



**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

February 27, 2020

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

Dear Chair Anderson:

The Pacific Coast Salmon Fishery Management Plan (FMP) requires that the Pacific Fishery Management Council (Council) develop management recommendations for fisheries under the FMP consistent with consultation standards analyzed and/or described in biological opinions on the fishery developed by the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) to protect species listed as threatened or endangered under the Endangered Species Act (ESA). This letter summarizes the consultation standards for salmon and steelhead and provides NMFS' preliminary guidance regarding their implementation for the 2020 ocean salmon fishing season. We also provide guidance for minimizing risks to Southern Resident killer whales for the 2020 season.

We also use this opportunity to comment on other subjects of general interest and provide additional recommendations for non-ESA-listed salmon stocks of particular relevance to Council fisheries. For the 2020 fishing season, these other subjects include: recommendations for fisheries affecting Sacramento River fall-run Chinook salmon and Klamath River fall-run Chinook salmon, and a proposal for genetic sampling in closed areas. In this letter, we first address the topics of general interest and non-ESA-listed salmon stocks, followed by guidance related to consultation standards on ESA-listed salmon and steelhead species and Southern Resident killer whales.

## **Non-ESA related topics**

### **Genetic Stock Identification (GSI) Sampling**

**Background:** The West Coast Salmon Genetic Stock Identification (WCGSI) collaboration is a partnership of west coast fishing organizations, universities, states, and NMFS that was formed in 2006 to explore potential uses of GSI for West Coast salmon fisheries management. Various levels of at-sea tissue sampling have occurred since the inception of the WCGSI, both in open fisheries and in times and areas closed to salmon fishing.

In 2020, WCGSI partners intend to conduct sampling of Chinook salmon off the coast of California to examine fine scale ocean distribution patterns of Klamath River Chinook salmon compared to other stocks of interest, including ESA-listed California Coastal Chinook salmon. A proposal for the 2020



sampling plan has been submitted to the Council for its consideration. The proposed sampling scheme incorporates GSI sampling of Chinook salmon caught in commercial fisheries and non-retention GSI sampling of Chinook salmon in times and areas closed to salmon fishing.

**Recommendation:** We recommend the Council consider the relative merits of implementing the non-retention GSI sampling portion of the project in 2020 and evaluate the proposal through the Council's usual fishery planning process. Impacts associated with hook-and-release mortality in non-retention GSI sampling should be accounted for in the Salmon Technical Team's analysis of fisheries impacts. We encourage communication between scientists, advisory committees, and the Council in considering the proposal and to help direct development of GSI technologies that can best serve salmon management over the long term.

To implement the 2020 proposal, the WCGSI partnership would have to submit an application to NMFS' West Coast Region for a scientific research permit authorizing non-retention sampling of Chinook salmon in times and areas closed to commercial harvest. This is the last year of funding for non-retention sampling under the current Saltonstall-Kennedy Grant.

### **Sacramento River Fall-run Chinook (SRFC) Salmon**

**Background:** SRFC abundance declined in recent years to the point that in 2018 the three-year geometric mean of hatchery and natural area adult spawners was lower than the minimum stock size threshold, thereby resulting in an overfished status determination for this stock. SRFC remains overfished and the Council adopted a rebuilding plan in 2019. NMFS published a proposed rule, which is in the public comment stage, to approve this plan.<sup>1</sup> The Council's recommended rebuilding strategy includes using the current SRFC harvest control rule to set maximum allowable exploitation rates and minimum escapement values based on forecasted abundance.

Performance of the Sacramento Index and the number of SRFC spawners have improved in recent years relative to preseason expectations (Table 1) after several years of declines and poor performance. Escapement of SRFC in 2019 is estimated to be 162,532 hatchery and natural area adults. This escapement exceeded the maximum sustainable yield escapement ( $S_{MSY}$ ) of 122,000 adults for the first time since 2014. The three-year geometric mean of spawners is 90,675 (2017-2019) and must increase to at least 122,000 to achieve a rebuilt status. An escapement of 105,866 would be required to meet the FMP's criteria for rebuilt status in 2020.

The harvest control rule in the FMP specifies an exploitation rate that produces an expected escapement of 122,000 adults, corresponding to  $S_{MSY}$ . The conservation objective for SRFC in the FMP specifies a range of 122,000 – 180,000 adult spawners.

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<sup>1</sup> 85 FR 6135, February 2, 2020, proposed rule. Available: <https://www.federalregister.gov/documents/2020/02/04/2020-01908/fisheries-off-west-coast-states-west-coast-salmon-fisheries-rebuilding-chinook-salmon-stocks> (website accessed February 25, 2020).

Table 1. SRFC pre-season abundance, escapement, and exploitation rate forecasts for 2015-2019, and comparison to post-season estimates (preliminary values are shown in italics).

Year	Sacramento Index Forecast	Preseason Forecasted Spawning escapement	Preseason Exploitation Rate	Sacramento Index Post Season	Post-Season Spawning escapement	Post-Season Exploitation Rate
2015	651,985	341,017	48%	254,240	112,947	56%
2016	299,609	151,128	50%	205,289	89,674	56%
2017	230,700	133,242	42%	135,500	44,574	68%
2018	229,432	151,000	34%	223,900	105,739	53%
2019	379,632	160,159	58%	<i>505,535</i>	162,532	<i>68%</i>
2020	473,183	-	-	-	-	-

**Recommendation:** We recommend that the Council follow the provisions of the Council’s recommended rebuilding plan for SRFC.<sup>1</sup> The 2020 Sacramento Index forecast is 473,183 adult spawners. Applying this forecast abundance to the control rule results in a maximum allowable exploitation rate of 0.70 and a minimum expected escapement of 141,955 adult spawners.

**Klamath River Fall-run Chinook (KRFC) Salmon**

**Background:** The status of KRFC also declined to the point that it was declared overfished in 2018. KRFC remains overfished and the Council adopted a rebuilding plan, and NMFS published a proposed rule to approve this plan.<sup>1</sup> The Council’s rebuilding strategy includes using the current KRFC harvest control rule to set maximum allowable exploitation rates and minimum escapement values based on forecasted abundance. Natural-area escapement of KRFC in 2020 was 20,245 adults, which was half of its  $S_{MSY}$  of 40,700. The lowest escapements on record have occurred in four of the last five years, declining substantially from the levels of escapement observed during the previous five years. Forecast performance has been mixed although post-season estimates of exploitation rates have generally been at or below preseason projections (Table 2). Ocean environmental indicators suggest continued relatively poor ocean survival conditions.

Table 2. KRFC pre-season abundance, escapement, and exploitation rate forecasts for 2015-2018, and comparison to post-season estimates (preliminary values are shown in italics).

Year	Ocean Abundance Forecast	Resulting Forecasted Spawning escapement	Preseason Exploitation Rate	Post-Season Ocean Abundance	Post-Season Spawning escapement	Post-Season Exploitation Rate
2015	423,753	40,700	59%	171,600	28,112	59%
2016	142,169	30,909	25%	57,500	13,937	37%
2017	54,246	11,379	8%	73,200	19,904	10%
2018	359,231	40,700	32%	408,600	52,352	28%
2019	274,200	40,700	54%	<i>156,200</i>	20,245	<i>42%</i>
2020	186,600		-	-	-	-

The KRFC harvest control rule specifies maximum allowable exploitation rates that vary with abundance, but generally seeks to provide for an  $S_{MSY}$  escapement level of 40,700 natural-area adults (i.e., adult fish that spawn in natural areas). When KRFC potential spawner abundance is projected to be less than 54,267 natural-area adults, fisheries are managed under the *de minimis* portion of the control rule, which allows for some fishing opportunity but results in the expected escapement falling below 40,700 natural-area adult spawners. The 2020 KRFC potential spawner abundance prior to fishing is predicted to be 48,274 Chinook salmon.

The FMP also requires that the Council consider the following set of factors in setting an allowable *de minimis* exploitation rate:

- 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.

**Recommendation:** The Council should follow the provisions of the current control rule for KRFC. Applying the forecast abundance to the control rule results in a maximum allowable exploitation rate of 0.25 and a minimum expected natural area adult escapement of 36,206. Given the extremely low abundance forecast and resulting low level of allowable fishing mortality, NMFS anticipates harvest opportunity will be substantially constrained in the region between Cape Falcon, Oregon, and Point Sur, California. Given the status, performance, and outlook for the stock in 2020, NMFS encourages

the Council to take a cautious approach and carefully consider the factors described in the FMP in setting the exploitation rate.

## **ESA-listed Chinook Salmon Species**

### **California Coastal (CC) Chinook Salmon Evolutionarily Significant Unit (ESU)**

**Background:** The CC Chinook salmon ESU has been listed as threatened under the ESA since 1999. The current consultation standard for CC Chinook is described in the FMP and is based on a 2000 NMFS biological opinion and an additional ESA consultation on the ESU completed in 2005, which specified actions necessary to implement the reasonable and prudent alternatives (RPAs) of the 2000 opinion.

**Guidance:** The Council fisheries should be designed consistent with the RPA of the 2000 opinion (i.e., limits on the forecast KRFC age-4 ocean harvest rates would serve as the consultation standard to ensure that CC Chinook are not subject to increasing harvest rates in the future) and the 2005 consultation (i.e., management measures shall result in a forecast KRFC age-4 ocean harvest rate of no greater than 16 percent).

### **Sacramento River Winter-run Chinook Salmon (SRWC) ESU**

**Background:** The SRWC ESU was listed under the ESA as threatened in 1990 and relisted as endangered in 1994. SRWC is one of eight species identified in NMFS' "Species in the Spotlight" initiative because it is at high risk of extinction. For more information about actions for its conservation and recovery, please refer to its Species in the Spotlight Priority Action Plan.<sup>2</sup>

NMFS has completed several ESA consultations regarding the impacts of the ocean salmon fishery on SRWC. The most recent and currently applicable opinion was completed in March 2018. That opinion analyzed the Council's proposed new abundance-based control rule, informed by extensive analysis by the Council's Ad Hoc SRWC Workgroup, in conjunction with size and season limits previously implemented.

The 2018 opinion concluded that fisheries managed under this new control rule, and maintaining the fishery season and size restrictions that were part of the previous RPA, are not likely to jeopardize SRWC. The harvest control rule uses a forecast of SRWC age-3 escapement in the absence of fisheries ( $E_3^0$ ) to determine the allowable impact rate.<sup>3</sup> If  $E_3^0$  is above 3,000, a maximum impact rate of 20 percent is allowed. If  $E_3^0$  is between 3,000 and 500, then the impact rate ranges from 0.20 to 0.10. If  $E_3^0$  is below 500, then the impact rate has a steeper decline from 10 percent until it reaches zero at an  $E_3^0$  of zero (Figure 1).

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<sup>2</sup> Species in the spotlight: priority actions, 2016-2020. Sacramento River winter-run Chinook salmon, *Oncorhynchus tshawytscha*. Available: <https://repository.library.noaa.gov/view/noaa/10746> (website accessed February 19, 2020).

<sup>3</sup> O'Farrell, M., N. Hendrix, and M. Mohr. 2016. An evaluation of preseason abundance forecasts for Sacramento River winter Chinook salmon. Pacific Fishery Management Council Briefing Book for November 2016, 35 pages.

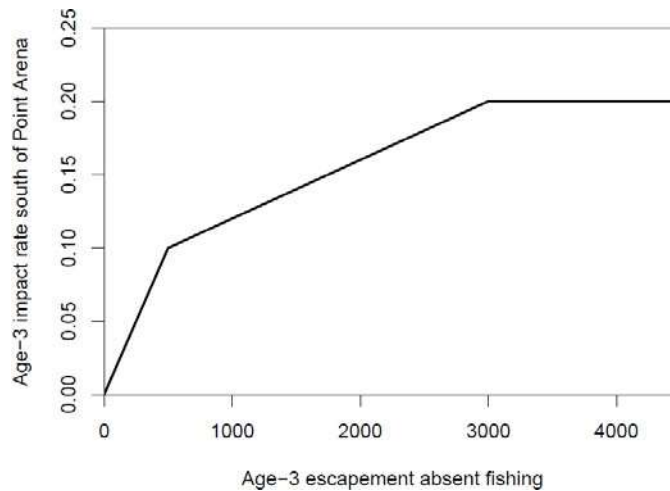


Figure 1. The adopted harvest control rule for management of ocean fisheries that affect Sacramento River winter-run Chinook salmon.

**Guidance:** The 2020 forecast of SRWC age-3 escapement in the absence of fisheries is 3,077. Applying this abundance forecast to the control rule results in a maximum allowable age-3 impact rate of 20 percent in 2020 fisheries south of Point Arena, California. Council fisheries in 2020 should be designed to not exceed 20 percent age-3 impact rate on SRWC.

### **Central Valley Spring-run Chinook Salmon ESU**

**Background:** The Central Valley spring-run Chinook salmon ESU was first listed as threatened in 1999. Effects of the ocean salmon fishery on this ESU were most recently analyzed in NMFS’ 2000 biological opinion. That opinion concluded that the fishery, as regulated under the FMP and NMFS’ consultation standards for SRWC, is not likely to jeopardize the continued existence of Central Valley spring-run Chinook salmon.

The management framework for SRWC that includes the updated harvest control rule recommended by the Council in 2017 and size and season limits from the previous RPA for SRWC contains equivalent and/or additional restrictions on the fishery to previous management measures and is more responsive than prior management frameworks to information related to the status of Central Valley spring-run Chinook salmon by accounting for changes in freshwater conditions in the Central Valley for SRWC. As a result, NMFS concluded that the current management framework for SRWC, along with other regulatory measures in the FMP, limits impacts to Central Valley spring-run Chinook salmon for the 2020 fishing year in a manner that is more protective than anticipated in the 2000 opinion and, therefore, reinitiation of ESA consultation is not required at this time.

**Guidance:** Council fisheries in 2020 should be managed to meet the consultation standard for SRWC to be sufficiently protective of the Central Valley spring-run Chinook salmon ESU.

### **Lower Columbia River (LCR) Chinook Salmon ESU**

**Background:** The LCR Chinook salmon ESU was listed as threatened under the ESA in 1999. In 2011, the Council recommended implementation of an abundance-based framework for limiting fishery impacts

on this ESU. NMFS analyzed the effects of using this framework to manage ocean fisheries on LCR Chinook salmon in a 2012 biological opinion. The Council's abundance-based framework and the 2012 opinion provide the basis for our guidance in 2020.

LCR Chinook salmon includes a spring-run component, a "far-north" migrating bright component, and a component of north-migrating tules. The bright and tule components both have fall run timing. The historic spawning habitat for the Upper Cowlitz, Cispus, and Lewis River spring-run 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.

a) *Cowlitz, Lewis River, and Sandy River Hatcheries populations* – Per the Lower Columbia Salmon and Steelhead Recovery Plan, the Cowlitz Salmon Hatchery and Lewis River Salmon Hatchery are being used for reintroduction of LCR spring-run Chinook salmon into the upper basins above the existing dams.<sup>4</sup> The hatchery programs are 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 the recovery plan. The Cowlitz Salmon Hatchery has met its escapement objective in every year since 2002. Lewis River Salmon Hatchery escapements have routinely been above goal, but have been declining in recent years. Although additional progress is required to meet the high viability objective for the Sandy River spring Chinook salmon population, harvest objectives specified for the population through recovery planning are being met.

b) *North Fork Lewis and Sandy River bright populations* – There are two extant natural-origin bright populations, both considered relatively healthy, in the LCR Chinook salmon ESU: the North Fork Lewis and Sandy River populations. 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 River population is 5,700, based on estimates of maximum sustainable yield derived from spawner-recruit analysis. Annual escapement averaged 11,115 between 2008 and 2018 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.

c) *LCR tule Chinook salmon* – There are twenty-one separate populations within the tule component of the LCR Chinook salmon ESU, which are caught in large numbers in Council fisheries, as well as fisheries to the north and in the Columbia River. NMFS' 2012 biological opinion on the abundance-based management (ABM) framework concluded that fisheries managed under this framework are not likely to jeopardize LCR Chinook salmon. The ABM framework sets the annual exploitation rate limit depending on the abundance of Lower River Hatchery (LRH) tule Chinook salmon (Table 3).

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<sup>4</sup> Recovery Plan for Lower Columbia River Coho Salmon, Lower Columbia River Chinook Salmon, Columbia River Chum Salmon, and Lower Columbia River Steelhead. Available: <https://www.fisheries.noaa.gov/resource/document/recovery-plan-lower-columbia-river-coho-salmon-lower-columbia-river-chinook> (website accessed February 19, 2020).

Table 3. Variable exploitation rate limits based on the preseason forecast of LRH Chinook salmon.

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

**Guidance:** a) Cowlitz, Lewis River, and Sandy River Hatcheries populations – While the 2020 forecast for Cowlitz Salmon Hatchery escapement is 1,400 adults, this forecast is for escapement to the Columbia River mouth, which, by the time the run migrates to the terminal area, is not expected to meet the minimum hatchery escapement of 1,337 adults. The 2020 forecast for Lewis River Salmon Hatchery fish is 1,300 adults compared to an escapement goal of 1,380. We understand that the states of Washington and Oregon will manage the mainstem Columbia River spring season fisheries, along with fisheries in Columbia River tributaries, to ensure the escapement to the Cowlitz and Lewis River Hatcheries are maximized to the extent forecasts allow in 2020. The Sandy River spring Chinook salmon population is meeting the recovery planning harvest objective and NMFS does not anticipate the need to take specific management actions in the ocean to protect the spring component of the LCR Chinook salmon ESU in 2020. We anticipate that the management agencies will continue to manage in-river fisheries, coordinating between mainstem and terminal tributary fisheries management, toward maximizing hatchery escapement in 2020.

b) North Fork Lewis and Sandy River populations – Given the long history of healthy returns and management constraints that will be in place this year for other fall-run stocks (e.g., tules and upriver brights), we do not anticipate the need to take specific management actions in the ocean to protect the bright component of the LCR Chinook salmon ESU in 2020. The Council should continue to manage to meet the escapement goal of 5,600 Chinook salmon to the North Fork Lewis River. We anticipate that the states of Washington and Oregon will continue to monitor the status of the LCR Chinook salmon bright populations and take the specific actions necessary through their usual authorities to deliver spawning escapement through the in-river fisheries they manage sufficient to maintain the health of these populations.

c) LRH tule Chinook salmon – The preseason forecast for LRH tule Chinook salmon in 2020 is 51,000; therefore, Council fisheries in 2020 should be managed such that the total exploitation rate on LCR tule Chinook salmon in all ocean fisheries and all mainstem Columbia River fisheries below Bonneville Dam combined does not exceed 38 percent.



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

**Background:** NMFS has considered the effects of Council 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 several biological opinions. In these opinions we concluded that the expected take in Council salmon fisheries of salmon originating from any one of these ESUs is at most an occasional event; therefore, the fisheries were not likely to jeopardize any of these ESUs.

**Guidance:** Consistent with the findings of the opinions, management actions designed to limit catch from these ESUs beyond what will be provided by harvest constraints for other stocks in 2020 are not necessary.

## **Snake River Fall-run Chinook Salmon ESU**

**Background:** NMFS completed a biological opinion on the impacts of Council salmon fisheries on Snake River fall-run Chinook salmon in 1996. In that opinion, NMFS concluded that a 30.0 percent reduction in the age-3 and age-4 adult equivalent total exploitation rate in ocean salmon fisheries relative to the 1988-1993 base period standard provided a necessary and appropriate level of protection for Snake River fall-run Chinook salmon. That consultation standard is equivalent to an ocean exploitation rate limit of 33 percent on age-3 and age-4 Snake River fall-run Chinook under the current Fishery Regulation Assessment Model (FRAM) base period calibration. Since this ESU has shown continued progress towards recovery with the 1996 opinion's standard in place, that standard still applies.

**Guidance:** 2020 Council salmon fisheries must be managed to ensure that the 30.0 percent base period reduction criterion for the aggregate of all ocean salmon fisheries, including Southeast Alaska, Canada, and Council fisheries, is achieved.

## **Puget Sound Chinook Salmon ESU**

**Background:** The following summarizes guidance for the Puget Sound Chinook salmon ESU. While NMFS is providing guidance for the 2020 Council salmon fisheries, we acknowledge the importance of, and continue to strongly support, the integrated management structure between the Council and North of Falcon planning processes. The FMP describes conservation objectives for each Puget Sound Chinook salmon stock, although these have evolved over time. The consultation standards for Puget Sound Chinook salmon stocks that NMFS includes in this letter are described in terms of total or southern U.S. fisheries (SUS) impacts rather than Council fisheries specific impacts. 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.

Although Council and Puget Sound fisheries are intertwined, it is worth noting that impacts on Puget Sound Chinook salmon stocks in Council fisheries are generally quite low. In 2004, NMFS issued a biological opinion on the anticipated effects of Council fisheries on the listed Puget Sound Chinook ESU for 2004 and future fishing years (NMFS 2004). The 2004 opinion found that exploitation rates in Council area fisheries would not jeopardize the continued existence of the species. Exploitation rates on Puget Sound spring- and fall-run Chinook stock aggregates in Council fisheries had been less than two percent and five percent on average, respectively.

NMFS has consulted on a series of proposed harvest plans for the Puget Sound Chinook Salmon ESU since the ESU was listed in 1999. NMFS is currently reviewing a new comprehensive, multi-year joint Resource Management Plan (RMP) developed by the Washington Department of Fish and Wildlife and the Puget Sound Treaty Tribes (collectively the Puget Sound co-managers) submitted for consideration in December 2017 for the 2018-2028 fishing years. However, discussions between NMFS and the Puget Sound co-managers regarding the provisions of the RMP are on-going and review of that RMP will not be complete in time for the 2020 fishing season. Therefore, NMFS expects to consult on a proposed action encompassing the 2020 fishing season. We expect to issue the biological opinion for the Puget Sound fisheries by early May 2020. There are a small number of Puget Sound stocks for which the final forecast and initial modeling have not yet been finalized, so the following guidance reflects NMFS' discussions with the Puget Sound co-managers to date and our best preliminary assessment of appropriate conservation objectives for 2020. NMFS will provide the Council with revised objectives, should the outcome of continuing discussions result in substantive changes to the guidance provide here, with implications for Council fishery planning.

The status of populations in the Puget Sound Chinook salmon ESU varies. However, there is no question that the status of the ESU as-a-whole has declined over the past 10 years. NMFS' most recent (2016) five-year status review of West Coast ESA-listed salmonids reported negative trends from 1999 to 2014 in natural-origin spawners for 17 of the 22 Puget Sound Chinook salmon populations. The proportion of natural-origin fish on the spawning grounds has decreased steadily over time. Natural- origin escapement of 7 of the 22 populations in the ESU are below their critical thresholds which, for all but one of the populations, means fewer than 200 natural-origin spawners. Six of those populations are essential to the recovery of the ESU. The recent decline in the status of the ESU in general is primarily due to factors other than harvest, but with consideration of the status of the ESU as-a-whole and the critical populations, in particular, our guidance reflects additional conservatism.

**Guidance:** For the Puget Sound Chinook salmon ESU, consistent with the relative exploitation rates assessed in the 2004 opinion, the 2020 Council fisheries should be managed such that exploitation rates on Puget Sound spring- and fall-run Chinook salmon populations do not exceed 3 and 6 percent, respectively. Also, in adopting its 2020 salmon fisheries recommendations, the Council should determine that its fisheries, when combined with the suite of other fisheries impacting the Puget Sound Chinook salmon ESU, meet the management targets set for populations within this ESU.

Our 2020 guidance for conservation objectives for all Puget Sound Chinook salmon populations is summarized in Table 4. The guidance is a mixture of total and southern U.S. exploitation rates,

escapement goals, or noted expectations in place of specific objectives. In addition, the following section notes where discussions with the co-managers are on-going. We may provide additional guidance to the Council for the Green, Puyallup, Lake Washington, and Mid-Hood Canal populations in April pending further discussions with the Puget Sound co-managers and based on information developed through the North of Falcon process. This guidance is specific to the 2020 season and is not intended to limit the on-going discussions between NMFS and the co-managers with regard to the longer-term RMP.

Considerations for some Puget Sound Chinook populations, specific to circumstances in 2020, where we expect, based on these considerations, that the final objective that is produced during the preseason planning process will meet the conservation needs for the populations:

1. For the Mid-Puget Sound fall Chinook populations—Green River, Puyallup River, and Lake Washington—discussions with the co-managers are ongoing for development of interim conservation objectives for the 2020 fishing season. As in 2019, NMFS expects that the final agreed-to objectives are representative of recent-year average natural-origin spawner escapement, in the Green and Puyallup Rivers, and a natural- origin spawner escapement in the Cedar River (Lake Washington) which looks to maximize spawner productivity. These interim objectives will need to conserve recent gains in natural-origin escapement, consistent with the role of these populations in recovery of the ESU. In all three of these systems, hatchery broodstock collection goals are additional, important objectives that can limit the overall attainable harvest rates. Additionally, in the Green and Puyallup River systems, natural-origin adults can be captured at the hatchery facilities. These natural-origin fish are utilized in the hatchery program broodstock but adults that are in excess of that need can be transported to spawning reaches in the rivers to contribute to the natural-origin spawning objective. We expect that the co-manager’s fishery management actions, in the case of Lake Washington, and fishery management actions and hatchery broodstock actions in the Green and Puyallup Rivers, for 2020 will result in spawning ground escapements that will meet the objectives described above and we anticipate that these objectives will meet conservation needs for the populations.
2. For the Mid-Hood Canal Chinook population, the 2020 forecast is for very low abundance, as has been the case for recent years. The recent discontinuation of a small supplementation program for the population has resulted in a marked decrease in total terminal run size for this population. As part of the long-term RMP development, the co-managers are continuing to work toward agreement on a Mid-Hood Canal exploitation rate for SUS fisheries. Understanding that these discussions are ongoing between the co-managers, for the 2020 fishery, NMFS’ guidance for the Mid-Hood Canal Chinook population is that fisheries limit their impacts such that the reduction in preseason estimated escapement of natural-origin fish as a result of Puget Sound fisheries is similar to the most recent two years (2018 and 2019) of preseason estimates. We anticipate that an objective that meets this escapement goal will meet the conservation needs of the population.

If, during the North of Falcon process, circumstances are inconsistent with our expectations, we will work with the co-managers to develop appropriate measures.

In summary, while the primary purpose of this document is to provide guidance for the Council salmon fisheries in 2020, we acknowledge the importance of the integrated management structure between the Council and North of Falcon planning processes. Management actions taken to meet the above-described conservation objectives will occur primarily in Puget Sound fisheries because impacts on Puget Sound Chinook salmon in Council fisheries are low. However, since impacts in both fisheries are considered in meeting the objectives, any delay in reaching the necessary agreements through the North of Falcon process by the end of the April 2020 Council meeting will complicate NMFS' ability to approve regulations for Council area fisheries and to complete the biological opinion for Puget Sound fisheries by May 2019.

To avoid such complications, we strongly recommend that the Council provide assurance that the final option adopted at its April 2020 Council meeting, when combined with Puget Sound fisheries negotiated during the North of Falcon process, results in harvest impacts that are consistent with the conservation objectives for each Puget Sound Chinook management unit included in Table 4 based on the anticipated 2020 abundances.

(continued next page)

Table 4. NMFS' guidance for Puget Sound Chinook salmon conservation objectives for the 2020 fishing year. Grayed rows indicate interim, one-year objectives for 2020. Low abundance thresholds for management units with multiple populations are in bold where available. Table footnotes are provided on the following page.

Management Unit/Population	Normal Abundance Regime			Minimum Fishing Regime		
	Exploitation Rate Ceiling		Escapement Goal	Low Abundance Threshold	Critical Exploitation Rate	
	Total	Southern US			So. US	Preterminal So. US
<b>Nooksack spring</b> NF Nooksack SF Nooksack	Minimum Fishing Regime applies			400 200	10.5%/13.5% <sup>1</sup>	
<b>Skagit Summer/Fall</b> Upper Skagit Lower Skagit Lower Sauk	48%			<b>9,100</b> <sup>2</sup> 2,200 900 400	17%/15% <sup>3</sup>	
<b>Skagit Spring</b> Suitttle Upper Sauk Cascade	37.5%			<b>823</b> <sup>2</sup> 170 130 170	10.3%	
<b>Stillaguamish</b> NF Stillaguamish and SF Stillaguamish	22% <sup>4</sup>			1,200	8%	
<b>Snohomish</b> Skykomish Snoqualmie	19% <sup>5</sup>			<b>3,250</b> <sup>2</sup> 2,015 1,132	9%	
<b>Lake Washington</b> Cedar River	See bullet 1 above					
<b>Green</b>	See bullet 1 above					
<b>White River</b>		22%	1,000	400	15%	
<b>Puyallup</b>	See bullet 1 above					
<b>Nisqually</b>	47%/49% <sup>6</sup>					
<b>Skokomish</b>	50%			<b>1,300</b> <sup>2</sup> 800 natural spawners and 500 hatchery escapement	Further reductions as necessary	12%
<b>Mid-Hood Canal</b>	See bullet 2 above					
<b>Dungeness</b>		10%		500	6%	
<b>Elwha</b>		10%		1,500	6%	

Table 4 footnotes.

1. Expected total SUS exploitation rate will not exceed 10.5% in 4 out of 5 years and 13.5% in 1 out of 5 years.
2. Both aggregate and individually identified goals must be met.
3. For Skagit River summer/fall Chinook Management Unit, the critical exploitation rate ceiling is set at 15% during even years and 17% during odd years.
4. Total exploitation rate (including Alaskan and Canadian salmon fisheries) cannot exceed 22%. If northern fisheries exceed 14%, SUS impacts will be lowered to maintain natural origin recruit impacts to not exceed a 22% total exploitation rate.
5. When forecasted abundance is greater than the Low Abundance Threshold (LAT) or Upper Management Threshold (UMT) (4,900; 3,600 for Skykomish and 1,300 for Snohomish) and the northern fishery exploitation rate is projected to exceed 9%, SUS fisheries may be planned to the exploitation rate limits of 9% and 10%, at the above LAT and above UMT tiers, respectively. In these cases, the total exploitation rate may exceed 19%.
6. An additional 2% exploitation rate, in the terminal area net fishery, may be included for 2020 management objective, to facilitate the continued the experimental, selective gear project. The inclusion of this additional 2% exploitation rate is dependent on NMFS's acceptance of a pre-season implementation plan prior to the April Council meeting.

## **ESA-listed Coho Salmon Species**

### **Oregon Coast (OC) Coho Salmon ESU**

**Background:** The ESA listing status of the OC coho ESU has changed over the years. Since February 2008, the OC coho ESU has been ESA-listed as threatened. Regardless of its listing status, the Council has managed OC coho consistent with the terms of Amendment 13 of the FMP as modified by the Council's 2000 ad-hoc OC Natural Coho Workgroup. NMFS concluded in its 1999 ESA section 7 consultation on Amendment 13 to the FMP that management of fisheries consistent with the Amendment was not likely to jeopardize this ESU. The 2000 modifications to the framework in Amendment 13 added management tiers to address lower marine survival and parent brood conditions. With these modifications, the framework has provided equivalent and/or additional restrictions on the ocean salmon fishery for OC coho salmon when compared to the provisions of the 1999 opinion. Therefore, reinitiation of consultation was not required.

Prior to FMP Amendment 13 (January 1999), coho originating in coastal Oregon streams from the Necanicum River in the north to the Winchuck River in the south were managed as one aggregate stock, Oregon Coast Natural (OCN) coho. Amendment 13 disaggregated OCN coho management into four sub-aggregates: northern (Necanicum River to Neskowin River), north central (Salmon River to Siuslaw River), south central (Siltcoos River to Sixes River), and southern (Elk River to Winchuck River). Three of these (northern, north central, and south central) comprise the OC coho ESU. The southern sub-aggregate is within the Southern Oregon/Northern California Coastal coho ESU (SONCC coho), discussed below. Additionally, under Amendment 13, allowable fishery impact rates for OC coho are set based on measures of parental escapement and marine survival. Impact rates are set for each of the three OC coho sub-aggregates, with the ocean impacts rate being limited by the lowest of the three.

**Guidance:** For the 2020 season, the spawner status for the northern sub-aggregate is medium, the north-central sub-aggregate is low, and the south-central sub-aggregate is low. The marine survival index is in the low category. Under these circumstances, the 2000 OC Natural Coho Workgroup report requires that the total exploitation rate in 2020 marine and freshwater fisheries be limited to no more than 15 percent for all three of the OC coho sub-aggregates.<sup>5</sup> Although the south sub-aggregate is included in the harvest matrix described in Amendment 13, as modified by the 2000 OC Natural Coho Workgroup, as described above, the south sub-aggregate is part of the SONCC coho ESU. Therefore, the south sub-aggregate should be managed consistent with the SONCC coho ESU section below and consistent with the 1999 opinion referenced above.

For 2020, fishery managers should continue to coordinate ocean fishery impacts with desired terminal fishery opportunities for wild coho salmon to ensure that the impacts for each of the sub-aggregates remain within the overall limits specified for the sport fishery consistent with the Fishery Management and Evaluation Plans for the rivers and lakes of the OC coho ESU.<sup>6</sup> For 2020, the ocean fisheries plus the specific river sport fisheries are subject to a limit of 15 percent in each sub-aggregate.

**Lower Columbia River (LCR coho) Coho Salmon ESU**

**Background:** The LCR coho ESU was listed as threatened under the ESA in 2005. In 2014, the Council recommended a harvest management matrix for managing impacts to LCR coho. NMFS completed a biological opinion concluding that Council fisheries managed using this matrix are not likely to jeopardize LCR coho. The matrix and the 2015 opinion provides the basis for our guidance in 2020.

The total exploitation rate limit for LCR coho is set each year based on measures of parental escapement and marine survival (Table 5). 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.

Table 5. 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 (≤ 0.06%)	Low (≤ 0.08%)	Medium (≤ 0.17%)	High (≤ 0.40%)	Very High (> 0.40%)	
Normal	≥ 0.30	10%	15%	18%	23%	30%	Allowable exploitation rate
Very Low	< 0.30	≤ 10%	≤ 15%	≤ 18%	≤ 23%	≤ 30%	

<sup>5</sup> OCN Work Group Report. 2000 Review of Amendment 13 to the Pacific Coast Salmon Plan. October 12, 2000. Exhibit B.3.b in the November 2000 briefing book. Available: <https://www.pccouncil.org/documents/2000/11/b-salmon-management-november-2000.pdf> (website accessed February 19, 2020).

<sup>6</sup> Thom, B.A. 2009. Letter from Barry A. Thom, Acting Regional Administrator, Northwest Region, NMFS, to Ed Bowles, Fish Division Administrator, ODFW, dated September 1, 2009, concurring with ODFW’s “Oregon Coastal Coho, Coastal Rivers Coho Sports Fishery” Fisheries Management and Evaluation Plan under limit 4 of the 4(d) rule. 3 p.

**Guidance:** For the 2020 season, parent escapement is in the normal category. The marine survival index is in the medium category. Therefore, Council fisheries in 2020 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 (SONCC) Coho Salmon ESU**

**Background:** The SONCC coho ESU has been listed as threatened under the ESA since 1997. The current consultation standard for SONCC coho, described in the FMP, is from a 1999 NMFS biological opinion. The Rogue/Klamath coho hatchery stock is used as an indicator of fishery impacts on SONCC coho.

**Guidance:** 2020 fisheries should be consistent with the consultation standard, which requires that management measures developed under the FMP achieve an ocean exploitation rate on Rogue/Klamath coho hatchery stocks of no more than 0.13.

### **Central California Coastal (CCC) Coho Salmon ESU**

**Background:** 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 1999 NMFS biological opinion. Information on past harvest or non-retention mortality rates is lacking for CCC coho. In the absence of more specific information, the consultation standard requires that directed fishing for coho and retention of coho in Chinook salmon-directed fisheries be prohibited off California.

CCC coho are one of eight species identified in NMFS' "Species in the Spotlight" initiative because it is at high risk of extinction. For more information about actions for its conservation and recovery, please refer to its Species in the Spotlight Priority Action Plan.<sup>7</sup>

**Guidance:** 2020 fisheries should be consistent with the consultation standard to prohibit directed fishing for coho and retention of coho in Chinook salmon-directed fisheries off California.

## **ESA-listed Chum Salmon Species**

### **Hood Canal Summer-run Chum Salmon ESU**

**Background:** Chum salmon are not targeted, and are rarely caught, in Council salmon fisheries. However, the FMP requires fisheries to be managed consistent with NMFS' ESA standards for listed species, which includes the Hood Canal summer-run chum salmon ESU. The Summer Chum Salmon Conservation Initiative, approved by NMFS 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.<sup>8</sup>

<sup>7</sup> Species in the spotlight: priority actions, 2016-2020. Central California coast coho salmon, *Oncorhynchus kisutch*. Available: <https://repository.library.noaa.gov/view/noaa/17439> (website accessed February 19, 2020).

<sup>8</sup> Washington Department of Fish and Wildlife and Point No Point Treaty Tribes. 2000. Summer Chum Salmon Conservation Initiative: An Implementation Plan to Recover Summer Chum in the Hood Canal and Strait of Juan de Fuca Region. Dated April



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.

**Guidance:** 2020 Council fisheries should be managed consistent with the terms of the Summer Chum Salmon Conservation Initiative.

## **ESA-listed Sockeye Salmon Species**

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

**Background:** Sockeye salmon are rarely caught in Council salmon fisheries. In previous biological opinions, NMFS determined that Council fisheries were not likely to adversely affect Snake River or Ozette Lake sockeye salmon.

**Guidance:** Management constraints in the 2020 ocean fisheries for the protection of listed sockeye salmon are not considered necessary.

## **ESA-listed Steelhead Species**

**Background:** 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 NMFS' biological opinions on the effects of Council fisheries. Steelhead are rarely caught in ocean fisheries and retention of steelhead in non-treaty commercial ocean fisheries is currently prohibited.

**Guidance:** Based on currently available information, we conclude that no additional measures are required at this time to avoid effects not already considered in prior opinions. The Council and states should continue to prohibit the retention of steelhead with intact adipose fins in ocean recreational fisheries and we encourage the same in treaty tribal fisheries to minimize the effect of whatever catch may occur.

## **ESA-listed Southern Resident killer whale (SRKW) DPS**

**Background:** SRKW, listed as endangered under the ESA, are one of eight species identified in NMFS' "Species in the Spotlight"<sup>9</sup> initiative because of their high risk of extinction. Since 2009, the

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2000. 797 p. Available: <https://wdfw.wa.gov/sites/default/files/publications/00155/wdfw00155.pdf> (website accessed February 19, 2020).

<sup>9</sup> More information about conservation and recovery actions can be found in our SRKW Species in the Spotlight Priority Action Plan (<https://www.fisheries.noaa.gov/species/killer-whale#spotlight>) and in our ESA recovery plan for SRKW (<https://www.fisheries.noaa.gov/resource/document/recovery-plan-southern-resident-killer-whales-orcinus-orca>).

population has declined from 87 whales down to a near historic low of 72 whales. Future projections under status quo conditions suggest a continued decline in the population over the next 50 years.<sup>10</sup> Many actions are being taken to improve conditions and conserve and recover SRKW, particularly to address the three main threats to the whales: prey limitation, vessel traffic and noise, and chemical contaminants.

Chinook salmon, the whales' primary prey, are important to SRKW survival and recovery. Any activities that affect the abundance of Chinook salmon available to SRKW have the potential to impact the survival and population growth of the whales. Insufficient prey can impact their energetics (causing them to search more for fewer prey), health (decreasing their body condition), and reproduction (reducing fecundity and calf survival). Fisheries can reduce the prey available to the whales and, in some cases, can interfere directly with their feeding.

On April 12, 2019, NMFS re-initiated ESA consultation on the Council salmon fisheries, and asked for the Council's assistance in assessing the effects of implementing the FMP in 2019 and beyond. The Council appointed an Ad Hoc SRKW Workgroup (SRKW Workgroup)<sup>11</sup> to reassess the effects of these fisheries on SRKW and, if needed, develop conservation measure(s) or management tool(s) to limit Council fishery impacts to Chinook salmon prey availability for SRKW relative to implementing the FMP. NMFS appreciates the dedication and work of the SRKW Workgroup and the collaboration with the Council and its advisory bodies. We understand that the SRKW Workgroup has completed their risk assessment report<sup>12</sup> and is still developing recommendations for the Council's consideration.

The SRKW Workgroup report suggests that Chinook salmon abundance North of Falcon (NOF) is consistently more important to SRKW than abundance in South of Falcon (SOF) areas. It noted the whales are observed in the NOF in all seasons and likely have some direct overlap with the fisheries every year, whereas there is likely limited overlap with the Council fisheries in some years SOF. Furthermore, the contribution of SOF abundance to SRKW diet may also be largely confined to the winter/spring season, after maturing fall-run Chinook salmon adults that escaped the current year's fishery leave the system. The report also provides evidence that after executing Council salmon fisheries, the percent of prey remaining and available to SRKW has increased coastwide over the last several decades. We remain committed to this collaborative effort to develop a long-term approach that ensures the Council's harvest management is responsive to the status of SRKW and will support recovery to the extent necessary. In the meantime, we are currently incorporating analyses from the SRKW Workgroup's risk assessment report into our biological opinion that will analyze the effects to SRKW from Council fisheries in 2020.

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<sup>10</sup> NMFS. 2016. Southern Resident Killer Whales (*Orcinus orca*) 5-Year Review: Summary and Evaluation. December 2016. NMFS, West Coast Region, Seattle, Washington. 74p. Available: <https://www.fisheries.noaa.gov/resource/document/southern-resident-killer-whales-orcinus-orca-5-year-review-summary-and-evaluation> (website accessed February 25, 2020).

<sup>11</sup> <https://www.fisheries.noaa.gov/west-coast/marine-mammal-protection/southern-resident-killer-whales-and-fisheries-interaction>

<sup>12</sup> PFMC. 2020. Pacific Fishery Management Council. 2020. Salmon Fishery Management Plan Impacts to Southern Resident Killer Whales Risk Assessment. Risk Assessment Report February 2020. 159 p.

We reiterate our concern about the severely depressed status of the SRKW population. We are particularly concerned about years with critically low Chinook salmon abundance throughout the whales' geographic range because of the potential effects to the whales' energetics, health, reproduction, and survival. Intuitively, at some low Chinook abundance level, the prey available to the whales will not be sufficient to forage successfully leading to adverse effects (such as reduced body condition and poor reproductive success). This could affect SRKW survival and fecundity. Although there is currently no quantitative model that identifies a low abundance threshold that will cause adverse effects, there is evidence SRKW and other killer whale populations that are known to consume Chinook salmon may have experienced adverse effects from low prey availability in the late 1990s likely due to common factors affecting changes in the populations. The low Chinook salmon abundance was concurrent with an almost 20 percent decline from 1995 to 2001 (from 98 whales to 81 whales) in the SRKW population.<sup>13</sup> During this period of decline, all three pods of the SRKW population suffered reductions in membership and relatively poor survival occurred in nearly all age classes and in both males and females. The Northern Resident killer whales, which prey on similar runs of Chinook salmon, also experienced population declines during the late 1990s and early 2000s.<sup>14</sup> In 2012, an Independent Science Panel assessed the effects of salmon fisheries on SRKW. In their report,<sup>15</sup> the Panel stated that periods of decline across killer whale populations "suggest a likely common causal factor influencing their population demographics."

We acknowledge there is uncertainty in developing a low abundance threshold. The relationships between modeled Chinook salmon abundance and SRKW demographics examined by the SRKW Workgroup appear to be weaker than those from prior analyses.<sup>16</sup> Throughout the time period the SRKW Workgroup analyzed (1992-2016), there have been some years when the status of the whales was relatively better (i.e., improved survival and fecundity) with low Chinook abundance than years with high Chinook abundance. From 1995 to 2001 when the population declined almost 20 percent, one year (2001) had relatively high Chinook abundance and one year (1997) had fair abundance (i.e., closer to average abundance NOF), whereas the remaining five years had critically low Chinook abundance levels (i.e., ranked among the seven lowest Chinook abundance years NOF during the period the SRKW Workgroup analyzed).<sup>17</sup> When we examine the lowest seven years of the estimated Chinook abundance NOF (1994 – 1996, 1998 – 2000, and 2007), there is a general mix of SRKW status, with two relatively good status years (1994 and 2007) and the remaining consecutively low abundance years had fair or poor SRKW status. It may be that multiple

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<sup>13</sup> NMFS. 2008. Recovery Plan for Southern Resident Killer Whales (*Orcinus orca*). National Marine Fisheries Service, Seattle, Washington. 251p.

<sup>14</sup> Towers, JR., G.M. Ellis, and J.K.B. Ford. 2015. Photo-identification catalogue and status of the Northern Resident Killer Whale population in 2014. Canadian Technical Report of Fisheries and Aquatic Sciences 3139: iv + 75p. and (NMFS 2008)

<sup>15</sup> 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. November 30, 2012. Prepared with the assistance of D.R. Marmorok and A.W. Hall, ESSA Technologies Ltd., Vancouver, B.C. for NMFS, Seattle, Washington and Fisheries and Oceans Canada (Vancouver, BC). 87 p.

<sup>16</sup> Ford, J.K.B., G.M. Ellis, and P.F. Olesiuk. 2005. Linking prey and population dynamics: Did food limitation cause recent declines in 'Resident' killer whales (*Orcinus orca*) in British Columbia? Pg 1-27 in Fisheries and Oceans. Canadian Science Advisory Secretariat; Ward, E.J., E.E. Holmes, and K.C. Balcomb. 2009. Quantifying the effects of prey abundance on killer whale reproduction. Journal of Applied Ecology. 46:632-640.; Ward, E.J., M.J. Ford, R.G. Kope, J.K.B. Ford, L.A. Velez-Espino, C.K. Parken, L.W. LaVoy, M.B. Hanson and K.C. Balcomb. 2013. Estimating the impacts of Chinook salmon abundance and prey removal by ocean fishing on Southern Resident killer whale population dynamics. July 2013. U.S. Dept. Commer., NOAA Tech. Memo., NMFS-NWFSC-123. 85p.

<sup>17</sup> Refer to PFMC 2020, Appendix E, Table 2 for estimated starting abundance in the October to April time step, PFMC fishery abundance reductions, and percent reductions in NOF.

consecutive years of low abundance are important to consider. It is unknown what the whale status would be below these abundance levels.

This letter provides NMFS' guidance and recommendations with regard to SRKW to the Council for its consideration in planning 2020 salmon fisheries and we provide a description of our proposed process for a 2020 consultation under the ESA.

***Process for 2020 Consultation and Guidance:*** Upon receiving the 2020 pre-season NOF abundance estimate, we will compare it to the average of the seven lowest abundance years NOF (1994 – 1996, 1998 – 2000, and 2007) when the SRKW's status was poor for the majority of the years. In light of the current status of the whales, we expect the Council will need to implement the recommendations below depending on the estimated 2020 abundance relative to that average in order to increase the certainty that the fisheries will not further exacerbate the weakened status of the whales.

NMFS expects the Council salmon fisheries in the coastal waters of the EEZ will continue to meet the conservation objectives for salmon stocks managed under the FMP and continue to be responsive to the abundance of salmon stocks similar to that over this last decade when the whale status has declined.

Based on the information presented above, NMFS is most concerned when Chinook salmon abundance in NOF waters is critically low, and there may be insufficient foraging opportunities for SRKWs. Using the methodology adopted by the SRKW Workgroup, the Council should assess the pre-fishery forecasted abundance levels (FRAM time step one) by spatial aggregate (the NOF, Cape Falcon south to Humbug Mountain, and aggregated South of Humbug Mountain management areas).

If the NOF abundance is equal to or less than the average of the seven lowest years of abundance (1994 – 1996, 1998 – 2000 and 2007) (FRAM time step one, refer to PFMC 2020 Appendix E, Table 2), the Council should implement precautionary conservation measures for Council salmon fisheries that affect the abundance in NOF waters (this includes salmon fisheries in Washington, Oregon, and California waters) to benefit the whales. Some examples of precautionary measures are time and area restrictions, reduced quotas, etc.

Lastly, NMFS supports managers for fisheries SOF to the U.S.-Mexico border moving forward with the recommendations the Council adopted at its September 2019 meeting in conjunction with its recommendations for the rebuilding plans for the Sacramento and Klamath Rivers Chinook salmon stocks. Although Chinook salmon abundance SOF may not be consistently important to SRKW as suggested NOF, SRKW require healthy Chinook salmon stocks throughout their geographic range.

NMFS remains committed to working with the Council, states, tribes and our other partners to take actions to improve conditions for the whales, and we recognize the fisheries are only one element that has contributed to the current SRKW condition and only one source of potential risk. We also anticipate Pacific Salmon Treaty (PST) conservation measures (e.g. hatchery production, habitat

improvements, and reductions in northern fisheries) will help offset some of the reductions of Chinook salmon abundance from PST fisheries. In addition, we are aware of additional discussions among salmon managers that propose to increase hatchery salmon production to improve prey availability to benefit the whales. Improvements to prey availability, however, will not be fully realized in 2020 and will take at least another three to five years while increased production occurs and adult Chinook salmon from that production become available as prey for SRKW. The reductions in harvest levels in northern fisheries began in 2019.

For our 2020 and long-term ESA consultations on the effects of Council salmon fisheries to SRKW, we will consider protections that are ongoing and reasonably certain to occur. We intend to incorporate new information from the SRKW Workgroup report where appropriate. We also expect the SRKW Workgroup will continue to develop and refine a set of recommendations for the Council to consider. NMFS will have a new biological opinion for the Council's 2020 salmon fisheries in place by May 1, 2020.

The NMFS West Coast Region looks forward to working with the Council to develop 2020 ocean salmon fisheries consistent with the conservation and management objectives of the Salmon FMP, the Magnuson-Stevens Fishery Management and Conservation Act, and the ESA. We are committed to working with the Council to address the issues outlined in this letter. If you have questions, please contact Ryan Wulff, Assistant Regional Administrator for Sustainable Fisheries at 916-930-3733 or [Ryan.Wulff@noaa.gov](mailto:Ryan.Wulff@noaa.gov).

Sincerely,



Barry A. Thom  
Regional Administrator

cc: Chuck Tracy, Executive Director, Pacific Fishery Management Council  
Ryan Wulff, Assistant Regional Administrator for Sustainable Fisheries, NMFS WCR