

## 1.0 INTRODUCTION

This is the last in a series of three preseason reports prepared by the Pacific Fishery Management Council's (Council) Salmon Technical Team (STT) and staff. The reports document and help guide salmon fishery management in the exclusive economic zone (EEZ) from three to 200 nautical miles off the coasts of Washington, Oregon, and California, and within state territorial waters. This report summarizes the STT analysis of the 2007 ocean salmon fishery management measures adopted by the Council for submission to the U.S. Secretary of Commerce. This report is analogous to a description and analysis of a preferred alternative in a National Environmental Policy Act (NEPA) analysis. Together with the other preseason reports and the Review of 2006 Ocean Salmon Fisheries, this document supports a supplemental Finding of No Significant Impacts (FONSI) covering NEPA requirements for the 2007 ocean salmon fishery management measures.

## 2.0 SELECTION OF FINAL MANAGEMENT MEASURES

The following figures and tables describe the 2007 Council-adopted management measures:

- Table 1-Non-Indian commercial ocean salmon management measures, pages 14-18;
- Figure 1-Geographic outline of commercial troll (non-Indian) ocean salmon seasons, page 19;
- Table 2-Recreational ocean salmon management measures, pages 20-23;
- Figure 2-Geographic outline of recreational ocean salmon seasons, page 24;
- Table 3-Treaty Indian commercial ocean management measures, page 25; and
- Table 4-Allowable catch quotas for Chinook and coho, page 26.

In addition, Tables 5, 6, and 7 provide information on the biological impacts and landing estimates for the Council's management recommendations. Table 8 displays the expected mark (healed adipose fin clip) rate for coho encountered in mark-selective fisheries. Tables 9 and 10, and Figures 3 and 4, provide information on the economic impacts of the proposed fisheries.

The 2007 seasons are constrained primarily by: (1) endangered Sacramento River winter Chinook south of Point Arena; (2) Klamath River fall Chinook (KRFC) from Cape Falcon south to Point Sur; (3) threatened lower Columbia River (LCR) natural tulle fall Chinook north of the OR/CA border; (4) threatened Snake River wild fall Chinook north of Pigeon Point; (5) threatened LCR natural coho north of Humbug Mountain; and (6) Interior Fraser (Thompson River, B.C.) coho north of the Queets River, Washington. Coho retention fisheries operate under restrictions that permit retention only of marked coho, except for the Cape Falcon to Humbug Mt. commercial fishery and all treaty Indian ocean fisheries.

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

### 2.1 *Inseason Management*

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

Inseason actions that are anticipated for 2007 include, but are not limited to, the following possibilities:

1. Adjustments in landing limits and days open for non-Indian commercial fisheries.
2. Changing the days or number of days of fishing allowed per calendar week for recreational fisheries.
3. Transfer of coho quotas among recreational port areas north of Cape Falcon.

4. Trading portions of Chinook and coho quotas between recreational and non-Indian commercial sectors north of Cape Falcon.
5. Routine openings and closings, and other management measures associated with quota management, including modifying open areas, bag limits, species retention limits, and mark retention restrictions.
6. Closing recreational and commercial fisheries scheduled to open between February 1 and April 30, 2008 if necessary to meet 2008 management objectives.

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

## **2.2 State Waters Fisheries**

In addition to the seasons shown in Tables 1 and 2, it is anticipated the Oregon Department of Fish and Wildlife (ODFW) will permit Chinook only fall fisheries in certain areas within state waters. Potential seasons off the Oregon coast include commercial and recreational fisheries at the mouths of the Chetco and Elk Rivers and at the mouth of Tillamook Bay, and other appropriate terminal areas. Council intent generally advocates that state-water fisheries have the same basic regulations as adjacent Federal waters, particularly if open simultaneously; however, the Oregon State-water recreational fishery off Tillamook Bay may allow the use of barbed hooks to be consistent with inside regulations.

The State of Washington may also establish limited recreational fisheries in state waters if additional impacts on critical coho and/or Chinook stocks can be accommodated within management constraints.

## **3.0 SALMON FISHERY MANAGEMENT PLAN REQUIREMENTS**

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

Biological objectives for stocks originating in the Council area 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 (MSY), or exploitation rate limits designed to support recovery of depressed 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. The Council considers the ESA requirements sufficient to meet the intent of FMP conservation objectives for the annual management measures as well as the Magnuson-Stevens Act (MSA) overfishing provisions requiring rebuilding of depressed stocks to MSY levels. Section 4.0 of this document provides greater detail on ESA listed stocks, while impacts of the Council adopted salmon management measures on ESA listed stocks are included in Table 5.

The Salmon FMP requires compliance with relevant terms of the PST. Section 5.0 of this document provides greater detail on PST provisions and stocks, while impacts of the Council adopted salmon management measures on those stocks are included in 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. Among the annual agreements reached by the co-managers in the North of Falcon forum are conservation objectives for Puget Sound and Washington coastal stocks. These objectives can supersede the Salmon FMP conservation objectives for annual management measures and for triggering a Conservation Alert; however, they cannot be used in place of the FMP objectives for determination of an Overfishing Concern; nor can they supersede ESA consultation standards. In recent years, the annual agreed to conservation objectives for Puget Sound and Washington coastal coho have been based on the 2002 PSC coho management agreement 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% 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% of the harvest of KRFC, which is calculated as a harvest of KRFC equal to that taken in all non-Indian fisheries. The Council must account for all harvest impacts when assessing the achievement of KRFC conservation objectives.

In addition to the allocation objectives associated with sharing between treaty Indian and non-Indian sectors, the Salmon FMP includes formulas for sharing Chinook and coho quotas north of Cape Falcon between commercial and recreational sectors, and among recreational port areas, and for coho south of Cape Falcon between commercial and recreational sectors. The 2007 salmon management measures adopted by the Council meet the allocation requirements for fisheries north of Cape Falcon in the Salmon FMP. The allocation provisions for the area south of Cape Falcon are also met, although the available coho impacts are less than the minimum required for distribution of directed harvest to the commercial sector. The Salmon FMP allows flexibility to provide some directed harvest to the commercial sector during the annual preseason process.

#### 4.0 SPECIES LISTED UNDER THE ENDANGERED SPECIES ACT

Since 1989, NMFS listed the following 16 Evolutionarily Significant Units (ESUs) of salmon under the ESA:

Species	ESU	Status	Federal Register Notice
Chinook Salmon ( <i>O. tshawytscha</i> )	Sacramento River Winter	Endangered	70 FR 37160 6/28/05
	Snake River Fall	Threatened	70 FR 37160 6/28/05
	Snake River Spring/Summer	Threatened	70 FR 37160 6/28/05
	Puget Sound	Threatened	70 FR 37160 6/28/05
	Lower Columbia River	Threatened	70 FR 37160 6/28/05
	Upper Willamette River	Threatened	70 FR 37160 6/28/05
	Upper Columbia River Spring	Endangered	70 FR 37160 6/28/05
	Central Valley Spring	Threatened	70 FR 37160 6/28/05
	California Coastal	Threatened	70 FR 37160 6/28/05
Chum Salmon ( <i>O. keta</i> )	Hood Canal Summer-Run	Threatened	70 FR 37160 6/28/05
	Columbia River	Threatened	70 FR 37160 6/28/05
Coho Salmon ( <i>O. kisutch</i> )	Central California Coastal	Threatened	70 FR 37160 6/28/05
	S. Oregon/ N. California Coastal	Threatened	70 FR 37160 6/28/05
	Lower Columbia River	Threatened	70 FR 37160 6/28/05
Sockeye Salmon ( <i>O. nerka</i> )	Snake River	Endangered	70 FR 37160 6/28/05
	Ozette Lake	Threatened	70 FR 37160 6/28/05

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
March 8, 1996	Snake River Chinook and sockeye (until reinitiated)
April 28, 1999	Southern Oregon/ Northern California coastal coho, Central California coastal coho (until reinitiated) <sup>1/</sup>
April 28, 2000	Central Valley spring Chinook (until reinitiated)
April 27, 2001	Hood Canal summer chum 4(d) limit (until reinitiated)
April 30, 2001	Upper Willamette Chinook, Upper Columbia spring Chinook, Lake Ozette sockeye, ten steelhead ESUs and Columbia River chum (until reinitiated)
April 27, 2004	Sacramento River winter Chinook (April 30, 2010)
March 4, 2005	Puget Sound Chinook (April 30, 2010)
June 13, 2005	California coastal Chinook (until reinitiated)
Expected Prior to May 1, 2007	Lower Columbia River natural coho, Lower Columbia River Chinook

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.

NMFS, in a letter received by the Council on March 1, 2007, provided guidance on protective measures for species listed under the ESA during the 2007 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 2007 management season, as well as further guidance and recommendations for the 2007 management season.

The ESA consultation standards, exploitation rates, and other criteria, in place for the 2007 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 significant impact on Sacramento River winter Chinook, Central Valley spring Chinook, California Coastal Chinook, Snake River fall Chinook, lower Columbia River fall Chinook, and all of the coho stocks. Additional listed salmonid ESUs found within the Council area, but not significantly 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)
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Chum

Columbia River (threatened)	Hood Canal summer (threatened)
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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)

## 5.0 OBLIGATIONS UNDER THE PACIFIC SALMON TREATY

### 5.1 Chinook Salmon Management

Under the 1999 PST Agreement, Council fisheries are subject to the individual stock based management (ISBM) provisions of Annex 4, Chapter 3. These provisions require the AEQ exploitation rate by all U.S. fisheries south of the U.S./Canada border be reduced by 40% from the 1979-1982 base period for Chinook stocks failing to achieve escapement goals adopted by the Pacific Salmon Commission (PSC).

Many Chinook stocks of concern to the Council are affected by fisheries off Canada and Alaska. Maximum allowable catches by aggregate abundance based management (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% 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 Chinook FRAM to estimate total exploitation rate impacts from all marine fisheries (Table 5).

Key considerations for Canadian domestic fishery management for Chinook in 2007 include, (1) meeting domestic conservation obligations for WCVI, Strait of Georgia, and Fraser River stocks; (2) Chinook harvests by native fisheries; and (3) incidental impacts during commercial and native fisheries directed at pink, 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, Lower Strait of Georgia, and Fraser River Chinook and Interior Fraser (Thompson River) coho.

## *5.2 Coho Salmon Management*

In 2002, the PSC adopted a management plan for coho salmon originating in Washington and Southern British Columbia river systems. The plan is directed at the conservation of key management units, four from Southern British Columbia (Interior Fraser, Lower Fraser, Strait of Georgia Mainland, and Strait of Georgia Vancouver Island) and nine from Washington (Skagit, Stillaguamish, Snohomish, Hood Canal, Strait of Juan de Fuca, Quillayute, Hoh, Queets, and Grays Harbor). Exploitation rate limits for intercepting fisheries are established for individual management units through formulas specified in the 2002 PSC Coho 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 2007 are summarized in Table 5.

The categorical status of U.S. coho management units is reported to comply with obligations pursuant to the 2002 PSC Southern Coho Agreement. Categorical status is employed by the PST under the 2002 Coho Agreement 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 <20%), moderate (total exploitation rate 20%-40%), and abundant (total exploitation rate >40%). 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%; if two or more Washington coastal management units are in low status, the constraint becomes 10%. The minimum allowable exploitation rate by Canadian fisheries on U.S. coho management units is 10%.

Some confusion may arise from the methods employed to report the categorical status for Washington coastal coho management units. For these 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. Based on this methodology, the allowable total exploitation rate for the Queets coho management unit is zero; consequently, the categorical status is “low.” However, this should not be interpreted to indicate that the maximum allowable exploitation rate on the Queets coho management unit is zero. The exploitation rate could be as high as 42% and still result in a spawning escapement within the MSY escapement range.

Key considerations for Canadian fishery management for coho in 2007 are expected to include, (1) meeting domestic conservation obligations for Interior Fraser (including Thompson River) coho; (2) coho harvests by native fisheries; (3) incidental impacts during commercial and native fisheries directed at Chinook, pink, 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 3% maximum exploitation rate).

The projected status of Canadian coho management units in 2007 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 all 2007 U.S. fisheries south of the U.S./Canada border to a maximum of 10.0%.

## **6.0 IMPORTANT FEATURES OF THE ADOPTED MANAGEMENT MEASURES**

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

### **6.1 Commercial**

The reductions in fishing opportunity in the San Francisco area during May and June, and in the Monterey area during June, are designed to reduce impacts on KRFC while maximizing the number of open days during the summer months.

For the first time in more than twenty years, the Fort Bragg area will be open to commercial fishing during April. The fishery will have a quota of 2,000 Chinook with a landing and possession limit of 20 Chinook per vessel per day, and will be open Monday through Friday, April 9-27. The intent of this fishery is to explore whether fishing opportunity can be expanded in this area without impacting critical stocks. Genetic stock identification (GSI) samples will be collected to provide information on the catch stock composition. The Fort Bragg area will also be open Aug 1-29, in addition to the more traditional September 1-30 season.

The California KMZ September fishery opens on the 10<sup>th</sup> rather than the 1<sup>st</sup> to reduce fall impacts on KRFC.

Oregon KMZ fisheries are open April 10-29 and May 1-31, and monthly quota fisheries will occur during June through September. The small quota fisheries are intended to provide local fishing opportunity while discouraging high effort that could result in unexpectedly high impacts on KRFC. The September 6 start date is intended to avoid fall impacts on KRFC.

Central Oregon fisheries open April 10, and provide opportunity in all months through October. The short opening in September is intended to avoid impacts on LCR natural tule Chinook and on 2008 KRFC returns.

An all-salmon commercial fishery in the central Oregon area will be managed for a quota of 10,000 coho with a landing and possession limit of 50 coho per vessel per calendar week. The scheduled openings are August 15-28 and September 10-13. The fishery is **not** mark selective for coho; i.e., coho with intact adipose fins can be retained. The fishery also has a landing and possession limit of 150 Chinook per

vessel per calendar week, but only in September. This fishery is intended to provide access to a relatively large forecast of OCN coho, in addition to available hatchery coho stocks. This would be the first commercial coho opportunity south of Cape Falcon since 1992.

The Florence south jetty to Humbug Mt. commercial fishery includes a closure of the area outside 6 nm between the Bandon south jetty and Humbug Mt. in September and October. The area could also be closed if a trigger of 15,000 Chinook is caught in August, which would close the area for the remainder of the month. The September and October closure is intended to avoid fall impacts on KRFC. The intention of the trigger in August is to provide additional assurance that the KRFC age-4 harvest rate doesn't exceed the ESA consultation standard for California Coastal Chinook.

Seasons for the area north of Cape Falcon are generally similar in structure to seasons in recent years, although quotas are substantially lower, reflecting both the reduced abundance of Columbia River tule stocks in general, and specifically the more conservative RER for lower Columbia River natural tules specified in the NMFS guidance for 2007.

For the area north of Cape Falcon, an Oregon State regulation will require fishers south of Cape Falcon intending to fish in the area to notify ODFW before entering the area. This regulation is intended to allow close monitoring of effort in the north of Cape Falcon fishery to prevent exceeding the relatively small Chinook quotas in the area.

A mandatory yelloweye rockfish conservation area closure was added to the permanent salmon regulations (50 CFR 660.405) as part of NMFS regulations to implement Amendment 16-4 to the Groundfish FMP (71 FR 78638, December 29, 2006.). The closure prohibits commercial salmon trolling 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. The area also overlaps part of the "C-Shaped" yelloweye rockfish conservation area (YRCA), designated as an area for salmon trollers to voluntarily avoid, which has been in place since 2003.

## **6.2 Recreational**

Recreational Chinook opportunity south of Cape Falcon will include continuous seasons in all areas from at least Memorial Day through Labor Day. The California KMZ fishery is open continuously from May 5 through September 4.

The central Oregon recreational fishery has a 24 inch Chinook total length size limit intended to moderate impacts on age-3 KRFC.

There is an all-salmon fishery in the Cape Falcon to Oregon/California border area beginning June 23 through September 16, or until a quota of 50,000 marked coho is reached. The area between Humbug Mt. and the Oregon/California border (Oregon KMZ) would close September 4, concurrent with the ending date for the all-salmon except coho fishery in that area.

The Neah Bay, La Push, and Westport subareas north of Cape Falcon have five day per weeks seasons intended to allow the Chinook quota to last through Labor Day. The Columbia River subarea has a seven day per week season intended to allow access to the coho quota in an area where Chinook catch rates are historically lower than the other subareas north of Cape Falcon.

An extra pink salmon is allowed in the Neah Bay and La Push subarea bag limits to take advantage of odd-year pink abundance.

### 6.3 Treaty Indian

Seasons are generally similar in structure as in recent years, although quotas are substantially lower, reflecting both the reduced abundance of Columbia River tule stocks in general, and specifically the more conservative RER for lower Columbia River natural tules specified in the NMFS guidance for 2007.

A portion of uncaught May-June all salmon except coho fishery Chinook quota is eligible for transfer to the July-September all salmon fishery. The transfer is designed to be impact neutral with respect to stocks of concern such as LCR natural tule Chinook, Snake River fall Chinook, and Puget Sound Chinook. The transfer would allow utilization of some of the available quota if the tribal fishery were unable to access it in the early season.

## 7.0 CHINOOK SALMON MANAGEMENT

### 7.1 South of Cape Falcon

Abundance projections relevant to Chinook harvest management south of Cape Falcon are:

- *Central Valley fall Chinook*. The CVI forecast is 499,900 adult Chinook, which is 0.79 times the 2006 preseason forecast and the lowest CVI forecast since 1992.
- *Klamath River fall Chinook (KRFC)*. The age-3 forecast is 515,400 fish; the highest forecast on record. In contrast, the age-4 forecast of 26,100 is the lowest forecast on record. The age-5 forecast is 4,700 fish. The 2006 preseason forecast was 44,100 age-3, 63,700 age-4, and 2,200 age-5 fish.

#### 7.1.1 Objectives

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

- *ESA Listed Stocks*. NMFS consultation standards and annual guidance as provided in Section 4.0 above. Relevant stocks for the area south of Cape Falcon include Sacramento River winter Chinook, California Coastal Chinook, Snake River fall Chinook, and lower Columbia River natural tule Chinook.
- *Sacramento River fall Chinook*. Spawning escapement of 122,000–180,000 adults (FMP conservation objective).
- *KRFC*. Natural area spawning escapement of 35,000 adults and spawner reduction rate not to exceed 66.7% (FMP conservation objective), 50:50 tribal:non-tribal sharing of adult harvest (Department of Interior Solicitor Opinion), no more than 17% of the non-tribal ocean adult harvest to the KMZ recreational fishery (2007 Council guidance), and at least 15% of the non-tribal adult harvest to the Klamath River recreational fishery (2007 Council guidance).
- *Oregon Coastal Chinook*. An escapement of 150,000-200,000 naturally spawning adults represented by 60-90 naturally spawning adults per mile in nine standard index streams (FMP conservation objective).

#### 7.1.2 Achievement of Objectives

The commercial and recreational ocean salmon fishery management measures south of Cape Falcon are defined in Tables 1 and 2, respectively, and Table 4 lists associated harvest quotas. Stock-specific

management criteria and their forecast values under the management measures are provided in Table 5. Projected fishery landings, bycatch, and bycatch mortality are summarized in Table 6. Table 7 provides a breakdown of impacts by fishery and area for LCR tules.

All of the management measures satisfy the FMP conservation, administrative, and allocation objectives, NMFS ESA consultation standards and guidance, and obligations under the PST indicated above and in Table 5.

## 7.2 North of Cape Falcon

Abundance projections relevant to Chinook harvest management north of Cape Falcon are:

- *Columbia River hatchery tules.* Combined production of Lower River Hatchery (LRH) and Spring Creek Hatchery (SCH) stocks is predicted to be 28% less than the 2006 preseason expectations, resulting in Chinook quotas less than that adopted for 2006. The 2007 LRH forecast abundance is 54,900, down slightly from 55,800 in 2006. The 2007 SCH forecast abundance is 21,800, down from 50,000 in 2006.

### 7.2.1 Objectives

The key Chinook salmon management objectives shaping the 2007 seasons are:

- NMFS consultation standards and annual guidance for ESA listed stocks as provided in Section 4.0 above. Relevant stocks for the area north of Cape Falcon include lower Columbia River natural tule Chinook, Snake River fall Chinook, and Puget Sound natural Chinook.

### 7.2.2 Achievement of Objectives

The commercial, recreational, and treaty Indian ocean salmon fishery management measures north of Cape Falcon are defined in Tables 1, 2, and 3, respectively, and Table 4 lists associated harvest quotas. Stock-specific management criteria and their forecast values under the management measures are provided in Table 5. Projected fishery landings, bycatch, and bycatch mortality are summarized in Table 6. Table 7 provides a breakdown of impacts by fishery and area for LCR tules.

The management measures satisfy all of the FMP conservation, administrative, and allocation objectives, NMFS ESA consultation standards and guidance, and obligations under the PST indicated above. Stock groups with ISBM indices greater than 60% include Washington and Oregon coastal fall Chinook stocks, and several Columbia River stocks. Stocks from the Columbia and Oregon Coast which are subject to the ISBM provision of the PST are predicted to meet their agreed escapement objectives. While no preseason prediction is available for the Washington coastal stocks, it is expected that they will also meet their agreed objectives.

## 8.0 COHO SALMON MANAGEMENT

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

- *Oregon Coastal Natural (OCN) coho.* The OCN forecast of 255,400 is 420% of the 2006 preseason forecast of 60,800.
- *OPI Hatchery coho.* The 2007 forecast for hatchery coho from the Columbia River and the coast south of Cape Falcon of 593,600 is 49% higher than the 2006 forecast of 398,800. The Columbia

River early coho forecast is 73% greater than the 2006 forecast and the Columbia River late coho forecast is 23% greater than the 2006 forecast.

- *Lower Columbia River Natural (LCN) coho.* This is the first year a forecast of this stock has been made; the forecast is 21,500 adults returning to the mouth of the Columbia River.
- *Puget Sound coho.* The forecast for Skagit coho escapement is below the FMP conservation objective under the 2007 management measures.
- *Interior Fraser (Thompson River) coho.* This Canadian stock continue to be depressed, constraining coho fisheries north of Cape Falcon in order to meet terms of the 2002 PSC coho agreement.

## 8.1 Objectives

Key coho salmon management objectives shaping the 2007 seasons are:

- NMFS consultation standards and annual guidance for ESA listed stocks as provided in Section 4.0 above. Relevant stocks include Central California Coast coho (south of the Oregon/California border), Southern Oregon/Northern California coho, and lower Columbia River natural coho.
- Terms and requirements of the 2002 PSC coho agreement for stocks originating along the Washington Coast, Puget Sound, and British Columbia as provided in Section 5.2 above. Relevant stocks for the area north of Cape Falcon in 2007 include Skagit, Snohomish, and Interior Fraser (Thompson River, B.C.) coho.
- The OCN coho harvest matrix in the salmon FMP has a 2007 management objective of a combined marine/freshwater exploitation rate no greater than 20%. Based on its review of salmon FMP Amendment 13, the OCN Coho Work Group developed a modified version of this matrix, which was accepted by the Council as expert biological advice at the November, 2000 Council meeting. The modified matrix also provides for a combined marine/freshwater exploitation rate in 2007 of no more than 20.0%.
- Minimum escapement of 50% of Upper Columbia coho above Bonneville Dam (*U.S. v. Oregon* management agreement).
- Providing sufficient escapement of Columbia River early and late coho to meet hatchery egg take goals and inriver harvest impacts.

## 8.2 Achievement of Objectives

The commercial, recreational, and treaty Indian ocean salmon fishery management measures in Council area ocean fisheries are defined in Tables 1, 2, and 3, respectively, and Table 4 lists associated harvest quotas. Stock-specific management criteria and their forecast values under the management measures are provided in Table 5. Projected fishery landings, bycatch, and bycatch mortality are summarized in Table 6. Table 7 provides a breakdown of impacts by fishery and area for LCN, OCN, and RK coho, and LCR tules. Table 8 provides expected coho mark rates for West Coast fisheries by month.

The management measures satisfy all of the FMP conservation, administrative, and allocation objectives, NMFS ESA consultation standards and guidance, and obligations under the PST indicated above and in Table 5, except as noted below.

- *Skagit coho.* Although the 35% exploitation rate ceiling was met, the management measures fail to meet the 30,000 spawner escapement goal set in the FMP. However, the FMP goal is not a constraint in 2007, as annual management goals are allowed under the FMP if they are agreed to by the parties of *U.S. v. Washington*. The 2007 annual management goal is the same as the PSC coho agreement for Puget Sound coho.

## **9.0 SOCIOECONOMIC IMPACTS OF COUNCIL ADOPTED MANAGEMENT MEASURES**

The short-term economic effects of the Council adopted regulations for non-Indian fisheries are shown in Tables 9 and 10. Table 9 shows troll impacts expressed in terms of estimates of potential exvessel value. Table 10 shows recreational impacts in terms of trips generated and coastal community personal income impacts associated with the recreational fishery. The exvessel values provided for the Council adopted troll fishery regulations in Table 9 and income impact values provided for the Council adopted recreational fishery regulations in Table 10 are not directly comparable. Long-term social and economic effects are dependent on the impacts of this year's harvest on future production. In general, the Council manages fisheries to meet escapement objectives for salmon that are expected to achieve optimum yields and rebuild endangered stocks.

The primary purpose of the economic tables is to illustrate how relative economic opportunity varies under Council adopted regulations as compared to the previous year. Therefore, the modeling for these tables uses 2006 seasons and effort patterns rather than a longer term average. Where no 2006 effort is available for a particular month and area, effort from a previous year is substituted. The recreational selective coho fishery south of Cape Falcon was modeled assuming the effort will respond to take the entire available quota. To the degree that this effort response does not occur, the values provided will be an over estimate. Additionally, last year's price per pound for commercially caught salmon was assumed to be the best estimator of prices expected in the coming season; the 2006 commercial prices were at record high levels. To the degree that these prices were driven by the limited local supply of salmon and there is an increase in opportunity this year, there may be a decline in price in 2007 and therefore the estimates provided may overstate expected salmon exvessel revenue.

Figures 1 and 2 show estimated coastal community income impacts for the Council adopted commercial troll and recreational regulations, respectively, compared to historic impacts in real (inflation adjusted) dollars.

In general, income impact estimates provide information on the amount of income associated with a particular activity. Reductions in income impacts may, but do not necessarily, reflect net losses to a community but likely correlate with losses to those businesses and individuals with income dependence on the activity. In some cases, reductions in ocean harvest may result in either greater inside fishing opportunity or escapement which may contribute to future production, depending on the carrying capacity of the system to which the stocks are escaping.

In past years the KMZ has benefited from the landing of commercial fish caught in the area between Cape Falcon and Humbug Mountain. In 2005 and 2006, it appears that about 10% of the fish caught off the central Oregon coast (Cape Falcon to Humbug Mountain) were landed in an Oregon KMZ port. These landings accounted for the large majority of the landings in the KMZ, primarily in the Brookings port area.

It appears that the North of Cape Falcon recreational fishery will be season limited rather than quota limited. The exception might be La Push which had a relatively high Chinook catch per angler rate in

2006. If a similar rate occurs in 2007, the La Push fishery may reach its Chinook harvest guideline before the scheduled end of the season; however, since the entire area north of Cape Falcon is governed by an overall recreational Chinook quota, only if that quota was reached would the subareas have to close.