug Mt. to Horse Mt.	I	263	137	+92%	149	+77%
	II	190		+38%		+27%
	III	396		+188%		+166%
Horse Mt. to Pt. Arena	I	5,447	2,690	+103%	1,060	+414%
	II	3,905		+45%		+269%
	III	5,790		+115%		+446%
South of Pt. Arena	I	12,729	2,387	+433%	1,819	+600%
	II	16,237		+580%		+792%
	III	11,666		+389%		+541%
Total South of Cape Falcon	I	35,833	7,287	+392%	4,371	+720%
	II	35,016		+381%		+701%
	III	32,557		+347%		+645%
West Coast Total	I	38,956	9,191	+324%	6,359	+513%
	II	37,807		+311%		+495%
	III	34,707		+278%		+446%

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

b/ Dollar value estimates are based on expected catches in the Council management area, 2011 exvessel prices and 2011 average weight per fish.

c/ Values are inflation-adjusted to 2011 dollars.

TABLE 10. Preliminary projected angler trips and coastal community income impacts generated under Council-adopted 2012 recreational ocean salmon fishery regulatory Alternatives compared to 2011 and the 2007-2011 average (inflation adjusted).

Management Area	Alternative	Angler Trips (thousands)			Community Income Impacts (thousands of dollars) ^{a/}			Percent Change in Income Impacts	
		Estimates Based on the Options	2011 Actual	2007-2011 Avg.	Estimates Based on the Options	2011 Actual	2007-2011 Avg.	Compared to 2011 Actual	Compared to 2007-2011 Avg.
North of Cape Falcon	I	123	79	81	11,772	7,539	7,991	+56%	+47%
	II	105			10,046			+33%	+26%
	III	73			7,034			-7%	-12%
Cape Falcon to Humbug Mt.	I	52	35	45	3,179	2,166	2,765	+47%	+15%
	II	52			3,179			+47%	+15%
	III	20			1,205			-44%	-56%
Humbug Mt. to Horse Mt.	I	44	21	16	2,358	1,142	833	+106%	+183%
	II	41			2,214			+94%	+166%
	III	34			1,860			+63%	+123%
Horse Mt. to Pt. Arena	I	22	14	8	1,668	1,108	594	+69%	+181%
	II	21			1,657			+65%	+179%
	III	21			1,646			+62%	+177%
South of Pt. Arena	I	107	62	34	8,779	5,202	2,753	+69%	+219%
	II	105			8,601			+65%	+212%
	III	103			8,424			+62%	+206%
Total South of Cape Falcon	I	224	132	102	15,984	9,618	6,944	+66%	+130%
	II	219			15,651			+63%	+125%
	III	178			13,136			+37%	+89%
West Coast Total	I	347	211	183	27,756	17,156	14,935	+62%	+86%
	II	324			25,698			+50%	+72%
	III	252			20,170			+18%	+35%

a/ Income impacts are not comparable to the exvessel values shown in Table 9. All dollar values are inflation-adjusted to 2011 dollars.

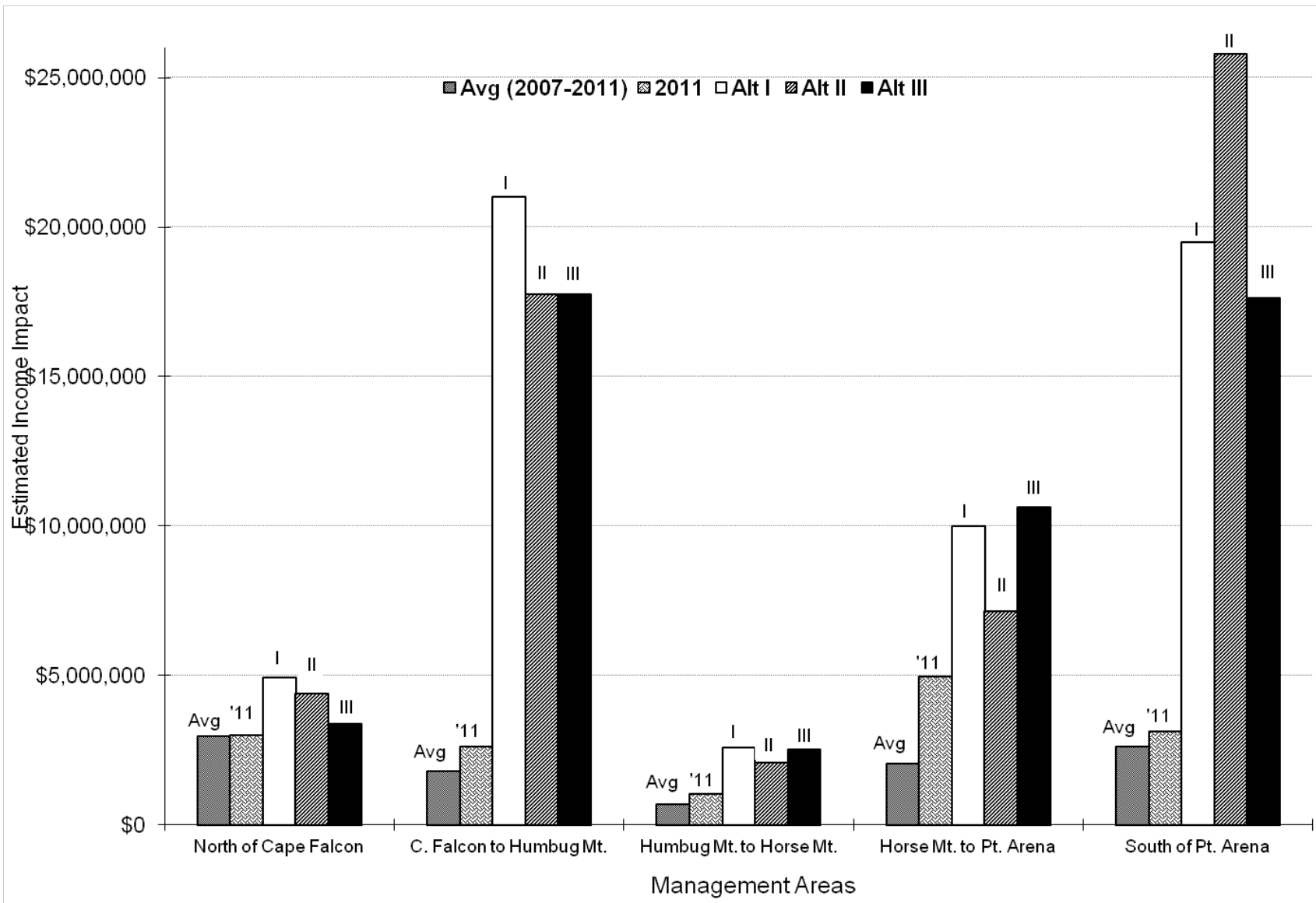


FIGURE 1. Projected community income impacts associated with the Council adopted 2012 commercial fishery Alternatives compared to 2011 and the 2007-2011 average in real (inflation adjusted) dollars.

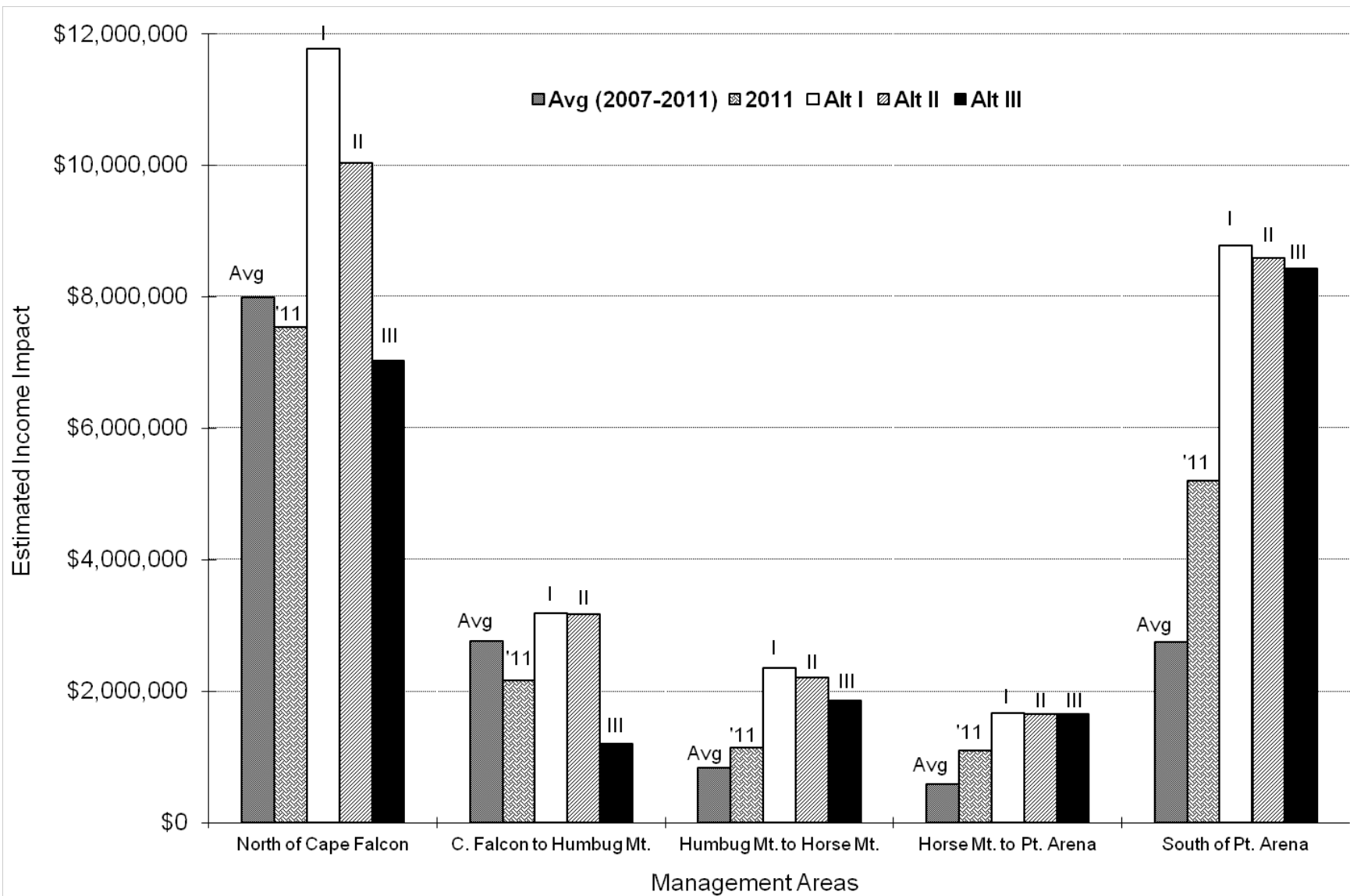


FIGURE 2. Projected community income impacts associated with the Council adopted 2012 recreational fishery Alternatives compared to 2011 and the 2007-2011 average in real (inflation adjusted) dollars.

APPENDIX A: IMPACTS AND HARVEST BY AREA AND MONTH FOR AGE-3 SACRAMENTO WINTER CHINOOK, AGE-3 AND AGE-4 KLAMATH RIVER FALL CHINOOK

TABLE A-1. Sacramento River Winter Chinook age-3 ocean impact rate south of Pt. Arena by fishery and Alternative.

Commercial									
Alternative I									
Port Area	Apr	May	Jun	2012		Sep	Oct	Nov	Year Total
				Jul	Aug				
SF	NA	0.24	0.28	0.75	0.14	0.01	NA	NA	1.41
MO	NA	0.06	0.46	0.66	0.14	0.00	NA	NA	1.32
Total	0.00	0.30	0.74	1.41	0.28	0.01	0.00	0.00	2.73
Alternative II									
Port Area	Apr	May	Jun	2012		Sep	Oct	Nov	Year Total
				Jul	Aug				
SF	NA	0.24	0.73	1.07	0.14	0.01	0.00	NA	2.18
MO	NA	0.06	0.75	0.72	0.14	0.00	NA	NA	1.67
Total	0.00	0.30	1.47	1.79	0.28	0.01	0.00	0.00	3.85
Alternative III									
Port Area	Apr	May	Jun	2012		Sep	Oct	Nov	Year Total
				Jul	Aug				
SF	NA	0.24	0.18	0.68	0.14	0.01	NA	NA	1.24
MO	NA	0.06	0.18	0.65	0.15	0.00	NA	NA	1.03
Total	0.00	0.30	0.36	1.32	0.28	0.01	0.00	0.00	2.27
Recreational									
Alternative I									
Port Area	Apr	May	Jun	2012		Sep	Oct	Nov	Year Total
				Jul	Aug				
SF	0.19	0.44	0.96	2.01	0.58	0.01	0.20	0.05	4.44
MO	0.93	0.69	1.23	3.29	0.25	0.17	0.00	NA	6.56
Total	1.12	1.13	2.20	5.30	0.83	0.18	0.21	0.05	11.01
Alternative II									
Port Area	Apr	May	Jun	2012		Sep	Oct	Nov	Year Total
				Jul	Aug				
SF	0.19	0.44	0.96	1.58	0.58	0.01	0.18	NA	3.95
MO	0.93	0.69	1.23	2.64	0.25	0.13	NA	NA	5.87
Total	1.12	1.13	2.20	4.22	0.83	0.14	0.18	0.00	9.82
Alternative III									
Port Area	Apr	May	Jun	2012		Sep	Oct	Nov	Year Total
				Jul	Aug				
SF	0.19	0.44	0.96	2.09	0.58	0.01	0.09	NA	4.38
MO	0.93	0.69	1.23	3.43	0.25	0.05	NA	NA	6.58
Total	1.12	1.13	2.20	5.52	0.83	0.07	0.09	0.00	10.95

SF = Pt. Arena to Pigeon Pt. (San Francisco)

MO = Pigeon Pt. to the U.S./Mexico Border (Monterey)

TABLE A-2. Klamath River fall Chinook **age-3 ocean HARVEST** by fishery and alternative.

Commercial										
Alternative I										
Port Area	Fall 2011		Mar	Summer 2012					Summer Total	Year Total
	Sept	Oct-Dec		Apr	May	Jun	Jul	Aug		
NO				57	89	85	478	1,872	2,581	2,581
CO				74	361	588	3,336	10,951	15,310	15,310
KO					48	503	630	558	1,739	1,739
KC										
FB							12,904	12,920	25,824	25,824
SF					3,151	2,836	11,297	1,843	19,127	19,127
MO					120	702	1,304		2,126	2,126
Total				131	3,769	4,714	29,949	28,143	66,706	66,706

Alternative II										
Port Area	Fall 2011		Mar	Summer 2012					Summer Total	Year Total
	Sep	Oct-Dec		Apr	May	Jun	Jul	Aug		
NO				57	63	65	369	1,534	2,088	2,088
CO				74	256	445	2,578	8,974	12,327	12,327
KO					34	286	390	457	1,167	1,167
KC										
FB								12,978	12,978	12,978
SF					3,151	7,451	16,213	1,851	28,666	28,666
MO					120	1,843	1,433		3,396	3,396
Total				131	3,624	10,089	20,984	25,795	60,623	60,623

Alternative III										
Port Area	Fall 2011		Mar	Summer 2012					Summer Total	Year Total
	Sep	Oct-Dec		Apr	May	Jun	Jul	Aug		
NO				57	63	65	373	1,531	2,089	2,089
CO				74	256	446	2,604	8,959	12,339	12,339
KO					34	267	361	365	1,027	1,027
KC										
FB							15,828	12,956	28,784	28,784
SF					3,151	1,776	10,217	1,848	16,992	16,992
MO					120	439	1,277		1,836	1,836
Total				131	3,624	2,992	30,660	25,660	63,067	63,067

Recreational												
Alternative I												
Port Area	Fall 2011			Jan-Feb	Mar	Summer 2012					Summer Total	Year Total
	Sep	Oct	Nov-Dec			Apr	May	Jun	Jul	Aug		
NO								1	145	23	169	169
CO							25	60	398	130	613	613
KO							46	328	691	1,123	2,188	2,188
KC								1,624	1,793	1,635	1,280	6,332
FB							38	363	858	1,190	286	2,735
SF							301	182	763	799	35	2,080
MO							219	50	95	185	23	572
Total							558	2,291	3,898	5,044	2,899	14,690

Alternative II												
Port Area	Fall 2011			Jan-Feb	Mar	Summer 2012					Summer Total	Year Total
	Sep	Oct	Nov-Dec			Apr	May	Jun	Jul	Aug		
NO								1	144	23	168	168
CO							25	60	395	130	610	610
KO							30	329	687	1,128	2,174	2,174
KC								1,037	1,794	1,625	1,285	5,741
FB							38	363	859	1,188	287	2,735
SF							301	182	764	774	35	2,056
MO							219	50	95	179	23	566
Total							558	1,688	3,900	4,993	2,912	14,051

Alternative III												
Port Area	Fall 2011			Jan-Feb	Mar	Summer 2012					Summer Total	Year Total
	Sep	Oct	Nov-Dec			Apr	May	Jun	Jul	Aug		
NO								1		3	23	27
CO							25	60	80	130	295	295
KO							10	339	715	1,161	2,225	2,225
KC								289	1,742	1,592	1,245	4,868
FB							38	363	859	1,200	286	2,746
SF							301	182	764	806	35	2,088
MO							219	50	95	187	23	574
Total							558	920	3,860	4,583	2,904	12,825

TABLE A-3. Klamath River fall Chinook **age-4 ocean HARVEST** by fishery and alternative. In 2012, a harvest of 12,729 age-4 KRFC equals a 16% ocean harvest rate.

Commercial											Recreational													
Alternative I											Alternative I													
Port Area	Fall 2011		Summer 2012						Summer Total	Year Total	Port Area	Fall 2011			Summer 2012						Summer Total	Year Total		
	Sep	Oct-Dec	Mar	Apr	May	Jun	Jul	Aug				Sep	Oct	Nov-Dec	Jan-Feb	Mar	Apr	May	Jun	Jul	Aug			
NO				135	272	96	100	282	885	885	NO									10	1	11	11	
CO				319	390	312	529	832	2,382	2,382	CO							2	4	27	8	41	41	
KO					37	122	97	49	305	305	KO	36	17					3	23	47	167	240	293	
KC											KC							112	121	108	217	558	558	
FB	16							2,522	937	3,459	FB						3	25	58	79	18	183	183	
SF					719	741	1,905	109	3,474	3,474	SF						23	14	53	53	2	145	145	
MO					347	214	287	8	856	856	MO						17	4	7	12	1	41	41	
Total	16			454	1,765	1,484	5,439	2,217	11,359	11,375	Total	36	17				42	160	265	336	415	1,218	1,271	
Alternative II											Alternative II													
Port Area	Fall 2011		Summer 2012						Summer Total	Year Total	Port Area	Fall 2011			Summer 2012						Summer Total	Year Total		
	Sep	Oct-Dec	Mar	Apr	May	Jun	Jul	Aug				Sep	Oct	Nov-Dec	Jan-Feb	Mar	Apr	May	Jun	Jul	Aug			
NO				135	251	89	94	278	847	847	NO									10	1	11	11	
CO				319	361	289	500	820	2,289	2,289	CO							2	4	26	8	40	40	
KO					34	85	73	48	240	240	KO	36	17					2	23	46	168	239	292	
KC											KC							72	121	105	218	516	516	
FB	16							942	942	958	FB						3	25	58	77	18	181	181	
SF					719	1,945	2,681	110	5,455	5,455	SF						23	14	53	52	2	144	144	
MO					347	561	310	8	1,226	1,226	MO						17	4	7	12	1	41	41	
Total	16			454	1,713	2,968	3,657	2,205	10,997	11,013	Total	36	17				42	119	265	328	417	1,171	1,224	
Alternative III											Alternative III													
Port Area	Fall 2011		Summer 2012						Summer Total	Year Total	Port Area	Fall 2011			Summer 2012						Summer Total	Year Total		
	Sep	Oct-Dec	Mar	Apr	May	Jun	Jul	Aug				Sep	Oct	Nov-Dec	Jan-Feb	Mar	Apr	May	Jun	Jul	Aug			
NO				135	251	89	98	277	850	850	NO										1	1	1	1
CO				319	361	289	517	818	2,304	2,304	CO							2	4	6	8	20	20	
KO					34	79	69	39	221	221	KO	36	17					1	23	47	167	238	291	
KC											KC							22	121	109	218	470	470	
FB	16							3,110	940	4,050	FB						3	25	58	80	18	184	184	
SF					719	464	1,732	109	3,024	3,024	SF						23	14	53	53	2	145	145	
MO					347	134	283	8	772	772	MO						17	4	7	12	1	41	41	
Total	16			454	1,713	1,055	5,808	2,191	11,221	11,237	Total	36	17				42	67	265	308	416	1,098	1,151	

APPENDIX B: NEPA AND ESA ANALYSES INCORPORATED BY REFERENCE

Several documents supporting the analyses of effects to the environment from the Alternatives have been incorporated by reference. Those documents are described and passages relevant to analyses contained in this EA are excerpted below.

NMFS 2003: West Coast Salmon Harvest Programmatic EIS

This document evaluates how NMFS reviews annual salmon fishery plans in three jurisdictions, the North Pacific Fishery Management Council for Southeast Alaska; the Pacific Fishery Management Council for the Washington, Oregon, and California coast; and *U.S. v. Oregon* for the Columbia River Basin. In general, NMFS seeks to implement fisheries that are consistent with a variety of statutory and legal obligations related to resource conservation, socioeconomic benefits associated with resource use, and treaty trust obligations. Fishery plans are developed annually within the context of framework plans to meet the year-specific circumstances related to the status of stocks affected by the fisheries. This final PEIS evaluates different ways to balance these objectives and different strategies that can be used that may provide better solutions for meeting the obligations and objectives of the respective framework plans. The alternatives considered in this final PEIS are programmatic in nature and are designed to provide an overview of fishery management methods and strategies that can be implemented as part of the annual planning processes.

This document includes the following statements relative to Council area salmon fisheries:

While the levels of salmon catch fluctuate from year to year, the amount of groundfish taken as incidental catch is very low so that changes in the salmon fishery do not substantially alter the projections for harvest-related mortality in the groundfish fishery.

Other Council managed species such as halibut, highly migratory species (draft FMP), and coastal pelagic species are also landed jointly with salmon. For all of these stocks, fish caught on the same trip with salmon are documented. Data on the commercial segment of these fisheries show the co-occurrence rates for salmon and these other Council-managed species is low, as well as for non-Council-managed species. Changes in the salmon fishery are not expected to have a substantial impact on the directed fisheries for the non-salmon stocks

The commercial troll fishery off the coasts of Washington, Oregon, and California is classified as a Category III fishery, indicating a remote or no likelihood of known incidental mortality or serious injury of marine mammals. In general, recreational fishery uses the same gear and techniques as the commercial fisheries and can be assumed to have similar rates of encounters and results.

After excluding ESA listed marine mammals, only three species of marine mammals are defined as strategic under MMPA within the coverage area: short-finned pilot whales, mesoplodont beaked whales, and Minke whales (Barlow et al. 1997). This strategic classification denotes that projected human-caused mortality exceeds the species' annual potential biological removal estimate under MMPA standards. As with ESA listed marine mammal species, there is no record of these three species being affected by the ocean salmon fisheries managed by the Council.

Steller sea lion interaction with the Pacific Coast salmon fisheries is rare and NMFS has determined mortality and serious injury incidental to commercial fishing operations would have a negligible effect. Available information indicates that Pacific Coast salmon fisheries are not likely to jeopardize the existence of the Guadalupe fur seal. No sea turtles have been reported

taken by the ocean salmon fisheries off Washington, Oregon, or California. NMFS has determined that commercial fishing by Pacific Coast fisheries would pose a negligible threat to the Pacific species.

Short-term effects on seabirds are minimal, if any. The types of vessels used in the fishery and the conduct of the vessels are not conducive to collisions or the introduction of rats other non-indigenous species to seabird breeding colonies. Anecdotal information suggests accidental bird encounters are a rare event for commercial and recreational ocean salmon fisheries (Council 1999a). Long-term effects on seabirds from the ocean salmon fisheries are also minimal.

The removal of adult salmon by the ocean fisheries is not considered to significantly affect the lower trophic levels or the overall marine ecosystem because salmon are not the only or primary predator in the marine environment.

PFMC 2006: EA for 2006 Ocean Salmon Management Measures

The 2006 regulations EA analyzes the environmental and socioeconomic impacts of proposed management measures for ocean salmon fisheries occurring off the coasts of Washington, Oregon, and California. The document evaluated the 2006 annual salmon ocean harvest management measures with respect to compliance with the terms of the Salmon FMP, obligations under the Pacific Salmon Treaty (PST), and the level of protection required by all consultation standards for salmon species listed under the ESA. The range of alternatives analyzed in the 2006 Regulations EA included the effects of three levels of *de minimis* fishing strategies on KRFC when the stock was projected to fall below the 35,000 natural spawner floor for the third consecutive year. The escapement floor for naturally spawning KRFC was projected to not be attained even with complete closure of ocean salmon fisheries between Cape Falcon, Oregon, and Point Sur, California; therefore, the management measures required implementation by emergency rule. The NMFS-recommended 2006 salmon fishery management measures did not completely close fisheries between Cape Falcon and Point Sur, but limited fisheries to provide a minimum of 21,100 natural spawning adult KRFC in 2006. The 2006 EA supported NMFS' Finding of No Significant Impacts (FONSI) for the 2006 ocean salmon regulations.

Appendix A of Amendment 14 (EFH Appendix A) describes salmon EFH and fishing and non-fishing impacts to this habitat. It found no evidence of direct gear effects on this habitat from Council-managed salmon fisheries. ... Because EFH impacts are extensively described and analyzed in EFH Appendix A, and this analysis demonstrates the fishery has no significant impacts, EFH will not be considered further in this environmental assessment.

Fisheries management can affect safety if, for example, season openings make it more likely that fishermen will have to go out in bad weather because fishing opportunities are limited. The EA incorporated into Amendment 8 to the Salmon FMP analyzed alternatives to adjust management measures if unsafe weather affected fishery access. The range of management measures considered for the proposed action would be within the range described in that EA. Since these types of potential impacts have been previously analyzed and found not to be significant, they are not discussed in this EA.

NMFS 2008: Biological Opinion on 2008 Ocean Fisheries Effects on Southern Resident Killer Whales

This document constitutes the National Marine Fisheries Service's (NMFS) biological opinion regarding the effects of the 2008-2009 Pacific coast salmon fisheries on the Southern Resident killer whale distinct population segment. The fisheries assessed by this Opinion are fisheries are managed under the

jurisdiction of the Pacific Fisheries Management Council (PFMC) and target primarily Chinook and coho salmon, and pink salmon.

After reviewing the current status of the endangered population of Southern Resident killer whales and their critical habitat, the environmental baseline for the action area, the effects of the proposed actions, and cumulative effects, it is NMFS's biological opinion that the proposed action is not likely to jeopardize the continued existence of the Southern Resident killer whales or adversely modify critical habitat.

APPENDIX C: PROPOSED REBUILDING ALTERNATIVES FOR SACRAMENTO RIVER FALL CHINOOK

Agenda Item G.3.b
 Supplemental STT Report
 March 2012

**SALMON TECHNICAL TEAM PROPOSED REBUILDING PLAN
 FOR SACRAMENTO RIVER FALL CHINOOK**

Sacramento River fall Chinook (SRFC) became overfished in 2010 when the stock failed to meet its conservation objective for three consecutive years (2007-2009). In June of 2011 the Council adopted Amendment 16 to the Salmon Fishery Management Plan (FMP) which established new status determination criteria. Under the new criteria, SRFC are determined to be overfished when the 3-year geometric mean spawning escapement falls below the minimum stock size threshold (MSST) of 91,500 adult natural and hatchery spawners, and the stock is determined to be subject to overfishing if the fishing mortality rate exceeds the maximum fishing mortality threshold (MFMT) of 78 percent. In the amended FMP, the default criterion for rebuilt status is when the 3-year geometric mean spawning escapement exceeds maximum sustainable yield spawning escapement (S_{MSY}). For SRFC, S_{MSY} is defined as 122,000 adult natural and hatchery spawners. Relevant escapement estimates and the 3-year geometric means are displayed below (Table 1).

Table 1. Sacramento River fall Chinook adult spawning escapement. Escapement is hatchery and natural combined, and the 3-year geometric mean is for run year and the two prior years. Because escapement occurs after the fishing season, when the MSST was not met for the third consecutive year in 2009, the stock triggered an overfishing concern in 2010. That same year, it met the current FMP criterion for being classified as overfished.

year	escapement	3-yr geometric mean
2007	91,374	215,097
2008	65,364	117,991
2009	40,873	62,498
2010	124,270	69,244
2011	114,741	83,530

The STT proposed rebuilding plan is required to include the following components:

- (1) an evaluation of the roles of fishing, marine and freshwater survival in the overfished determination,
- (2) consideration of any modifications to the rebuilt criterion,
- (3) recommendations for actions the Council could take to rebuild the stock to S_{MSY} including modifications to the control rule if any, and
- (4) specification of a rebuilding period.

Each of these components is addressed below.

Roles of Fishing, Marine, and Freshwater Survival

The status of SRFC was reviewed when SRFC failed to meet the conservation objective of 122,000 to 180,000 adult natural and hatchery spawners in 2007 and 2008 (Lindley et al. 2009). That report identified ocean conditions as the proximate cause of the collapse of SRFC, and that while freshwater habitat conditions and harvest both reduced the survival of SRFC, they were not directly responsible for the collapse. The review was updated by the Salmon Technical Team (STT) when SRFC triggered an overfishing concern by failing to meet the conservation objective again in 2009 (STT 2011). That report confirmed the conclusions of Lindley et al. (2009). While sufficient reductions in fishery impacts could have resulted in meeting the conservation objective in 2007, they could not have prevented the stock from falling below the MSST in 2008 and 2009 (Table 1).

Rebuilt Criterion

Because the default rebuilt criterion is based on S_{MSY} , which is the escapement level intended to maximize yield on a continuing basis, the STT does not believe that any modifications to the default rebuilt criterion are warranted. The STT recommends the Council adopt the default criteria of a 3-year geometric mean spawning escapement exceeding the S_{MSY} estimate of 122,000 adult natural and hatchery spawners.

Recommended Rebuilding Alternatives

The control rule in the FMP for managing fishery impacts constitutes a default rebuilding plan (status quo). Under this control rule, the stock is to be managed for an exploitation rate not to exceed 70 percent, while providing at least 122,000 natural and hatchery adult spawners. The control rule further defines allowable levels of *de minimis* fishing mortality when spawning escapement is projected to be below 122,000.

The STT considered two alternatives to the status quo: Alternative 1 is to set a minimum escapement target of the upper end of the conservation objective goal range (180,000) adult natural and hatchery spawners, while retaining the maximum allowable exploitation rate (F_{ACL}) at 70 percent. Alternative 2 is to retain the current minimum escapement of S_{MSY} , but limit the allowable total exploitation rate to 65 percent.

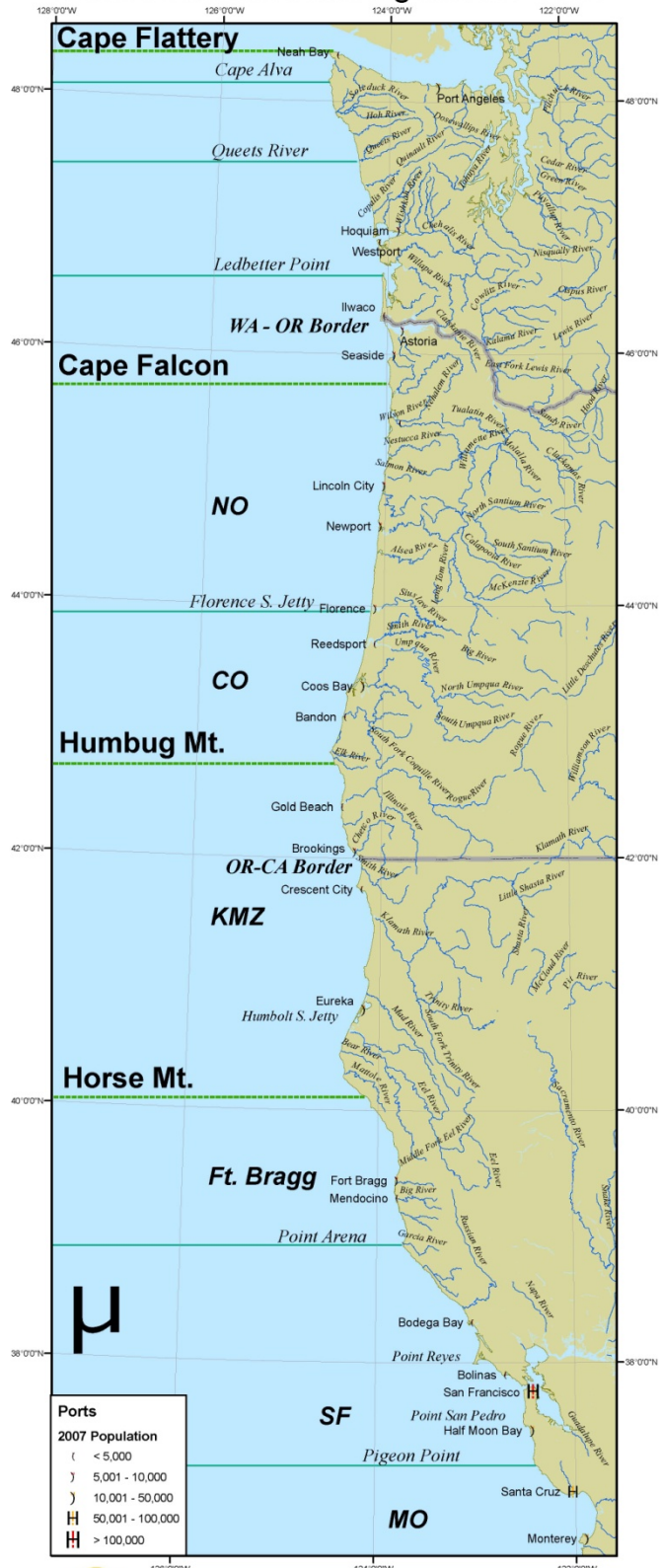
Given the high abundance forecast for SRFC in 2012, the alternative minimum escapement targets of Alternatives 1 and status quo would not constrain fisheries. The Sacramento Index forecast of 819,400 reduced by the F_{ACL} of 70 percent would be expected to result in 245,820 adult natural and hatchery spawners. Given the spawning escapements in 2010 and 2011, this would produce a 3-year geometric mean of 151,903. The reduced maximum harvest rate of Alternative 2 would result in an expected spawning escapement of 286,790, which would produce a 3-year geometric mean spawning escapement of 159,913.

Because differences between the alternatives are relatively minor given this year's circumstances, the STT recommends the status quo as the preferred alternative.

Rebuilding Period

Because the 2012 Sacramento Index forecast, fished at the highest allowable target exploitation rate (F_{ACL}), would result in a 3-year geometric mean spawning escapement well above the rebuilding criterion, each of the alternatives would be expected to have a greater than 50 percent probability of achieving the rebuilding criterion within one year. Status determinations are made annually when escapement estimates for the prior year first become available. One year is therefore the minimum time possible to achieve rebuilding. The STT specifies the rebuilding period to be one year, and concludes that this is the minimum.

Marine Fisheries Management Zones



0 25 50 100 km
 Projection: UTM Zone 10, NAD83

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 Fish Program
 Biological Data Systems
 Feb. 2009