



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
7600 Sand Point Way N.E.
Seattle, Washington 98115

March 3, 2015

Ms. Dorothy M. Lowman, Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 200
Portland, Oregon 97220-1384

Dear Chair Lowman:

The Pacific Coast Salmon Fishery Management Plan (Salmon FMP) requires that the Pacific Fishery Management Council (Council) develop management recommendations for fisheries under the Salmon FMP consistent with consultation standards developed by the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) to protect species listed under the Endangered Species Act (ESA). This letter summarizes NOAA Fisheries' consultation standards and provides guidance regarding the potential effects of the 2015 season on listed salmonid species. As in previous years, this letter is intended to offer NOAA Fisheries' preliminary guidance regarding conservation needs for listed salmonid species. NOAA Fisheries will conduct two new consultations in 2015 on the effects of salmon fisheries on Puget Sound Chinook and steelhead, and Lower Columbia River coho. The ultimate ESA-determination shall be provided when the biological opinions for those species are completed.

We also use this opportunity to comment on other subjects of general interest. We comment briefly on developing circumstances related to Southern Resident killer whales and our expectations for the genetic stock identification (GSI) sampling program in 2015. Because of circumstances in recent years and their relative importance to the fisheries, we provide guidance for Sacramento River fall Chinook and Klamath River fall Chinook and our expectations for management of these stocks in 2015.

Southern Resident Killer Whales

NOAA Fisheries and other researchers continue to develop new scientific information and analyses regarding the ecology of Southern Residents, which are listed as endangered under the ESA. Much of this new information focuses on their migration patterns, feeding habits, health condition, and preference for Chinook salmon for prey. While there remains much to learn, it is now clear that Chinook salmon are very important to the survival and recovery of Southern Residents, perhaps throughout the year and within the migration range of Southern Residents. This finding has potentially serious implications for any activity that affects the abundance of Chinook salmon available to Southern Residents. Fisheries that occur within the range of the Southern Residents or that affect Chinook abundance within their range are potentially implicated.

Because Southern Residents also are listed as endangered pursuant to Canada's Species at Risk Act, the Canadian Department of Fisheries and Oceans (DFO) and NOAA Fisheries sponsored a



series of scientific workshops during 2012 and 2013 to review of the available information about Southern Residents, their feeding habits, and the potential effects of salmon fisheries on the whales through reduction in the abundance of their prey. A panel of seven independent scientists was selected to oversee and participate in the process and produce a report documenting its findings. The independent panel issued its final report on November 30, 2012¹.

NOAA Fisheries is carefully considering all aspects of the final report of the independent science panel as well as the public comments received on the report to inform new consultations on fisheries and continued evaluation of the need to reinitiate existing fishery consultations. In addition, we are pursuing several research projects identified in the report. To assist with this process NOAA Fisheries is considering a risk assessment framework based on the scientific information reviewed by the panel and updated analysis. We continue our work to develop a structured process to evaluate the effects of changes in salmon abundance on survival and recovery of the Southern Residents. We will seek input from the public and fishery management entities on the framework and specific risk criteria prior to incorporating this approach into new consultations. Meanwhile, Canada also is considering the ramifications of the panel's report to its fisheries in the context of its domestic fishery consultative processes. In 2015, NOAA Fisheries will focus its efforts on completing this work. Given the time it will take to complete development of the framework and procedures for its implementation, we do not foresee implementing a new process for consultations on fisheries in 2015.

Genetic Stock Identification Sampling

In 2014, at-sea sampling of Chinook salmon by fishermen was conducted in most open times and areas off Oregon and California, and full season sampling occurred in Washington. The overall effort was part of the West Coast Salmon Genetic Stock Identification (WCS-GSI) collaboration; a partnership of West Coast fishermen's organizations, universities, states, tribes, and NOAA Fisheries, formed in 2006 to apply GSI to the study of West Coast salmon fisheries.

The data collected in 2014 represent the fifth year of fine-scale GSI sampling over a broad geographic area for a full season, although coverage was less comprehensive than in some previous years. Current results show informative contrasts in catch rates and distributions relative to previous years. Results are being analyzed for a variety of purposes, including updating the Chinook FRAM model and exploring their use in the Sacramento and Klamath Ocean Harvest Models.

Genetic stock identification is one of many stock identification tools widely used in fisheries management. A related genetic methodology, Parentage-based Tagging, is also gaining acceptance. Coded-wire tags, PIT tags, and genetic technologies, in combination, now provide fine-scale, timely stock-specific information to meet the needs of the management and scientific communities. We anticipate that workshops and discussion will increasingly focus on using

¹ Hilborn, R., S.P. Cox, F.M.D. Gulland, D.G. Hankin, N.T. Hobbs, D.E. Schindler, and A.W. Trites. 2012. The Effects of Salmon Fisheries on Southern Resident Killer Whales: Final Report of the Independent Science Panel. Prepared with the assistance of D.R. Marmorek and S.W. Hall, ESSA Technologies Ltd., Vancouver, G.C. for National Marine Fisheries Service (Seattle, WA) and Fisheries and Oceans Canada (Vancouver, BC). xv + 61 pp. + Appendices.

multiple stock identification and marking technologies for management. The experience of the WCS-GSI collaboration, combined with analysis of their data, has become central to these discussions.

In 2010 and 2012, non-retention GSI sampling was conducted in closed areas, which required set-asides during the preseason process to account for associated impacts. In 2011, 2013, and 2014, sampling was conducted only in open areas, with resulting data gaps that make it more difficult to construct a complete coast-wide picture of stock distribution and movement. Samples from 2012 were the first to include a full season of sampling in Washington, and that effort was repeated in 2013 and 2014. Washington sampling in 2015 will again cover the entire fishing season, although the Columbia River area will not be included and, due to funding constraints, only half the fish collected will be analyzed. Funding constraints will also limit sampling in California and Oregon to just a few weeks and areas in 2015. Consequently, there will be less than full time/area coverage south of Leadbetter Point (46.7° north latitude). All sampling in 2015 is funded through grants from the NOAA Fisheries National Cooperative Research Program. Because there are no resources to sample in closed areas, all sampling will be during open fishing; no special action from the Council will be required.

CHINOOK SALMON

Sacramento River Fall Chinook

NOAA Fisheries guidance for 2015 is to follow the FMP-defined control rule, which specifies an expected 2015 escapement greater than or equal to 195,596 hatchery and natural-area adult spawners.

Klamath River Fall Chinook (KRFC)

NOAA Fisheries guidance for 2015 is to follow the FMP-defined control rule, which specifies a minimum escapement in 2015 greater than or equal to 40,700 natural-area adult spawners. Given the forecasted run size, NOAA Fisheries anticipates harvest opportunity will be similar to or greater than 2014.

California Coastal Chinook Salmon

The California Coastal (CC) Chinook salmon Evolutionarily Significant Unit (ESU) has been listed as threatened under the ESA since 1999. The current consultation standard for CC-Chinook is from a NOAA Fisheries biological opinion dated April 28, 2000. On June 13, 2005, NOAA Fisheries completed additional consultation on CC-Chinook and specified actions necessary to implement the reasonable and prudent alternatives (RPAs) of the 2000 biological opinion for this ESU.

The RPAs of the 2000 biological opinion stated that to ensure that CC-Chinook are not subject to increasing harvest rates in the future, limits on the forecast KRFC age-4 ocean harvest rates would serve as the consultation standard. The 2005 re-initiation of consultation affirmed that management measures shall result in a forecast KRFC age-4 ocean harvest rate of no greater than 16 percent. The 2000 biological opinion and 2005 consultation require NOAA Fisheries to collect and examine information that would allow re-evaluation of this consultation standard. NOAA Fisheries is actively engaged in this effort, including completion of a technical memo

describing the current state of data available for this ESU and funding a joint NOAA Fisheries/California Department of Fish and Wildlife workshop in September 2014 focused on future fishery management prospects.

Data are insufficient at this time to move forward with a new CC-Chinook management alternative. Until alternative management strategies become feasible, the 16 percent KRFC age-4 ocean harvest rate will remain as the consultation standard for CC-Chinook.

Sacramento River Winter Chinook Salmon

The Sacramento River winter Chinook salmon ESU (winter-run) was listed under the ESA as threatened in 1990 and relisted as endangered in 1994. The current consultation standard for winter-run is derived from a NOAA Fisheries biological opinion completed on April 30, 2010. The 2010 biological opinion² found that the ocean salmon fishery, as managed under the Salmon FMP, was likely to jeopardize the continued existence of the winter-run. This determination was based on the lack of an explicit management process to avoid or reduce impacts to winter-run when this stock is declining and/or facing increased extinction risks. To avoid the likelihood of jeopardizing the existence of winter-run while enabling the continuation of the ocean salmon fishery, NOAA Fisheries developed an RPA³ which implemented a new abundance-based management framework for winter-run that is responsive to changes in stock status. The framework was first implemented in the 2012 ocean salmon fishing year.

NOAA Fisheries continues to examine new information and consider options that will provide the most effective management of winter-run impacts in the ocean salmon fishery, including public comment sought on alternative abundance-based management approaches analyzed through a Management Strategy Evaluation in 2014³. However, for 2015, NOAA Fisheries guidance is to follow the existing winter-run control rule, which specifies a predicted age-3 impact rate of no greater than 19.0 percent in fisheries south of Point Arena, California.

Central Valley Spring Chinook Salmon

The Central Valley spring Chinook ESU was first listed as threatened in 1999. The current consultation standard for Central Valley spring Chinook is from the NOAA Fisheries biological opinion, dated April 28, 2000, on the effects of the ocean salmon fishery on Central Valley spring Chinook and CC-Chinook. The 2000 opinion concluded that the ocean salmon fishery, as regulated under the Salmon FMP and NOAA Fisheries consultation standards for winter-run, is not likely to jeopardize the continued existence of Central Valley spring Chinook. The new management framework implemented for Sacramento River winter Chinook offers at least equivalent, and/or additional, restrictions on the ocean salmon fishery than those provided by the previous Sacramento River winter Chinook consultation standards. As a result, NOAA Fisheries has determined that the current management framework, along with other regulatory measures in the Salmon FMP, provides sufficient protection for Central Valley spring Chinook for the 2015 fishing year.

² http://www.westcoast.fisheries.noaa.gov/fisheries/salmon_steelhead/ocean_fisheries.html

³ <https://www.federalregister.gov/articles/2014/01/23/2014-01239/domestic-fisheries-management-strategy-evaluation-for-sacramento-river-winter-chinook-salmon#h-6>

Lower Columbia River (LCR) Chinook Salmon

LCR Chinook salmon were listed as threatened under the ESA on March 24, 1999. NOAA Fisheries' most recent biological opinion regarding the effects of Council fisheries on LCR Chinook was completed in 2012. The 2012 opinion provides the basis for our guidance in 2015.

The LCR Chinook ESU is comprised of a spring component, a "far-north" migrating bright component, and a component of north migrating tules. The bright and tule components both have fall run timing. Of nine historical spring Chinook populations two are considered extinct including the White Salmon and Hood River populations, both located in the Columbia River Gorge above Bonneville Dam. Four of the remaining seven populations are targeted to achieve high viability including the Upper Cowlitz, Cispus (a tributary of the Cowlitz), North Fork Lewis, and Sandy River populations. The historic spawning habitat for the Upper Cowlitz, Cispus, and Lewis populations in Washington is now largely inaccessible to salmon due to impassable dams. These populations are therefore dependent, for the time being, on the associated hatchery programs. The Lower Columbia Salmon and Steelhead Recovery Plan⁴ specifies actions to be taken to facilitate recovery of spring Chinook populations in Washington State. The Cowlitz and Lewis River hatcheries are being used, for example, for reintroduction of spring Chinook into the upper basins above the existing dams.

The hatchery programs are critical to the overall recovery effort of LCR Chinook. Although additional progress is required to meet the high viability objective for the Sandy, harvest objectives specified for the population through recovery planning are being met. Given the circumstances, maintaining the hatchery brood stocks for the Cowlitz and Lewis River hatcheries is essential for implementation of specified recovery actions. The hatcheries have met their escapement objectives in recent years with few exceptions although escapement to the Lewis River hatchery in recent years has been well below the 10-year average. The general pattern of meeting the goals ensures that what remains of the genetic legacy is preserved and can be used to advance recovery. NOAA Fisheries expects that the management agencies will continue to manage in-river fisheries to meet hatchery escapement goals, but no additional management constraints on Council fisheries are considered necessary at this time.

There are two extant natural-origin bright populations in the LCR Chinook ESU including the North Fork Lewis and Sandy River populations. Both populations are considered to be relatively healthy. The North Fork Lewis River population is used as a harvest indicator for ocean and in-river fisheries. The escapement goal used for management purposes for the Lewis population is 5,700, based on estimates of maximum sustained yield derived from spawner-recruit analysis. Escapements averaged 7,900 over the last ten years (2005-2014) (WDFW 2015) and, with few exceptions, have met or exceeded the goal since at least 1980. According to the Lower Columbia River Salmon and Steelhead Recovery Plan (NMFS 2013), the Sandy River population is considered to be viable under current harvest conditions. Given the long history of healthy returns, and management constraints that will be in place this year for other stocks, 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 2015. NOAA Fisheries does expect that the

⁴http://www.westcoast.fisheries.noaa.gov/protected_species/salmon_steelhead/recovery_planning_and_implementation/lower_columbia_river/lower_columbia_recovery_plan.html

states of Washington and Oregon will continue to monitor the status of the LCR bright populations, and take the specific actions necessary through their usual authorities to deliver spawning escapement through the fisheries they manage sufficient to maintain the health of these populations.

There are 21 separate populations within the tule component of the LCR Chinook ESU. Unlike the spring or bright populations 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. The biological opinion completed in 2012 analyzed an abundance-based management (ABM) framework based on recommendations from the joint state, tribal, Council, NOAA Fisheries *ad hoc* tule Chinook Work Group and other input to set ESA consultation standards for fisheries. The ABM framework sets the annual exploitation rate limit depending on the abundance of Lower River Hatchery (LRH) tule Chinook (Table 1). The abundance framework, as implemented over time, should have a conservation benefit that is equal or greater to the previous consultation standard of a fixed exploitation rate of 0.36. This is accomplished by reducing harvest when abundance is low and populations are most in need of protection while providing some increase in opportunity when abundance is relatively high. Since its implementation in 2012, abundance levels for Chinook salmon returning to the Columbia River, including LCR tule Chinook, have been high due in large part to favorable ocean survival conditions. As a consequence, the framework has allowed for an exploitation rate limit of 0.41 since its inception.

Table 1. Harvest management matrix for LCR Chinook showing allowable fishery exploitation rates based on parental escapement and marine survival index.

Lower River Hatchery Abundance	Total Exploitation Rate Limit
0 – 30,000	0.30
30,000 – 40,000	0.35
40,000 – 85,000	0.38
> 85,000	0.41

The preseason forecast for LRH Chinook in 2015 is 94,900. Therefore, based on the ABM framework, Council fisheries in 2015 should be managed such that the total exploitation rate in all fisheries on LCR tule Chinook below Bonneville Dam does not exceed 0.41.

NOAA Fisheries will continue to focus on implementing the comprehensive transitional strategy described in the recovery plan that links harvest actions to progress on the suite of actions necessary to achieve long term recovery. In that regard, NOAA Fisheries continues to urge that the parties focus on all aspects of the overall recovery strategy. Monitoring will be critical to verify that the actions specified in the plan are being taken and that populations are responding as expected. Success on both fronts will be necessary to avoid further constraints on harvest in the future.

The harvest framework is part of the comprehensive transition strategy. The 2012 biological opinion called for a review of the harvest framework every three years which is consistent with the call for an ongoing review of the recovery strategy. NOAA Fisheries has provided a draft of a three year review of the harvest framework to the Council and invited their review and comment.

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

NOAA Fisheries has considered the effects of Council area fisheries on spring stocks from the Upper Columbia River and Upper Willamette River Basins and spring/summer stocks from the Snake River in prior biological opinions. These stocks are rarely caught in Council fisheries. NOAA Fisheries 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.

Snake River Fall Chinook Salmon

NOAA Fisheries completed a biological opinion on the new Pacific Salmon Treaty Agreement in 2008 where we considered the effects of fisheries, including Council area fisheries, on Snake River fall Chinook. In that opinion we evaluated the effect of fisheries, in part, by using the guidance standard for ocean fisheries used over the last several years. We concluded that the existing standard continued to provide a necessary and appropriate level of protection for Snake River fall Chinook. NOAA Fisheries 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

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 populations within this ESU. For that reason, NOAA Fisheries prefers to issue guidance for the full suite of Council and Puget Sound fisheries consistent with the nature of the planning process.

Since 2001, our guidance has relied on a series of comprehensive, joint Resource Management Plans (RMP) developed by the Washington Department of Fish and Wildlife and the Puget Sound Treaty Tribes (Puget Sound co-managers). The most recent RMP and the ESA take limit for fisheries implemented under the terms of that RMP expired May 1, 2014. Since that time, the co-managers have been developing a new multi-year RMP. In the interim, NOAA Fisheries conducted a consultation on the 2014 fisheries and will do the same on 2015 fisheries. Although the co-managers have not yet provided a Puget Sound Chinook harvest plan for 2015 fisheries, we understand from our discussions with them that they plan to rely on conservation objectives similar to those used in 2014 with some adjustments for increased impacts in pink salmon fisheries. Those conservation objectives are summarized in Table 2, although it will be necessary for the co-managers to confirm the details. Conservation objectives for Puget Sound Chinook include harvest-related mortality in all U.S. fisheries, including those under the Council's jurisdiction. Therefore, NOAA Fisheries provides the following guidance for Council fisheries and describes its expectations for the full suite of southern U.S. fisheries that will affect Puget Sound Chinook stocks in 2015.

Although Council and Puget Sound fisheries are intertwined, 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 five percent on average, respectively, in recent years. In 2004, NOAA Fisheries issued a biological opinion on the anticipated effects of PPMC fisheries on the ESA-listed Puget Sound Chinook ESU for 2004 and future fishing years. The 2004 opinion found that exploitation rates in Council area fisheries within the range observed for brood years 1991-1998 would not jeopardize the continued existence of the species.

While NOAA Fisheries is providing formal guidance for the Council fisheries for 2015, we acknowledge the importance of and continue to strongly support the integrated management structure between the Council and North of Falcon planning processes. In fact, the management framework we are discussing with the co-managers for 2015 is similar to that of past years. The management approach consists of a two-tiered harvest regime (normal and critical), that is responsive to stock and northern fishery status. The harvest objectives in the RMP are a mixture of total and southern U.S. exploitation rates and escapement goals. Under conditions of normal abundance, the exploitation rates and escapement goals, listed on the left of Table 2, apply. However, when a particular management unit is 1) not expected to meet its low abundance threshold, or, 2) if the anticipated northern fisheries exploitation rate is projected to exceed the difference between a management unit's Exploitation Rate Ceiling and the Critical Exploitation Rate Ceiling (CERC), the co-managers will constrain their fisheries such that either the Exploitation Rate Ceiling is not exceeded, or the CERC, listed on the right of Table 2, is not exceeded. Run size information indicates that the Nooksack early, Mid-Hood Canal, and North Fork and South Fork Stillaguamish populations are below their low abundance thresholds in 2015. The Dungeness Chinook population is also close to its low abundance threshold.

In summary, while this document provides formal guidance for the Council fisheries in 2015, we acknowledge the importance of the integrated management structure between the Council and North of Falcon planning processes. Because impacts in Council fisheries are so low, management actions taken to meet conservation objectives will occur primarily in Puget Sound fisheries. However, since impacts in all fisheries are considered in meeting the objectives, 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 2, after applying the appropriate regime to the status of each management unit anticipated in 2015. Failure to reach the necessary agreements through the North of Falcon process by the end of the April Council meeting would complicate NOAA Fisheries' ability to approve regulations for Council area fisheries and complete the biological opinion for Puget Sound fisheries by May 1, 2015.

Meeting the conservation objectives is essential, but the Puget Sound Chinook harvest plan includes additional details that are also key to NOAA Fisheries' conclusion in the biological opinion for Puget Sound fisheries. In 2014, for example, the co-managers committed to work with NOAA Fisheries to conduct a critical evaluation of the Nisqually River weir program. That evaluation was recently initiated but is not yet complete. There was a similar commitment in

2014 to initiate a late-timed hatchery program in the Skokomish River and follow up with a more detailed review of how the program will be operated and monitored. The goal of the hatchery program is to develop a stock with return timing that mirrors that of the historic fall run that can be used for subsequent recovery efforts and complement other recovery related programs in the Skokomish River Basin. The hatchery program was initiated in 2014 and although the program review has been initiated it is late in its development. NOAA Fisheries is continuing to work with the co-managers to set schedules for completing the reviews and implementing the recommendations. However, because the Nisqually and Skokomish populations are essential to the recovery of the Puget Sound Chinook ESU, and the weir and late-timed hatchery program are key to the overall recovery efforts for those populations completing the respective reviews and implementing the associated recommendations will be key to NOAA Fisheries findings in its opinion for the 2015 fisheries. In addition, available information indicates fisheries exceeded their exploitation rate ceilings for these populations in most recent years. We will work with the co-managers during the North of Falcon process to determine the reasons for this pattern and the actions that the co-managers have taken or will take to ensure exploitation rates in 2015 meet their objectives. It is essential that fishing plans be designed using the best available information and with an expectation that the conservations objectives will not be exceeded.

Table 2. Puget Sound Chinook conservation objectives for the 2015 fishing year.

Management Unit/Population	Normal Abundance Regime			Minimum Fishing Regime		
	Exploitation Rate Ceiling		Escapement Goal	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 ² 1,000 ²	7.0% ¹	
Skagit Summer/Fall Upper Skagit Lower Skagit Lower Sauk	50.0%			4,800 2,200 900 400	17.0%	
Skagit Spring Suiattle Upper Sauk Cascade	38.0%			576 170 130 170	18.0%	
Stillaguamish NF Stillaguamish SF Stillaguamish	25.0%			700 ² 500 ² 200 ²	15.0%	
Snohomish Skykomish Snoqualmie	21.0%			2,800 ² 1,745 ² 521 ²	15.0%	
Lake Washington Cedar River		20.0%		200		10.0%
Green River	Pre-terminal fisheries will operate under the critical exploitation rate ceiling; terminal fisheries will not target Chinook and other species fisheries in the terminal area will be shaped to minimize Chinook bycatch			1,800		12%
White River	20.0%			200	15.0%	
Puyallup	50.0%			500		12.0% ³
Nisqually ⁴	52.0%			700		50% reduction of SUS ER ⁶
Skokomish	50.0%			800 natural ⁵ 500 hatchery ⁵		12.0%
Mid-Hood Canal		15.0% PT		400		12.0%
Dungeness		10.0%		500	6.0%	
Elwha		10.0%		1,000	6.0%	

¹ Expected Southern US rate will not exceed 7.0% in 4 out of 5 years and 9.0% in 1 out of 5 years. In 2011 the expected southern U.S. rate was 7.9%.

² Threshold expressed as natural-origin spawners.

³ The total southern U.S. exploitation rate for the Puyallup is expected to fall within the range of 23% to 27%.

⁴ Managers shall take actions to ensure that an adequate number of Chinook salmon arrive at the weir to produce upstream escapements within the range observed from 2005 to 2009, after factoring anticipated weir-related Chinook salmon impacts. Managers shall pass upstream the number, or proportion of the total return, of hatchery-origin Chinook salmon required to meet this goal if there are insufficient natural-origin Chinook (NMFS 2010).

⁵ Anticipated hatchery or natural escapements below these spawner abundances trigger specific additional management actions.

⁶ Southern U.S. ER ceiling will be 50% of the difference between 52% and the expected ER associated with fisheries in Alaska and British Columbia.

COHO SALMON

Oregon Coast Coho Salmon

The ESA listing status of Oregon Coast (OC) coho has changed over the years. On February 11, 2008 NOAA Fisheries again listed OC coho as threatened under the ESA. Regardless of their listing status, the Council has managed OC coho consistent with the terms of Amendment 13 of the Salmon FMP as modified by the expert advice of the Council's 2000 *ad hoc* Work Group. NOAA Fisheries approved the management provisions for OC coho in connection with its ESA section 7 consultation on Amendment 13 in 1999, and has since supported use of the related expert advice. For the 2015 season, the applicable spawner status for the northern, north-central, and south-central sub-aggregates is in the low category. The marine survival index is in the medium category. Under these circumstances, the Work Group report requires that the exploitation rate be limited to no more than 0.15. Although the south sub-aggregate is included in the harvest matrix described in Amendment 13 as modified by the 2000 Work Group, the south sub-aggregate is part of the Southern Oregon/Northern California Coastal coho ESU and is managed subject to provisions that are described below for that ESU.

Managers should continue to coordinate ocean fishery impacts with desired terminal fishery opportunities for wild coho salmon to ensure that the impacts remain within the overall limits for the sport fishery, as specified in the Fishery Management and Evaluation Plans for the rivers and lakes occupied by the OC coho ESU.

Lower Columbia River Coho

Lower Columbia River coho were listed as threatened under the ESA on June 25, 2005. In 2008, NOAA Fisheries completed a biological opinion regarding the effects of Council fisheries and fisheries in the Columbia River on LCR coho salmon. That opinion provided guidance in managing Council fisheries from 2008 through 2014. NOAA Fisheries is now working on a new opinion that will apply to fisheries in 2015 and the next several years. In particular, that opinion considers application of a new harvest matrix for ocean and freshwater fisheries combined.

The states of Oregon and Washington have focused on use of a harvest matrix for LCR coho, developed by Oregon, following their listing under Oregon's State ESA. Under the matrix the allowable harvest in a given year depends on indicators of marine survival and brood year escapement. The matrix has both ocean and in-river components which can be combined to define a total exploitation rate limit for all ocean and in-river fisheries. The full set of matrices was implemented from 2001-2005 to establish exploitation limits for LCR coho. However, NOAA Fisheries took a more conservative approach for LCR coho beginning in 2006 because of unresolved issues related to application of the matrix. NOAA Fisheries relied on the matrix, but limited the total harvest impact rate to that allowed for ocean fisheries. Given the particular circumstances regarding marine survival and escapement, allowable exploitation rates since 2006 ranged from 0.08 to 0.225.

In 2011, NOAA Fisheries, Oregon Department of Fish and Wildlife (ODFW), and Washington Department of Fish and Wildlife (WDFW) discussed the need for an updated harvest control rule for LCR natural coho salmon. The states made a presentation to the Council in November 2013,

after which the Council established an *ad hoc* Lower Columbia River Natural Coho Workgroup (LCR Workgroup) comprised of State, Tribal, and Federal technical and policy representatives. The LRC Workgroup was charged with collaborating with the Council's Salmon Advisory Subpanel on the development and evaluation of existing and alternative harvest policies for LCR natural coho to determine if a revised harvest policy could be developed that simplified existing harvest rules and provided modest improvements in fishing opportunity while keeping risks to the populations low. In November 2014, the Council adopted the following revised abundance based harvest matrix based on the work of the LRC Workgroup, with the recommendation that NOAA Fisheries consider it in ESA determinations.

In January 2015, the Council formally requested that NOAA Fisheries consider this new harvest matrix for use in managing fisheries that affect LCR coho in 2015 and beyond (McIsaac 2015). The proposed harvest matrix manages fisheries subject to a total exploitation rate limit that would be set each year based on a matrix with two levels of parental escapement and five levels of marine survival (Table 3). The Council would manage its fisheries such that the total exploitation rate on LCR coho salmon in all marine area fisheries and fisheries in the mainstem Columbia River below Bonneville Dam would not exceed the year specific exploitation rate limit. The harvest matrix should be reviewed periodically beginning after the third year of implementation. The purpose of the review would be to assess performance, assumptions, and expectations described in the Beamesderfer et al. (2014) analysis.

Table 3. Harvest management matrix for LCR coho showing allowable fishery exploitation rates based on parental escapement and marine survival index.

Parental Escapement (rate of full seeding)		Marine Survival Index (based on return of jacks per hatchery smolt)					
		Very Low (≤ 6%)	Low (≤ 8%)	Medium (≤ 17%)	High (≤ 40%)	Very High (> 40%)	
Normal	≥ 0.30	10%	15%	18%	23%	30%	Allowable exploitation rate
Very Low	< 0.30	≤ 10%	≤ 15%	≤ 18%	≤ 23%	≤ 30%	

For the 2015 season, parent escapement is in the normal category. The marine survival index is in the high category. Therefore, Council fisheries in 2015 should be managed such that the total exploitation rate in all fisheries on LCR coho below Bonneville Dam does not exceed 23 percent.

Southern Oregon/Northern California Coastal (SONCC) Coho Salmon

The SONCC coho ESU has been listed as threatened under the ESA since 1997. The current consultation standard for SONCC coho is from a NOAA Fisheries biological opinion dated April 28, 1999. The Rogue/Klamath coho hatchery stock is used as an indicator of fishery impacts on SONCC coho. The 1999 biological opinion requires that management measures developed under the Salmon FMP achieve an ocean exploitation rate on Rogue/Klamath coho hatchery stocks of no more than 0.13.

Central California Coastal (CCC) Coho Salmon

The CCC coho ESU was listed as threatened under the ESA in 1996 and relisted as endangered in 2005. The current consultation standard for CCC coho is from a NOAA Fisheries biological

opinion dated April 28, 1999. Information on past harvest or non-retention mortality rates is lacking for CCC coho. In the absence of more specific information, the 1999 biological opinion requires that directed fishing for coho and retention of coho in Chinook-directed fisheries be prohibited off California.

CHUM SALMON

Hood Canal Summer-run Chum

The Hood Canal summer-run chum salmon ESU was listed as threatened under the ESA in 2005. Chum salmon are not targeted and are rarely caught in Council salmon fisheries; however, the Salmon FMP requires fisheries to be managed consistent with NOAA Fisheries' ESA standards for all ESA-listed species. 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 Council 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 and Ozette Lake Sockeye Salmon

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

STEELHEAD

NOAA Fisheries has listed two Distinct Population Segments (DPS) of steelhead as endangered and nine DPSs as threatened in Washington, Oregon, Idaho, and California. All 11 ESA-listed DPSs have been considered in biological opinions on the effects of Council fisheries.

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

NOAA Fisheries looks forward to working with the Council to develop fisheries consistent with the conservation and management objectives of the Salmon FMP and the ESA. We are committed to working with the Council to address the issues outlined in this letter.

Sincerely,

A handwritten signature in blue ink, reading "William Stelle, Jr.", is positioned above the printed name.

William W. Stelle, Jr.
Regional Administrator