



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
1201 NE Lloyd Boulevard, Suite 1100
PORTLAND, OREGON 97232-1274

March 3, 2017

Mr. Herb Pollard, Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Dear Chair Pollard:

The Pacific Coast Salmon Fishery Management Plan (Salmon FMP) requires that the Pacific Fishery Management Council (Council or PFMC) 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 2017 season on ESA-listed salmonid species. As in previous years, this letter is intended to offer NOAA Fisheries' preliminary guidance regarding conservation needs for ESA-listed salmonid species.

We also use this opportunity to comment on other subjects of general interest and provide additional guidance for non-listed salmon stocks of particular relevance to Council fisheries. For the 2017 fishing season, these other subjects include guidance for Sacramento River fall Chinook and Klamath River fall Chinook and our expectations for the management of these stocks in 2017. This guidance is based on circumstances from recent years and forecasted abundance and our expectations for the genetic stock identification (GSI) sampling program in 2017. We also provide an update on the status of work related to effects of fisheries on endangered Southern Resident killer whales.

Southern Resident Killer Whales

NOAA Fisheries and other researchers continue to develop new scientific information and analyses regarding the ecology of Southern Resident killer whales (Southern Residents), which are listed as endangered under the ESA. It is clear that Chinook salmon are very important to the survival and recovery of Southern Residents as a prey species. Therefore, any activities that affect the abundance of Chinook salmon available to Southern Residents, such as fisheries that occur within the range of Southern Residents or that affect Chinook salmon abundance within their range, have potentially serious impacts on the survival and population growth of the whales.

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 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, 2012.¹

NOAA Fisheries is continuing to consider all aspects of the final report of the independent science panel to inform new consultations on fisheries and to evaluate the need to reinstate existing fishery consultations. In addition, we are pursuing several research projects identified in the report. These projects focus on the whales' migration patterns, feeding habits, health condition and preference for Chinook salmon as prey. With regard to prey, we are working to improve our understanding of which salmon runs and timing might be most important to address any food limitations for the whales and to also understand the roles of other salmon predators and fisheries that can affect prey availability for the whales.

For more information about the status of Southern Resident killer whales and the species' conservation and recovery, please refer to NOAA Fisheries' "Species in the Spotlight" Priority Action Plan:

http://www.nmfs.noaa.gov/stories/2015/05/05_14_15species_in_the_spotlight.html and the most recent 5 year status review

http://www.westcoast.fisheries.noaa.gov/publications/status_reviews/marine_mammals/kw-review-2016.pdf. In that status review, NOAA Fisheries concluded that the current population of 78 whales should remain listed as endangered.

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 any 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 2017 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 2017.

Genetic Stock Identification Sampling

The West Coast Salmon Genetic Stock Identification Collaboration (WCGSI) is a partnership of west coast fishermen's organizations, universities, states, and NOAA Fisheries that was formed in 2006 to explore potential uses of genetic stock identification (GSI) for west coast salmon fisheries management. Various levels of at-sea tissue sampling have occurred since the inception of the WCGSI, during the course of open fisheries as well as in times and in areas closed to salmon retention.

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, B.C., for National Marine Fisheries Service (Seattle, WA) and Fisheries and Oceans Canada (Vancouver, B.C.). xv +61 pp. = Appendices.

In 2017, WCGSI partners intend to conduct sampling of Chinook salmon off the coast of California. A proposal describing the 2017 sampling plan has been submitted to the Council for its consideration. Given the conservation constraints for Klamath River fall Chinook expected in 2017 (discussed below), it seems likely that much of the sampling would need to occur in closed waters. As a result the Council will have to consider the relative merits of implementing the project in 2017. If the project is recommended by the Council, the WCGSI partnership would have to submit an application for a scientific research permit to NOAA Fisheries West Coast Regional Office to allow for non-retention sampling of Chinook salmon in times and areas closed to commercial harvest. Impacts associated with hook-and-release mortality in non-retention GSI sampling will be accounted for when sampling occurs in closed times and areas.

There are differing opinions about the potential applications of GSI data for salmon management, as well as the feasibility and cost of collecting and incorporating such data over the long-term. The WCGSI has proposed a project intended to provide information about distribution and abundance in times and areas that have been largely closed to fishing for over 20 years. NOAA Fisheries recommends that the Council evaluate the proposal through its usual fishery planning process. NOAA Fisheries encourages communication between scientists, advisory committees, and the Council as they consider the 2017 proposal and help direct development of GSI technologies to best serve salmon management over the long term.

CHINOOK SALMON

Sacramento River Fall Chinook

NOAA Fisheries guidance for Sacramento River fall Chinook salmon in 2017 is to follow the Salmon FMP-defined control rule, which specifies an expected escapement greater than or equal to 122,000 hatchery and natural-area adult spawners.

Klamath River Fall Chinook

NOAA Fisheries guidance for Klamath River fall Chinook (KRFC) salmon in 2017 is to follow the Salmon FMP-defined control rule. This control rule specifies a minimum escapement of 11,379 natural-area adult spawners, and requires that the Council consider the following set of factors in recommending an allowable exploitation level that would result in at least this number of spawners:

- The potential for critically low natural spawner abundance, including considerations for substocks that may fall below crucial genetic thresholds;
- Spawner abundance levels in recent years;
- The status of co-mingled stocks;
- Indicators of marine and freshwater environmental conditions;
- Minimal needs for tribal fisheries;
- Whether the stock is currently approaching an overfished condition;
- Whether the stock is currently overfished; and
- Other considerations as appropriate.

The Council may recommend lower exploitation rates as needed to address uncertainties or other year-specific circumstances.

The aggregate-age adult abundance forecast for KRFC is the lowest on record by a substantial margin. In the absence of 2017 fisheries, the predicted natural-area spawner escapement is 12,383 adults. This prediction is much lower than both the maximum sustainable yield number of spawners (40,700) and the minimum stock size threshold (30,525). The geometric mean of 2015 natural-area adult escapement, 2016 natural-area adult escapement, and the prediction for 2017 (in the absence of fisheries) is less than the minimum stock size threshold and therefore, as defined in the Salmon FMP, KRFC are approaching an overfished condition. *De minimus* features of the KRFC control rule allow for a maximum exploitation rate of 8.1 percent in 2017. Given the extremely low abundance forecast and resulting low level of allowable fishing mortality, NOAA Fisheries anticipates harvest opportunity will be heavily constrained in the region between Cape Falcon, Oregon, and Point Sur, California.

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.

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-run 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, 2010². The 2010 biological opinion 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 RPA² 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.

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

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 participating in a PFMC ad-hoc work group focused on exploring alternative control rules. However, for 2017, NOAA Fisheries guidance is to follow the existing winter-run control rule, which specifies a predicted age-3 impact rate of no greater than 15.8 percent in fisheries south of Point Arena, California.

In 2016, the Council took a precautionary approach and recommended winter-run management measures that were more conservative than required by the RPA's management framework. For 2017, NOAA Fisheries recommends and anticipates that the Council again review the best available information related to the status of winter-run and develop management measures that are responsive to that information.

Sacramento winter Chinook are one of eight species identified in NOAA Fisheries' "Species in the Spotlight" initiative. For more information about actions for its conservation and recovery, please refer to its Species in the Spotlight Priority Action Plan:

http://www.nmfs.noaa.gov/stories/2015/05/05_14_15species_in_the_spotlight.html .

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 2012 management framework implemented for Sacramento River winter-run Chinook offers at least equivalent, and/or additional, restrictions on the ocean salmon fishery than those provided by the previous Sacramento River winter-run 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 2017 fishing year.

Lower Columbia River Chinook Salmon

The Lower Columbia River (LCR) Chinook salmon ESU was 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 2017.

LCR Chinook 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 River 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 Plan³ 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 therefore critical to the overall recovery effort. Given the circumstances, maintaining the hatchery brood stocks for the Cowlitz and Lewis River hatcheries is essential for implementation of specified recovery actions. The Cowlitz Hatchery has met its escapement objective regularly. The forecast for 2017 is 17,100 adults which will again meet the minimum hatchery escapement of 1,550 adults. The Lewis Hatchery did not meet its minimum hatchery escapement goal of 1,500 adults in 2016 with an actual escapement of only 500 Chinook. Lewis hatchery escapements have routinely been above goal, but have been declining in recent years. The 2017 forecast for Lewis River hatchery fish is 700 adults to the tributary mouth similar to the low return in 2016. Given the circumstances, additional management actions to reduce impacts to Lewis River spring Chinook are warranted. NOAA Fisheries understands that the State of Washington will close fishing in the Lewis River during the spring management period, and further that the mainstem Columbia River will be closed to fishing during the spring season from the Washington to Oregon shores extending downstream 0.7 miles from the mouth of the Lewis River. Although additional progress is required to meet the high viability objective for the Sandy River, harvest objectives specified for the population through recovery planning are being met. 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 North Fork Lewis population is 5,700, based on estimates of maximum sustained yield derived from spawner-recruit analysis. Escapements averaged 10,900 since 2005 and, with few exceptions, have met or exceeded the goal since at least 1980. The Sandy River population is considered to be viable under current harvest conditions in the Lower Columbia River Salmon and Steelhead Recovery Plan (NMFS 2013). 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 2017. NOAA Fisheries does expect that the states of Washington and Oregon will continue to monitor the status of the LCR Chinook 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 twenty-one separate populations within the tule component of the LCR Chinook ESU. Unlike the spring or bright populations of the ESU, LCR Chinook 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

³http://www.westcoast.fisheries.noaa.gov/protected_species/salmon_steelhead/recovery_planning_and_implementation/lower_columbia_river/lower_columbia_river_salmon_recovery_sub_domain.html

hoc Tule Chinook Workgroup 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 harvest opportunity when abundance is relatively high.

Since its implementation in 2012, the preseason forecasts for LCR Chinook tule 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. In 2016 the postseason estimate of abundance was 81,900 Chinook compared with the preseason forecast of 113,700 which, in retrospect, would have limited the exploitation rate to 0.38. The observed exploitation rate for 2016 is not yet available.

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 tule in 2017 is 92,400. Therefore, based on the ABM framework, Council fisheries in 2017 should be managed such that the total exploitation rate on LCR Chinook tule in all ocean fisheries and all mainstem Columbia River fisheries 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 provided a three-year review of the harvest framework to the Council in September 2015, concluding that more data points are necessary for an adequate comprehensive review, at which time the estimates of exploitation rates from Fishery Regulation Assessment Model (FRAM) should be compared to independent exploitation rate estimates derived from coded-wire tag groups. NOAA Fisheries expects to conduct the next three-year review after the 2017 fishing season.

Upper Columbia River Spring-run Chinook Salmon, Upper Willamette River Chinook Salmon, Snake River Spring/Summer-run Chinook Salmon

NOAA Fisheries has considered the effects of Council area fisheries on spring-run Chinook salmon stocks from the Upper Columbia River and Upper Willamette River Basins and spring/summer-run Chinook salmon 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-run Chinook Salmon

NOAA Fisheries completed a biological opinion on the Pacific Salmon Treaty Agreement in 2008 where we again considered the effects of fisheries, including Council area fisheries, on Snake River fall-run Chinook. In that opinion, we affirmed that the guidance for ocean fisheries continued to provide a necessary and appropriate level of protection for Snake River fall-run 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 in 2017 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

While NOAA Fisheries is providing formal guidance for the PFMC fisheries for 2017, we acknowledge the importance of, and continue to strongly support, the integrated management structure between the Council and North of Falcon planning processes. The Salmon FMP includes management objectives for each Puget Sound Chinook stock based on ESA consultation standards. All of the requirements of the Salmon FMP for Puget Sound Chinook stocks are described in terms of total or southern U.S. impacts rather than PFMC-specific impacts. Also, 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. 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 provides the following guidance for fisheries managed under the PFMC and describes its expectations for the full suite of southern U.S. fisheries that will affect Puget Sound Chinook stocks in 2017.

In 2011, NOAA Fisheries authorized take under the ESA associated with a comprehensive, multi-year joint Resource Management Plan (RMP) developed by the Washington Department of Fish and Wildlife and the Puget Sound Treaty Tribes (Puget Sound co-managers). The ESA take limit for fisheries implemented under the terms of that RMP expired May 1, 2014. Since that time, NOAA Fisheries has conducted consultations on annual harvest plans based on the provisions of the 2010 RMP as amended by population-specific provisions in the annual harvest plans. We anticipate we will do the same for 2017 fisheries. Although the co-managers have not yet provided a Puget Sound Chinook harvest plan for 2017 fisheries, we understand from our discussions with them that they plan to rely on conservation objectives consistent with the amended provisions of the RMP with three exceptions. For the White River population, the management objective is 22 percent in southern U.S. waters instead of a total exploitation rate of

20 percent as was the case prior to the update of the FRAM base period. The previous FRAM model greatly underestimated impacts in northern fisheries. For 2017, NOAA Fisheries assumes that exploitation of White River Chinook in northern fisheries will be similar to the recent year average of 6.3 percent under the new FRAM based period based on Canada's continued domestic concerns for its stocks. In that case, the anticipated total exploitation rate of just less than 29% in 2017 is equivalent to the previous management objective of 20% under the old base period. Additional spawner-recruit analysis provided by the co-managers indicates this is a conservative approach consistent with the productivity of the population. Similarly, the management objective for Nooksack spring Chinook of 10% was also calibrated to the new FRAM base period including a precautionary buffer in recognition of the very poor status of the management unit.

For Nisqually Chinook, NOAA Fisheries and the co-managers agree a comprehensive long-term mitigation strategy that replaces the one built around the Nisqually weir is necessary in going forward in order to address the risks associated with the proposed exploitation rate and associated hatchery programs. Although the co-managers have made substantial progress on a sound, conceptual approach over the last two years, key components necessary for successful implementation are not yet complete. Until that strategy is in place, NOAA Fisheries has required a gradual reduction in the exploitation rate for Nisqually Chinook that began in 2016. For the 2017 fishing season, Nisqually Chinook should be managed for a total exploitation rate of 47% on unmarked Nisqually Chinook.

The conservation objectives for all Puget Sound Chinook populations are summarized in Table 2, although it will be necessary for the co-managers to confirm the conservation objectives they intend to propose for 2017. The management approach in the RMP and subsequent annual plans 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. Preseason run size information indicates that the Dungeness, North and South Fork Nooksack early, Mid-Hood Canal, Sammamish, North Fork and South Fork Stillaguamish populations are below their low abundance thresholds in 2017.

The recent work to update the FRAM base period indicates that fisheries continue to exceed exploitation rate ceilings for the Puyallup and Skokomish Chinook populations. 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 will take to ensure exploitation rates in 2017 to 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.

Finally, we are reassured by the co-managers' efforts in recent months to avoid any delay in a co-manager agreement on Puget Sound fisheries as occurred in 2016. However, we understand

Table 2. Puget Sound Chinook conservation objectives for the 2017 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 ⁴ 1,000 ⁴	10.0%	
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 ⁴ 500 ⁴ 200 ⁴	15.0%	
Snohomish Skykomish Snoqualmie	21.0%			2,800 ⁴ 1,745 ⁴ 521 ⁴	15.0%	
Lake Washington Cedar River		20.0%		200		10.0%
Green		15% PT	5,800	1,800		12.0%
White River		22% ⁵		200	15.0%	
Puyallup	50.0%			500		12.0% ⁶
Nisqually ⁷	47.0%			700		50% reduction of SUS ER ⁷
Skokomish	50.0%			800 natural ⁸ 500 hatchery ⁸		12.0%
Mid-Hood Canal		15.0% PT		400		12.0%
Dungeness		10.0%		500	6.0%	
Elwha		10.0%		1,000	6.0%	

⁴ Threshold expressed as natural-origin spawners.

⁵ NOAA Fisheries expects Canadian fisheries to remain constrained similar to the recent 5 years. Therefore, the total exploitation rate for White River Chinook in 2017 is expected to be less than 29%.

⁶ The total southern U.S. exploitation rate for the Puyallup is expected to fall within the range of 23% to 27%.

⁷ Southern U.S. ER ceiling will be one-half (50%) of the difference between 50% exploitation rate objective and the expected ER associated with fisheries in Alaska and British Columbia.

⁸ Anticipated hatchery or natural escapements below these spawner abundances trigger specific additional management actions.

that there continues to be some anxiety and skepticism about the upcoming season should the co-managers fail to reach agreement on fisheries in Puget Sound and how that might affect NOAA Fisheries approval of PFMC fisheries. The impact of the PFMC fisheries on threatened Puget Sound Chinook was most recently addressed in a 2004 biological opinion (NMFS 2004). 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. 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 two percent and five percent on average, respectively, in recent years, consistent with the rates in the 2004 biological opinion. In determining if the PFMC fisheries comply with the ESA, NOAA Fisheries would need to assess whether the proposed PFMC fisheries have similarly low impacts on Puget Sound Chinook stocks. However, this does not by itself ensure that NOAA Fisheries could approve PFMC management measures without some form of assurance regarding Puget Sound fisheries. As noted above, under the current management structure, the management objectives under the Salmon FMP account for combined fishery impacts. NOAA Fisheries must also make a determination that the measures are consistent with "other applicable law" including the provisions of the Pacific Salmon Treaty and exercise of treaty rights (Thom 2017).

In summary, while this document provides formal guidance for the PFMC fisheries in 2017, we acknowledge the importance of the integrated management structure between the Council and North of Falcon planning processes. Because impacts in Council fisheries are 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, NOAA Fisheries must be assured even in the event of a lack of North of Falcon agreement, that the final option adopted at the April 2017 Council meeting when combined with Puget Sound fisheries negotiated during the North of Falcon process meets 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 2017. As was the case in 2016, failure to reach the necessary agreements through the North of Falcon process by the end of the April 2017 Council meeting will complicate NOAA Fisheries ability to approve regulations for Council area fisheries and to complete the biological opinion for Puget Sound fisheries by May 1, 2017.

We also note that NOAA Fisheries will conduct a new consultation on the effects of 2017 Puget Sound salmon fisheries on Puget Sound Chinook and steelhead taking into account impacts to these species in ocean fisheries and based on this guidance. The ultimate ESA determination shall be provided when the biological opinion for those species is completed.

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 2000 ad-hoc Workgroup. 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.

The applicable spawner status in determining the appropriate exploitation rate is the lowest of the northern, north-central, and south-central sub-aggregates. For the 2017 season, the spawner status for each sub-aggregate (Northern, north-central, and south-central) is high. The marine survival index is in the medium category. Under these circumstances, the Workgroup report requires that the exploitation rate be limited to no more than 0.30. Although the south sub-aggregate is included in the harvest matrix described in Amendment 13 as modified by the 2000 Workgroup, 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 specified for the sport fishery per the Fishery Management and Evaluation Plans for the rivers and lakes of the OC coho ESU. For 2017, the ocean fisheries plus the specific river sport fisheries are subject to a limit of 0.30 in each sub-aggregate.

Lower Columbia River Coho

The Lower Columbia River coho (LCR coho) ESU was listed as threatened under the ESA on June 28, 2005. NOAA Fisheries’ most recent biological opinion regarding the effects of Council fisheries on LCR coho was completed in 2014. The 2014 opinion provides the basis for our guidance in 2017.

The harvest matrix manages fisheries subject to a total exploitation rate limit that is set each year based upon parental escapement and marine survival (Table 3). The total exploitation rate on LCR coho salmon in all marine area fisheries and fisheries in the mainstem Columbia River below Bonneville Dam must not exceed the year-specific exploitation rate limit. The harvest matrix should be reviewed periodically beginning after the third year of implementation (i.e. 2018). The purpose of the review is to assess performance, and 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)					Allowable exploitation rate
		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 2017 season, parent escapement is in the normal category. The marine survival index is in the medium category. Therefore, Council fisheries in 2017 should be managed such that the total exploitation rate in all fisheries on LCR coho below Bonneville Dam does not exceed 18 percent.

Southern Oregon/Northern California Coastal Coho Salmon

The Southern Oregon/Northern California Coastal coho ESU (SONCC coho) 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 Coho Salmon

The Central California Coastal coho ESU (CCC coho) 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.

CCC coho salmon are one of eight species recently identified in NOAA Fisheries' new "Species in the Spotlight" initiative. For more information about actions for its conservation and recovery, please refer to its Species in the Spotlight Priority Action Plan:

http://www.nmfs.noaa.gov/stories/2015/05/05_14_15species_in_the_spotlight.html .

CHUM SALMON

Hood Canal Summer-run Chum

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 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 and 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 Snake River or Ozette Lake sockeye salmon. Therefore, management constraints in ocean fisheries for the protection of listed sockeye salmon are not considered necessary.

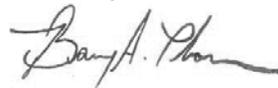
STEELHEAD

One Distinct Population Segment (DPS) of steelhead is currently listed as endangered and ten DPSs are listed as threatened in Washington, Oregon, Idaho, and California. All eleven ESA-listed DPSs have been considered in biological opinions on the effects of PFMC 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 black ink, appearing to read "Barry A. Thom". The signature is fluid and cursive, with a long horizontal stroke at the end.

Barry A. Thom
Regional Administrator