



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Northwest Region  
7600 Sand Point Way N.E., Bldg. 1  
Seattle, WA 98115

March 1, 2007

Mr. Donald K. Hansen, Chairman  
Pacific Fishery Management Council  
7700 NE Ambassador Place, Suite 200  
Portland, Oregon 97220-1384

Dear Mr. Hansen,

The Pacific Coast Salmon Fishery Management Plan (Salmon FMP) requires that the Pacific Fishery Management Council (Council) manage their fisheries consistent with consultation standards developed by the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) regarding actions necessary to protect species listed under the Endangered Species Act (ESA). This letter summarizes NOAA Fisheries' consultation standards and provides guidance regarding the effects of the 2007 season on listed species. Because of the circumstances related to the Klamath in recent years, this letter also provides comments on the status of the unlisted Klamath River fall Chinook and the related effects on fisheries.

## **CHINOOK SALMON**

### **Klamath River Fall Chinook**

The conservation objective for Klamath River fall Chinook (KRFC) requires a long-term average escapement of 33-34% of potential adult natural spawners, but no fewer than 35,000 naturally spawning adults in any one year. There is currently a proposed amendment to the Salmon FMP that would allow limited harvest of KRFC in ocean salmon fisheries during years that might otherwise be closed due to a projected shortfall in meeting the 35,000 natural spawner conservation objective. A final decision on whether or not to approve the amendment has not been made. However, KRFC ocean abundance and Klamath Ocean Harvest Model (KOHM) forecasts for 2007 indicate that under the current Salmon FMP there will be a harvestable surplus of KRFC available when crafting 2007 ocean salmon fishing management measures, and there will not be a need to invoke the provisions described in Amendment 15.

The preseason ocean abundance forecast for KRFC in 2007 is 546,200 adults. This forecast includes a record high age-3 projection of 515,400, as well as a record low age-4 projection of 26,100. The 2007 spawning escapement predictions resulting from adopted management measures will be based primarily on the strong age-3 year class projections and any substantial variation in the pre and post season numbers could result in a much different number of naturally spawning adults. The Council should take these uncertainties into account when planning the 2007 season.



## California Coastal Chinook Salmon

California Coastal (CC) Chinook salmon are listed under the ESA. The 2000 biological opinion on CC Chinook identified KRFC as the best available surrogate for estimating and limiting ocean harvest impacts on CC Chinook populations. That biological opinion required that the projected age-4 ocean harvest rate for KRFC not exceed 17.0%. In 2002, the Salmon Technical Team (STT) adopted new procedures for calculating the age-4 harvest rate on KRFC. Consistent with the revised definition of age-4 harvest rate, management measures developed under the Salmon FMP must achieve a *projected* age-4 ocean harvest rate on KRFC no greater than 16.0%.

In 2003 and 2004 the projected age-4 ocean harvest rates on KRFC were 16.0% and 15.0%, respectively. However, the postseason estimates, derived from cohort reconstructions, were 23.0% and 52.4%, respectively. As a result of the harvest rates observed in the 2003 and 2004 seasons, NOAA Fisheries reinitiated consultation prior to the 2005 seasons to consider whether modifications to the Reasonable and Prudent Alternative (RPA) of the 2000 opinion were necessary (McInnis 2005). The consultation clarified that under the terms of the 2000 biological opinion, NOAA Fisheries expects postseason estimates of the KRFC harvest rate to deviate both above and below preseason projections since the KOHM is designed to be an unbiased model. However, the magnitude of the deviations in 2003 and especially 2004, were of great concern, both with respect to the management of KRFC harvest and spawning escapement, as well as ensuring protection of ESA-listed CC Chinook.

NOAA Fisheries identified two possible explanations for the under-prediction of the 2004 KRFC harvest rate: 1) chronic changes in the distribution and/or vulnerability of KRFC, or 2) an unusual event consistent with the inter-annual variability of these estimates. It was concluded that determining which of the two may be the predominant factor in under-prediction of the harvest rate would require additional years of data.

The consultation reinitiated in 2005 did not result in a change of the 2005 preseason maximum allowable harvest rate of 16.0% established to protect CC Chinook. Because the harvest rate in 2005 again exceeded 16.0% by a substantial amount (the postseason rate was 23.9% compared to a preseason projection of 7.7%), there was continued concern about its under-prediction by the KOHM. Review of the performance of the KOHM from 2003-2005 by the STT prior to the 2006 seasons identified the commercial sector preseason prediction for the January-August period as the primary source for the substantial under-prediction of the age-4 ocean harvest rate for those years. To address the issue, the STT modified the KOHM for analysis of 2006 seasons by adjusting the harvest rate predictors for the commercial sector to more accurately reflect the recent observed patterns in the postseason estimates for that time period. Specifically, the 2006 KOHM contact rate per unit effort predictors for the commercial sector in the Fort Bragg (FB), San Francisco (SF) and Monterey (MO) areas were based on 2003-2005 data, while all other areas continued to be based on all available data from 1983-2005. The intent of the model modifications was to improve the accuracy of the KOHM with respect to harvest rate prediction; it was not to introduce bias within the KOHM for the purpose of providing some greater probability that target harvest rates are not exceeded. The resulting 2006 preseason prediction of the age-4 harvest rate for KRFC was 11.5%, while the preliminary postseason estimate is 11.1%.

The KOHM modifications made last year to reflect more recent trends produced a more accurate projection of ocean harvest impacts for the 2006 fishery, and therefore, are consistent with the intended objectives of the 2000 biological opinion. The STT currently intends for the 2007 KOHM to be set up the same way as the 2006 KOHM, except that last year's data from SF and MO will be included in the FB, SF and MO predictors (i.e., only contact rate per unit effort data from 2003-2006 will be used for these areas).

An inconsistency associated with the CWT data for the tribal net fisheries in the Klamath Basin was recently discovered. Beginning in 2003 CWT data collected from these fisheries were submitted using a fishery designation that was not expected by the cohort reconstruction programs. This coding inconsistency led to an overestimation of the CWT release groups' ocean harvest rates from 2003-2005. This issue has been addressed and results in adjustments to the postseason age-4 ocean harvest rates for 2003, 2004 and 2005 from 23.0%, 51.0% and 24.0% to 21.0%, 34.0% and 20.0%, respectively. However, even when the updated figures are taken into consideration, the severity of the under-prediction in 2003-2005 was substantial enough to warrant a reinitiation of consultation and the subsequent actions that were taken. NOAA Fisheries is committed to using the most accurate information available and is satisfied that this issue has been resolved. The aforementioned 2006 postseason estimate was computed using the updated, more accurate CWT data.

The rate associated with the 2007 harvest will be estimated using a KOHM which the STT believes most accurately predicts harvest rate for the 2007 season. Management measures developed under the Salmon FMP must achieve a projected age-4 ocean harvest rate on KRFC no greater than 16.0%.

### **Sacramento River Winter Chinook Salmon**

In 2004, NOAA Fisheries Service issued a biological assessment and biological opinion, in which it proposed to promulgate fishery management measures for the ocean salmon fisheries off Washington, Oregon and California commencing annually on May 1, 2004 and ending April 30, 2010, which include the following conservation objectives for Sacramento River Winter Chinook:

Recreational Seasons South of Point Arena, CA: The recreational season between Point Arena and Pigeon Point shall open no earlier than the first Saturday in April and close no later than the second Sunday in November; the recreational season between Pigeon Point and the U.S.-Mexico Border shall open no earlier than the first Saturday in April and close no later than the first Sunday in October. The minimum size limit shall be at least 20 inches total length.

Commercial Seasons South of Point Arena, CA: Commercial seasons between Point Arena and the U.S.-Mexico border shall open no earlier than May 1 and close no later than September 30, with the exception of an October season conducted Monday through Friday between Point Reyes and Point San Pedro, which shall end no later than October 15. The minimum size limit shall be at least 26 inches total length.

These measures, which NOAA Fisheries believes will avoid jeopardizing the continued existence of winter Chinook, are in addition to measures specified by the FMP or required by NOAA Fisheries' biological opinions for other listed salmon stocks. Since 1998, the California Department of Fish and Game and the Council have recommended certain terminal gear restrictions, including the use of circle hooks while mooching in the recreational fishery between Horse Mountain and Point Conception, CA, which are designed to reduce hook and release mortality. Those restrictions should continue.

### **Central Valley Spring Chinook Salmon**

The Central Valley spring Chinook Evolutionarily Significant Unit (ESU) was first listed as threatened in 1999. NOAA Fisheries Service's April 18, 2000, biological opinion on the effects of ocean harvest on Central Valley spring Chinook and California Coastal Chinook, concluded that ocean salmon fisheries, as regulated under the Salmon FMP and NOAA Fisheries Service consultation standards for Sacramento River winter-run Chinook, were not likely to jeopardize the continued existence of Central Valley spring Chinook. Since completing the consultation, the abundance of Central Valley spring Chinook has increased significantly. The combined spawning escapement of 10,600 spring Chinook to Deer, Mill, and Butte creeks in 2006, although below the 2001-2005 average of 19,500, was well above the 1996-2000 average of 7,800. Based on these observations and other evidence of rebuilding, NOAA Fisheries concludes that no further actions are required to supplement those specified in the 2000 biological opinion.

### **Lower Columbia River Chinook Salmon**

The Lower Columbia River (LCR) Chinook ESU is comprised of a spring component, a far north-migrating bright component, and a component of north-migrating tules. The four extant spring stocks within the ESU include those on the Cowlitz, Kalama, and Lewis rivers on the Washington side, and the Sandy River on the Oregon side. The historic habitat for the spring Chinook stocks on the Washington side is now largely inaccessible due to impassable dams. Although some spring Chinook spawn naturally in each of these rivers, they are presumed to be largely hatchery-origin fish with little resulting natural production. The remaining spring stocks are therefore dependent, for the time being, on the associated hatchery production programs. The Lower Columbia Salmon Recovery Plan<sup>1</sup> specifies actions to be taken to facilitate recovery of spring Chinook populations. The Cowlitz and Lewis hatcheries will be used, for example, for reintroduction of spring Chinook into the upper basin areas above existing dams. Maintaining the hatchery brood stock is therefore essential for implementation of specified recovery actions. The hatcheries have met their escapement objectives in recent years, and are expected to do so again in 2007, thus ensuring that what remains of the genetic legacy is preserved and can be used

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<sup>1</sup>This plan was developed by Washington's Lower Columbia Fish Recovery Board. In February 2006, NMFS approved the plan as an Interim Regional Recovery Plan. Such a plan is intended to lead to an ESA recovery plan but is not yet complete, in this case because it addresses only a portion of the Lower Columbia River ESUs. NMFS endorses use of the plan until a final plan covering the full ESUs is complete. Work is underway to complete a plan for the remaining portions of the Lower Columbia ESUs and a final ESA plan is expected in early 2007. For additional information, see <http://www.nwr.noaa.gov/Salmon-Recovery-Planning/Recovery-Domains/Willamette-Lower-Columbia/Interim-Recovery.cfm>

to advance recovery. Spring Chinook on the Sandy River are managed with an integrated hatchery supplementation program. Only natural origin fish are released into the upper basin above Marmot Dam. Natural origin fish collected at Marmot Dam are used for hatchery broodstock. NOAA Fisheries expects that the management agencies will continue to manage inriver fisheries to meet hatchery escapement goals, but no additional management constraints in Council fisheries are considered necessary.

Three extant natural-origin bright populations have been identified in the LCR Chinook ESU. The North Lewis River stock is used as a harvest indicator for ocean and in-river fisheries. The escapement goal used for management purposes for the North Lewis River population is 5,700, based on estimates of maximum sustained yield. Actual escapements have exceeded the goal in every year but one since 1980. Escapements over the last five years have averaged 12,300, and thus continue to be well above the escapement goal. Given the long history of healthy returns, NOAA Fisheries does not anticipate the need to take specific management actions in the ocean to protect the bright component of the LCR Chinook ESU in 2007. NOAA Fisheries does expect that the states of Washington and Oregon will continue to take appropriate actions through their usual authorities, to ensure that the escapement goal continues to be met.

Unlike the spring populations or the bright component of the ESU, LCR tule populations are caught in large numbers in Council fisheries, as well as fisheries to the north and in the Columbia River. For the last several years the Coweeman population has been used as an indicator stock for managing the tule component of the LCR Chinook ESU. Since 2002 Council fisheries have been managed subject to a total exploitation rate on Coweeman fall Chinook from all fisheries of 49%.

In the 2006 Guidance Letter to the Council, NOAA Fisheries indicated their intention to review the 49% standard. The Lower Columbia Salmon Recovery Plan also called for a review of the 49% standard and the associated effects of fishing on other LCR tule populations. NOAA Fisheries organized an ad hoc work group that included staff from the Northwest Fisheries Science Center and Washington Department of Fish and Wildlife. The work group has been working on the project for several months. There is more work to be done, but results from the first phase of the analysis provide the basis for this years' guidance that is discussed in more detail below.

In the meantime, the states of Oregon and Washington and other co-managers have been engaged in a substantial review of hatchery management practices through the Hatchery Scientific Review Group (HSRG). The HSRG was established and funded by Congress to provide an independent review of current hatchery programs in the Columbia River Basin. Although this work is also not complete, the HSRG has spent considerable time reviewing tule Chinook production programs in the lower Columbia River. A general conclusion from the information generated by the HSRG is that the current production programs are not consistent with practices that reduce impacts on naturally-spawning populations, and will have to be modified substantially to reduce the adverse effects of hatchery fish on key natural populations identified in the Interim Recovery Plan as advisable for broad sense recovery of the ESU. Among the adverse effects appears to be those caused by excess hatchery adults returning to natural spawning grounds.

There are two general options for addressing the problem. In summary form, they are to either substantially reduce or eliminate existing hatchery programs, or to reprogram existing production to reduce straying, increase the ability of fisheries to differentially harvest hatchery fish, and install where appropriate a system of weirs below primary population natural spawning areas. NOAA Fisheries anticipates that the direction co-managers will implement regarding these options will be made in the near future. In either case, the hatchery programs and fisheries supported by those programs are likely to change significantly over the next several years.

There are two consequences of the HSRG review that are relevant to our consideration of harvest management for 2007. First, there is a general recognition that changes in hatchery and harvest practices are necessary and will have to occur. NOAA Fisheries will take an initial step to implement changes related to harvest in 2007, but the community of fishermen and managers should anticipate that there will be a period of transition from the kind of management we have seen in recent years to some future state that will depend, in large part, on decisions made relative to future hatchery production. Second, for the purpose of developing guidance for 2007, it is difficult to evaluate populations whose natural escapement consists largely of stray hatchery fish, such as the Kalama, Washougal, and Lower Cowlitz. In particular, estimates of natural productivity in these populations are often very low, and it is not always clear if these estimates reflect the state of the natural population or are biased downward due to the large number of hatchery strays. The workgroup analyzed all populations for which it could obtain data, but because of uncertainty in how to evaluate harvest effects on hatchery dominated populations, and because of pending decisions that will likely affect at least some of the hatchery populations, NMFS is basing its guidance largely on analyses of those populations that are relatively free of stray hatchery fish.

The work group focused much of its attention on tule populations in the Coweeman, East Fork Lewis, and Grays rivers, all of which have relatively little hatchery influence and recently updated escapement data. Available information for other populations was compiled and analyzed, but the quality of the data has been subject to less review. Resulting analyses are therefore considered preliminary.

The work group focused on developing Rebuilding Exploitation Rates (RERs) for the three populations based on the method used to calculate the 49% exploitation rate used for the Coweeman since 2002. The work group also made use of several recovery planning documents and analyses that have become available since 2002, including the Lower Columbia Fish Recovery Board Recovery Plan and several Lower Columbia/Willamette Technical Recovery Team (LCWTRT) reports on population viability. In particular, in addition to estimating RERs, the team also used the viability assessment methods developed by the LCWTRT to evaluate the effects of alternative exploitation rates on population viability, and used information in the LCFRB Plan to evaluate which populations are most important to focus on for recovery.

Estimates of the RERs and population viability are sensitive to assumptions about several factors including age structure, the contribution of hatchery fish to spawning, abundance thresholds used in the RER analysis, and assumptions about future marine survival.

The work group did not identify any particular set of assumptions that was considered best, but instead looked at the range of outcomes depending on various assumptions. The general conclusion from this array of results was that harvest impacts need to be reduced. One common set of assumptions leads to an RER estimate of 42% for Coweeman, Grays, and Lewis River populations. Preliminary RER estimates for some of the other populations, particularly the smaller populations, were generally lower. The alternative viability analyses that consider the risk of extinction in 100 years also suggest that more conservative measures may be required in the future. The Northwest Fisheries Science Center is currently taking the lead in compiling a progress report regarding the work group's activities that will describe results from work done to date, and our priorities for continuing analysis.

Another conclusion of the work group is that there may be a bias in previous estimates of harvest impacts. Earlier analysis and one set of assumptions related to the age of fish on the spawning grounds suggest that the model used by the STT for management is providing reasonable and unbiased estimates of harvest impacts. However, a consequence of another set of assumptions is that we are underestimating the level of harvest that has occurred in recent years. If there is a bias in the estimates, further reduction in harvest would be required to insure that management is calibrated properly to the target harvest levels. The consequence of this sort of bias correction could be significant. Given the available time, the work group was unable to resolve whether, or how much of a bias correction is warranted. Resolution of this issue will be a priority for ongoing work, but is not reflected yet in this guidance. In 2006, the STT identified a possible bias in FRAM related to underestimation of Washington Tule harvest south of Cape Falcon. As a result, the STT developed an effort based method in FRAM to better estimate south of Falcon impacts on Washington tules (including Coweeman, East Fork Lewis, and Gray's river). The STT intends to use the effort based impact estimation methodology again in 2007.

Based on work done to date and the above described analysis, NOAA Fisheries offers the following guidance. The 2007 Council fisheries should be managed such that the total aggregate exploitation rate on LCR Chinook tule populations, represented by the Coweeman, East Fork Lewis, and Grays rivers, not exceed 42%. NOAA Fisheries is currently working on a biological opinion definitive regarding the effects of the proposed fisheries on LCR Chinook, something we expect to complete prior to May 1. Consistent with the theme that we are entering a period of transition in management, NOAA Fisheries will continue its review of harvest and seek to implement changes that are consistent with the evolving information, the expected evolution of the hatchery production programs, and the long term goal of recovery articulated in the Lower Columbia Salmon Recovery Plan.

**Upper Columbia River Spring Chinook Salmon**  
**Upper Willamette River Chinook Salmon**  
**Snake River Spring/Summer Chinook Salmon**

Spring stocks from the Upper Columbia River and Upper Willamette River Basins and spring/summer stocks from the Snake River are rarely caught in Council fisheries. Management actions designed to limit catch from these ESUs beyond what will be provided by harvest constraints for other stocks are therefore not considered necessary.

### **Snake River Fall Chinook Salmon**

NOAA Fisheries Service's guidance with respect to Snake River fall Chinook is unchanged from that of the last several years. NOAA Fisheries Service requires that the Southeast Alaskan, Canadian, and Council fisheries, in combination, achieve a 30.0% reduction in the age-3 and age-4 adult equivalent total exploitation rate relative to the 1988-1993 base period. The Council fisheries therefore must be managed to ensure that the 30.0% base period reduction criterion for the aggregate of all ocean fisheries is achieved.

### **Puget Sound Chinook Salmon**

In March, 2005, NOAA Fisheries Service approved fishing activities conducted in accordance with the harvest component of the Comprehensive Management Plan for Puget Sound Chinook, a Resource Management Plan (RMP) submitted by the Washington Department of Fish and Wildlife and the Puget Sound Treaty tribes under Limit 6 of the ESA 4(d) rule. The terms of the RMP have also been incorporated into the Puget Sound Salmon Recovery Plan adopted by NOAA Fisheries on January 19, 2007. The take limit for fisheries implemented under the terms of the RMP apply to the 2005-2009 fishing years (May 1, 2005 through April 30, 2010). The RMP management approach consists of a two tiered harvest regime (normal and minimum), depending on stock status. The harvest objectives in the RMP are a mixture of total and southern U.S. exploitation rates (termed in the RMP - Rebuilding Exploitation Rates<sup>2</sup> or RERs) and escapement goals. Under conditions of normal abundance, the RERs and escapement goals, listed on the left of Table 1, apply. However, when a particular management unit is 1) not expected to meet its low abundance threshold, or, 2) if the total exploitation rate is projected to exceed its RER under a proposed set of fisheries, the co-managers will constrain their fisheries such that either the RER is not exceeded, or the Critical Exploitation Rate Ceiling (CERC)<sup>3</sup>, listed on the right of Table 1, is not exceeded.

Procedurally, the Council and associated North of Falcon processes provide the appropriate forums for doing the necessary management planning. Under the current management structure, Council fisheries are included as part of the suite of fisheries that comprise the fishing regime negotiated each year by the co-managers under U.S. v. Washington to meet management objectives for Puget Sound and Washington Coastal salmon stocks. The comprehensive nature of the management objectives and the management planning structure strongly connect Council and Puget Sound fisheries. Therefore, in adopting its regulations, the Council must determine that its fisheries, when combined with the suite of other fisheries impacting this ESU, meet the management targets set for stocks within this ESU.

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<sup>2</sup> These are not to be confused with the Rebuilding Exploitation Rates used by NOAA Fisheries Service to assess proposed harvest actions under the ESA since they are derived by different methodologies and used for different purposes. The RERs in Table 1 are those developed by the co-managers in the RMP approved by NOAA Fisheries Service and therefore fisheries conducted consistent with these RERs are not subject to an ESA prohibition on take of listed Puget Sound Chinook.

<sup>3</sup> The ceiling rate used by the co-managers may be below the CERC shown on the right side of Table 1 if the 2003 fisheries modeled with 2005 abundances results in rates less than the CERC.

Having established the connection between Council and Puget Sound fisheries, it is also appropriate to acknowledge that impacts on Puget Sound Chinook stocks in Council fisheries are generally quite low. Exploitation rates on Puget Sound spring Chinook and fall Chinook stock aggregates have been less than one percent and four percent on average, respectively, in recent years. Management actions taken to meet exploitation rate targets will therefore occur primarily in the Puget Sound fisheries, but since impacts in all fisheries must be considered, ocean fisheries are potentially subject to constraint to ensure impacts are consistent with the limits defined by the RMP.

NOAA Fisheries Service recognizes that there is also a sequence to the planning process for Puget Sound Chinook: the March Council meeting, the North of Falcon process, and the subsequent April Council meeting where final recommendations for oceans seasons are made. Therefore, the final option adopted at the April Council meeting must, when combined with Puget Sound fisheries negotiated during the North of Falcon process, meet the escapement goals and exploitation rates for each Puget Sound Chinook management unit included in Table 1, after applying the appropriate regime to the status of each management unit anticipated in 2007.

Table 1. Guidance on ESA listed Puget Sound Chinook for the 2007 Council ocean salmon fisheries.						
Management Unit/Population	Normal Abundance Regime			Minimum Fishing Regime		
	Rebuilding Exploitation Rate		Escapement Goal <sup>1</sup>	Low Abundance Threshold	Critical Exploitation Rate	
	Total	Southern US (PT=Preterminal)			So. US	Preterminal So. US
Nooksack spring NF Nooksack SF Nooksack	Minimum fishing regime applies			1,000 <sup>3</sup> 1,000 <sup>3</sup>	7.0%/9.0% <sup>2</sup>	
Skagit Summer/Fall Upper Skagit Lower Skagit Lower Sauk	50.0%			4,800 2,200 900 400	15.0%	
Skagit Spring Suiattle Upper Sauk Cascade	38.0%			576 170 130 170	18.0%	
Stillaguamish NF Stillaguamish SF Stillaguamish	25.0%			650 <sup>3</sup> 500 <sup>3</sup>	15.0%	
Snohomish Skykomish Snoqualmie	21.0%			2,800 1,745 521	15.0%	
Lake Washington <sup>4</sup>		15.0% PT		200 <sup>3</sup>		12.0%
Green		15.0% PT	5,800	1,800		12.0%
White River	20.0%			200	15.0%	

Puyallup <sup>5</sup>	50.0%			500		12.0%
Nisqually			1,100	1,100		
Skokomish		15.0% PT	1,200 natural <sup>6</sup> 1,000 hatchery	800 natural <sup>7</sup> 500 hatchery		12.0%
Mid-Hood Canal		15.0% PT		400		12.0%
Dungeness		10.0%		500	6.0%	
Elwha		10.0%		1,000	6.0%	

<sup>1</sup> When escapement is expected to be less than the goal, the co-managers will take additional management measures with the objective of meeting or exceeding the goal.

<sup>2</sup> Expected Southern US rate will not exceed 7.0% in 4 out of 5 years and 9.0% in 1 out of 5 years.

<sup>3</sup> Threshold expressed as natural-origin spawners.

<sup>4</sup> Cedar River.

<sup>5</sup> South Prairie Creek Index.

<sup>6</sup> The aggregate escapement goal is 3,650 hatchery and natural spawners. However, anticipated hatchery or natural escapements below these spawner abundances trigger specific additional management actions.

<sup>7</sup> The aggregate low abundance threshold is 1,300 hatchery and natural spawners. However, anticipated hatchery or natural escapements below these spawner abundances trigger specific additional management actions.

## **COHO SALMON**

### **Oregon Coast Coho Salmon**

On January 11, 2006 NOAA Fisheries determined that ESA listing of Oregon Coast (OC) coho is not warranted (71 FR 3033 January 19, 2006). It is therefore no longer necessary to provide ESA-related guidance to the Council regarding the management of OC coho. Nevertheless, NOAA Fisheries expects that the Council will continue to manage Oregon Coast coho consistent with the terms of Amendment 13 of the Salmon FMP as modified by the expert advice of the 2000 ad hoc Work Group.

### **Lower Columbia River Coho**

Lower Columbia River coho are caught, for the most part, in fisheries off the Washington and Oregon coast, and in the Columbia River in the area below Bonneville Dam. Lower Columbia River coho were listed as threatened under the ESA on June 25, 2005. NOAA Fisheries conducted section 7 consultations regarding the effects of Council fisheries and fisheries in the Columbia River for the first time prior to the 2006 seasons. Because those opinions were limited to 2006, NOAA Fisheries will again consult regarding the effects of ocean and inriver fisheries on LCR coho prior to the 2007 season.

Since listing the states of Oregon and Washington have been working with NOAA Fisheries to develop and evaluate a management plan for LCR coho that can be used as the basis for their long-term management. The work has focused on two broad themes. First, what is the appropriate long-term harvest strategy for managing LCR coho, and second, once a harvest limit is set for a particular year, how to measure impacts in ocean and inriver fisheries relative to that limit. Progress has been made on both fronts. Last year the Council's Salmon Technical Team made changes in the way ocean fishery impacts are assessed. The states also made progress with the more complicated task of measuring inriver fishery impacts. With respect to the long-term strategy, the states have continued to focus on use of the harvest matrix developed by Oregon for LCR coho following their listing under Oregon's State ESA. Under the matrix the harvest allowed in a given year depends on indicators of marine survival and brood year escapement. Recent work has focused on expanding the matrix to include consideration of a broader range of LCR coho populations including those on the Washington side of the river. As part of the ongoing effort, the states recently provided NOAA Fisheries with a quantitative risk assessment that seeks to evaluate the long-term effects of the harvest matrix on the ESU. NOAA Fisheries will soon begin a review of that risk assessment.

Despite progress made over the last year, there is still work to be done before NOAA Fisheries can reasonably conclude that the current harvest matrix and associated management practices provide the necessary long-term protection for the species. As work continues NOAA Fisheries will focus, in particular, on evaluating the risk assessment, how the matrix meets the needs of the range of populations in the ESU, and how the effects of inriver fisheries are measured, particularly given the complications of the broad run timing of the species.

In the meantime, NOAA Fisheries still intends to provide the guidance necessary for planning fisheries in 2007. Generally speaking, NOAA Fisheries supports use of management planning tools that allow harvest rates to vary depending on the year-specific circumstances. In 2006 the states' matrix would have allowed for a total exploitation rate of 21.4%. Pending completion of the necessary analysis, NOAA Fisheries' guidance limited the exploitation rate to 15%. In 2007 abundance indicators are generally higher. Both brood year and marine survival are in the medium category and would allow for a total exploitation rate of 29.2% under the harvest matrix. However, uncertainties related to selection of a particular long-term management strategy, and how harvest impacts are measured are such that it is still prudent to take a conservative approach to management until those questions can be resolved. Based on the above described circumstances, NOAA Fisheries offers the following guidance. Ocean salmon fisheries under the Council's jurisdiction in 2007, and commercial and recreational salmon fisheries in the mainstem Columbia River, including select area fisheries (e.g., Youngs Bay), should be managed subject to a total exploitation rate limit on LCR coho of 20%. NOAA Fisheries is currently working on a definitive biological opinion regarding the effects of proposed fisheries on LCR coho, something we expect to complete prior to May 1.

### **Southern Oregon/Northern California Coastal Coho Salmon**

NOAA Fisheries consultation standards for Southern Oregon/Northern California Coastal coho were developed from a supplemental biological opinion dated April 28, 1999. The Rogue/Klamath hatchery stock is used as an indicator of the effects of fisheries on SONCC coho. NOAA Fisheries Service's 1999 biological opinion requires that management measures developed under the Salmon FMP achieve an ocean exploitation rate on Rogue/Klamath hatchery stocks of no more than 13.0%.

### **Central California Coastal Coho Salmon**

Consultation standards for Central California Coastal coho were also developed from the April 28, 1999 biological opinion. Little information on past harvest rates or current hooking mortality incidental to Chinook fisheries exists for CCC coho. Absent more specific information, the 1999 biological opinion on listed coho requires that coho-directed fisheries and coho retention in Chinook-directed fisheries be prohibited off California.

## **CHUM SALMON**

### **Hood Canal Summer Chum**

Chum salmon are not targeted and rarely are caught in Council salmon fisheries. However, the Pacific Coast Salmon FMP requires fisheries to be managed consistent with NOAA Fisheries' ESA standards for listed species, which includes the Hood Canal summer-run chum salmon ESU. The Summer Chum Salmon Conservation Initiative (PNPTC and WDFW 2000), approved by NOAA Fisheries under Limit 6 of the ESA 4(d) Rule describes the harvest actions that must be taken to protect listed Hood Canal summer-run chum salmon both in Washington fisheries managed under the jurisdiction of the PFMC and Puget Sound fisheries managed by the state and tribal fishery managers.

Under the terms of the Conservation Initiative, chum salmon must be released in non-treaty sport and troll fisheries in Washington catch Area 4 from August 1 through September 30. The Conservation Initiative does not require release of chum salmon in tribal fisheries in catch Area 4 during the same period, but does recommend that release provisions be implemented. As in previous years, tribal managers will discuss implementation of these provisions during the North of Falcon planning process.

## **SOCKEYE SALMON**

### **Snake River Sockeye Salmon Ozette Lake Sockeye Salmon**

Sockeye salmon are rarely caught in Council salmon fisheries. In previous biological opinions, NOAA Fisheries determined that PFMC fisheries were not likely to adversely affect Ozette Lake sockeye salmon. Therefore, management constraints in ocean fisheries for the protection of listed sockeye salmon are not considered necessary.

## **STEELHEAD**

NOAA Fisheries Service has listed one Distinct Population Segment (DPS) of steelhead as endangered and nine DPSs as threatened in Washington, Oregon, Idaho, and California. All ten DPSs have been considered in biological opinions on the effects of PFMC fisheries. In addition, on March 29, 2006, NOAA Fisheries proposed to list the Puget Sound steelhead DPS as threatened. NOAA Fisheries is currently completing its final listing determination for the Puget Sound steelhead DPS. On February 7, 2007 NOAA Fisheries proposed for public comment to apply ESA take prohibitions to unmarked steelhead with an intact adipose fin that are part of the Puget Sound steelhead DPS. Unmarked hatchery fish that are surplus to the recovery needs of this DPS and that are otherwise distinguishable from naturally spawned fish in the DPS may also not be subject to take prohibitions under conditions described in the proposed rule. This approach provides an effective means to manage the artificial propagation and directed take of threatened Puget Sound steelhead while providing for the species' conservation and recovery.

Steelhead are rarely caught in ocean fisheries and retention of steelhead in non-treaty tribal fisheries is currently prohibited. This requirement is consistent with the take prohibitions as proposed. Based on the currently available information, NOAA Fisheries believes ocean fishery management actions beyond those already in place that seek to shape fisheries to minimize impacts to steelhead are not considered necessary. The Council and states should continue to prohibit the retention of steelhead with intact adipose fins in ocean non-treaty tribal fisheries to minimize the effect of whatever catch may occur.

We appreciate that this will be a difficult year. We are committed to working with the Council to address the harvest issues.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Robert Lohn". The signature is fluid and cursive, with a long horizontal stroke at the end.

D. Robert Lohn  
Northwest Regional Administrator

A handwritten signature in black ink, appearing to read "Rodney R. McInnis". The signature is fluid and cursive, with a long horizontal stroke at the end.

Rodney R. McInnis  
Southwest Regional Administrator

## References

McInnis, R.R. 2005. Memorandum to the Record re Endangered Species Action Section 7 Consultation on the Effects of Ocean Salmon Fisheries on California Coastal Chinook. June 13, 2005. 14 p.