Date: August 2, 2021
To: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce
From: Earth Law Center
Re: Need to adopt a holistic and rights-based approach and incorporate the needs of the Southern Resident Killer Whales into Amendment 21 to the Pacific Coast Salmon Fishery Management Plan; 86 FR 29544 (June 2, 2021)

These comments regarding Amendment 21 to the Pacific Coast Salmon Fishery Management Plan (FMP) by the National Oceanic and Atmospheric Administration (NOAA) and National Marine Fisheries Service (NMFS), are submitted on behalf of the Earth Law Center (ELC). We thank NOAA for this effort to limit ocean salmon fishery impacts on the availability of Chinook salmon as prey for endangered Southern Resident killer whales (SRKW).

Since joining the Endangered Species Act in 2005, the SRKW population has continued to decline despite actions to reduce noise, pollution, water contaminants and increase food availability. For the reasons described in this letter, the plan proposed in Amendment 21 to protect salmon is not sufficient because the populations are already too low to sustain the SRKWs’ diet. NOAA must expand its goal from limiting the impacts on the availability of Chinook salmon to increasing and restoring populations of Chinook salmon.

About Earth Law Center

Earth Law Center is a 501(c)(3) non-profit organization working to advance Earth-centered laws and policies that restore Nature to health. Western legal systems and society are largely anthropocentric, or human-centered, allowing and legalizing unsustainable degradation and pollution for human benefit and utility. We advocate for a transformation in our legal, governance and economic systems, and the relationships, values, ethics and beliefs that create their foundation.

Summary of Recommendation: Adopt a Holistic Rights-Based Approach

The threshold to trigger more stringent management measures is too low, and must be increased in order to protect salmon and the Southern Resident Killer Whales. If the goal of the Amendment is to limit impacts on salmon to ensure enough prey for the SRKWs, the SRKWs’ needs must be incorporated into decision making by recognizing them as a stakeholder within the system. Subsequently, management measures must ensure there is enough salmon to meet the SRKWs’ basic dietary needs, while ensuring long-term viability and recovery of salmon populations and the entire Salish Sea ecosystem. Therefore, Amendment 21 must establish a proactive plan to restore salmon populations to numbers that can support all predators of the Salish Sea, rather than maintaining exploitive levels through the use of minimum threshold standards.
Rationale: Of the 396 Chinook populations once available to SRKWs, 159 are now gone.\(^1\) This occurrence can be further analyzed in specific regions of NOF, such as the Puget Sound/Salish Sea. The estimated population in the early 1990s was 240,000, a decrease from an estimated 690,000 historical size.\(^2\) A 2017 biological opinion conducted by the National Marine Fisheries Service estimates that today, “Puget Sound Chinook salmon are at only 10% of historic numbers; in some river basins that goes down to 1% and this is during favorable ocean conditions,”\(^3\) many dying from pollution, predation and habitat changes before they journey to sea. Farther south, the Columbia River once had 4.5 million Chinook returning and now, on average, less than a million Chinook return.\(^4\) As an “umbrella species,” if Chinook salmon abundance is restored, this positive impact would extend benefits to multiple other species and the entire Salish Sea ecosystem.\(^5\) Ensuring that salmon thrive, ensures that the SRKWs will thrive.

i. Amendment 21 must incorporate a holistic and rights-based approach, and ensure the SRKWs’ needs are incorporated into decision-making.

Amendment 21 must establish a proactive plan that aims to reestablish a flourishing population of salmon rather than retroactive restrictions when conditions are at their worst. Despite being listed under the Endangered Species Act for decades, both salmon and the SRKWs continue to decline. This is in large part due to a legal system that treats Nature as a resource and property for human benefit. These systems fuel exploitation by legalizing and permitting harm, which may slow degradation, but have proven insufficient in maintaining or restoring ecosystem health.

For example, one of the stated purposes of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) is to rebuild overfished stocks. Fishery Management plans under the MSA are to be created and implemented in such a way to “achieve and maintain, on a continuing basis, the optimum yield from each fishery,” where optimum is defined as the “amount of fish which will provide the greatest overall benefit to the Nation” on the “basis of the maximum sustainable yield (MSY or OY) from the fishery.” This traditional approach further highlights the need to adopt proactive management measures. Firstly, we value fish as a resource and object by referring to populations as a “fishery.” Secondly, we determine the amount of fish we take from the system based on what provides the greatest benefit to the Nation (i.e. humankind), which in large part translates to the most economic growth and benefit to industry, rather than the greatest benefit to the system as a whole (i.e. including the salmon themselves and SRKWs, in this case). Thirdly, MSY is a theoretical concept that is based upon “prevailing ecological and

\(^4\) Mapes, Lynda “The Decline”
environmental conditions,” failing to adequately account for future impacts, including climate change as discussed below. Lastly, by striving towards MSY, our objective focuses on mortality rather than life. We strive for the maximum amount of fish we can take in isolation from its complex interactions within the ecosystem, when we should be striving to maintain a healthy and thriving ecosystem. This fragmented and human-centered perspective has also resulted in a reactive rather than proactive approach. Actions and regulations to protect species from going extinct only take effect once they are threatened or endangered, rather than seeking to maintain population health and prevent decline in the first place. As a result, the FMP has an opportunity to shift our baseline and objective to maintain healthy and thriving populations, rather than an objective based upon limiting impacts through a minimum threshold based upon maximum sustainable yield.

A holistic approach recognizes that the “economy is a subsystem of human society which is a subsystem of the Earth,” meaning that the environment should have precedence over economic or other social considerations. In order to be effective, the FMP must recognize humans as a predator within the system, alongside the SRKWs, and take into account all other ecosystem interactions that may affect salmon. Through a rights-based approach, human activity does not necessarily cease altogether, but is managed to higher standards with the goal of maintaining, restoring and protecting long-term ecosystem health. Rather than limiting impacts on already reduced prey, our salmon conservation efforts must aim for higher, and to restore these populations to levels at which they can fulfill their evolutionary role within the ecosystem. This means the FMP must adopt a new approach and “converge towards a more holistic approach that [recognizes interdependency and] balances both human well-being and ecological well-being.” This is further supported by the Independent Scientific Advisory Board (ISAB), who issued a report in 1996 stating that, "migration conditions in the Snake River must be returned toward those under which salmon evolved and thrived." NOAA itself has noted that a holistic approach is distinct from current approaches, and in order to achieve holism, we must reject and replace “many (but not all) of the processes upon which conventional management depends.”

Under Amendment 21, the current threshold will be based on the lowest seven years of Chinook salmon abundance in NOF or 966,000 Chinook salmon respectively. In the event that the abundance falls below the threshold, the Council and NMFS would then implement specific management measures.

6 Pacific Fishery Management Council (PFMC). Pacific Coast Salmon Fishery Management Plan for Commercial and Recreational Salmon Fisheries off the Coasts of Washington, Oregon, and California as Amended through Amendment 20. PFMC, Portland, OR. 81 pg. 13
Incorporating a rights-based approach into Amendment 21 and the Pacific Coast Salmon Fishery Plan, would mean considering the SRKWs as stakeholders within the FMP and considering cumulative impacts (including all predator impacts), rather than fishery impacts in isolation.

According to NOAA’s 2016 5-Year Review, it is estimated that SRKWs can consume up to 347,000 Chinook salmon per year. In addition to this baseline dietary need, marine mammal predation over the last 40 years of Chinook Salmon off the West Coast of North America has increased. Further, a study analyzing both the Southern and Northern Killer Whales, and assuming the populations grew at their maximum rate of 2.6%, estimated they would require 1.5 to 1.8 million Chinook annually. Additionally, the EPA reports that there were 473,000 adult Chinook salmon that passed through the Salish Sea in 2018. This is a 60% decrease compared to 1984. This implies that the threshold will be calculated on an already unhealthy population. Therefore, the current threshold of Amendment 21 will not satisfy the amount of salmon that a growing SRKW population would need, while taking into account other predators, increased fishing pressure and climate change.

With the goal to limit fishery impacts to ensure prey for the SRKWs, the threshold must be able to support a positive growth trend for the SRKW population. The threshold and management measures should be enforced at such a level to reach a growth rate of 2.3 percent per year, which is consistent with recovery criteria under the Southern Resident Killer Whale ESA Recovery Plan. Studies suggest that by increasing salmon numbers by 15% and reducing undersea cacophony to half of what it is today, would result in a 2.3% annual increase in Orca populations. These studies call for management actions to increase and restore salmon populations and should be included in the development of the Amendment, and therefore further supports proactive and restorative action to limit the impacts of fisheries on salmon, and a higher threshold than currently determined.

Additionally, the threshold must take into account more than the mere abundance of salmon. The goal of management measures must seek to maintain a “viable salmon population” and achieve a recovered SRKW population. The ESA Recovery Plan defines a “Viable Salmon Population” as “an independent population of any Pacific salmonid that has a negligible risk of extinction due to threats from demographic variation, local environmental variation, and genetic diversity changes over a 100-year time frame.” Four parameters are further identified to assess the viability of

---

15 Ibid.
salmon populations including abundance, productivity, spatial structure and diversity. Given that salmon populations remain below the NOAA Fisheries recovery targets, we request that NOAA take into account productivity, spatial structure and diversity in determination of the threshold, in addition to abundance.

Finally, given that current and projected impacts of climate change will only further deplete the population, the Amendment must increase the threshold in order to support SRKW recovery. The Biological Opinion for the FMP identifies the threat of climate change, noting that biological productivity of salmon will likely decrease during warmer periods. However, in recognizing that “the effects of climate change...would be expected to occur” in the area covered by the FMP, we do not believe the current threshold builds enough buffer to protect both salmon and the SRKWs from further harm and decline. The future impacts of climate change further heighten the need for NOAA’s management measures to increase the status quo of salmon populations, not merely limiting impacts on already threatened numbers.

ii. A holistic and rights-based approach supports dam breaching

NOAA has the opportunity to identify dam removal on the lower Snake River as a viable management measure that will ensure adequate salmon as prey for the SRKWs. For example, the Fishery Management Plan for Atlantic Salmon notes that fish passage to bypass hazards is a viable restoration activity and recognizes that “the disappearance of Atlantic salmon from New England Rivers...is often attributed to the loss of valuable spawning and nursery habitat upstream of impassable dams and barriers along migratory pathways.” It goes further to identify a major objective of restoration programs under the FMP “is to provide access around dams and other barriers through the construction of fish passage facilities.” Subsequently, NOAA worked with stakeholders on the Penobscot River (and elsewhere across the country) to remove dams in order to restore habitat essential for the recovery of Atlantic salmon.

---

16 Ibid., pg. 47
21 Ibid. pg. 7
Snake River salmon are among the 13 Columbia Basin runs federally listed as endangered or threatened since 1991. Currently, 42% of Snake Basin spring/summer Chinook populations are at or below the Quasi-Extinction Threshold. By 2025, 77% of the populations are predicted to drop below the Quasi-Extinction Threshold. Additionally, current temperatures are becoming lethal to salmon, leading to NOAA catching individual sockeye and moving them upriver in trucks. Multiple studies show that dam breaching along the Snake River would bolster salmon populations, including those by NOAA itself. A study by George Washington University in 2000, identified breaching the four lower Snake River dams as the most effective, efficient and feasible way to recover salmon populations. Additionally, in its 2000 Biological Opinion for operation of hydroelectric dams on the Columbia and Snake Rivers, NOAA Fisheries concluded: “breaching the four lower Snake River dams would provide more certainty of long-term survival and recovery [of Chinook salmon] than would other measures.” And, the US Army Corps of Engineers in its 2002 Environmental Impact Statement (EIS) identified dam breaching as the alternative that would provide the highest probability of meeting salmon survival and recovery criteria.

Additionally, tribal nations across the Pacific Northwest have come together in support of dam removal. Both the National Congress of American Indians and Affiliated Tribes of Northwest Indians have passed Resolutions (#AK-21-009 and N #2021 – 23 respectively) this year, calling on the Executive Branch to implement bold actions such as breaching the four lower Snake River dams. Millions of dollars have already gone towards studies to review the need for dam breaching; the science is clear, we do not need more review, we need action.

iii. A holistic and rights-based approach respects the rights of Indigenous peoples

We agree with the Amendment’s decision to exclude tribal nations from the proposed closures to honor historic treaties, the rights of Indigenous peoples and the integral role of salmon in tribal cultures and sustenance since time immemorial. Moreo, we want to highlight that a holistic and rights-based approach to restore salmon would support treaty and tribal fishing rights. The decline in Chinook has greatly impacted local and tribal communities. For example, the Upper

29 The National Congress of American Indians Resolution #AK-21-0092.
Skagit Tribe has been unable to “fish to meet their ceremonial, spiritual, or sustenance needs” and the Lhaq’temish people of the Lummi Nation consider “orcas” as “qwe’lhol’mechen,” or “our relatives under the water.”

By implementing a rights-based approach to restore and ensure the long-term survival of salmon populations, we recognize and respect Indigenous peoples rights to life, health, traditions, and culture. These rights are enshrined not only in our Constitution, and by Treaties made long ago between the federal government and tribes, but also the United Nations Declaration on the Rights of Indigenous Peoples.

CONCLUSION

The future of the Southern Resident Killer Whales is dependent on the actions we take now to restore the Chinook Salmon population. A minimum threshold of abundance will not sustain the SRKWs, other predators and species, nor local and tribal communities dependent on salmon. Maintaining exploitive levels in the midst of mounting research, evidence and the undeniable lived experience of a changing climate is not sufficient. We call for bold and immediate action to restore the salmon population to historic levels through a holistic and rights-based approach. The Chinook salmon are one part of an intricately balanced ecosystem, and we are obligated to restore the population to a thriving level.

Michelle Bender
Ocean Campaigns Director
Earth Law Center
mbender@earthlaw.org
www.earthlawcenter.org

---