

January 24, 2015

Hand delivered

The Honorable Patty Murray
United States Senate
Washington, DC 20510

Re: Recovering Federally Endangered Killer Whales by Breaching the Four Lower Snake River Dams

Dear Senator Murray:

We are writing to urge you to support breaching the four lower Snake River dams as a measure to increase Chinook salmon numbers and help save the critically endangered Southern Resident Killer Whales (*Orcinus orca*) from extinction. This group of orcas is genetically and behaviorally very different from other killer whales and subsists largely on Chinook salmon.

As scientists who have spent years studying these whales, we are gravely concerned about their rapid decline. Since 1998, 61 Southern Residents have died, while only 38 have been born and survived. In the last two years, eight Southern Residents have died, a number of late-term calves have been miscarried by females, and surviving calves are not making it through their first year. In our opinion, these whales are dying due to cumulative pressures tied to nutritional stress and recovery actions taken to date are insufficient to prevent the extinction of these whales. These whales need a substantially larger Chinook salmon population to feed on as shown in multiple studies by both governmental¹ and non-governmental² researchers. Significantly, after nearly a decade on the endangered species list, these endangered killer whales are not recovering. Indeed, there were 88 whales when listed in 2005; today there are just 78.

These orcas are important to the Pacific Northwest both ecologically and culturally. Orca watching is a significant component of the Greater Puget Sound's economy, adding approximately 65-70 million dollars to the ecotourism industry in Washington State alone. We are in danger of losing these whales.

Endangered Salmon Means Endangered Orcas

Within the United States, the Columbia-Snake River watershed is the most important source of salmon for these orcas. Over 50 large dams constructed on the rivers since 1933 are the major cause of salmon declines in the watershed. Today, only a small fraction of the historic numbers of salmon return to the watershed to spawn, reflecting high mortality of adults moving

¹ Ford, JKB, et al., *Linking Killer Whale Survival and Prey Abundance: Food Limitation in the Ocean's Apex Predator?* 6 BIOLOGY LETTERS 141 (2010), p. *3, <http://rsbl.royalsocietypublishing.org/content/early/2009/09/14/rsbl.2009.0468>. See also NOAA Fisheries, *SRKW Recovery Planning and Implementation* (2011), p. 2.

² Ayres KL, et al. (2012) *Distinguishing the impacts of inadequate prey and vessel traffic on an endangered killer whale (Orcinus orca) population*. PLoS One 7: e36842, <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0036842>.

upstream and juveniles moving downstream. Thirteen salmon and steelhead populations now face extinction and are listed under the Endangered Species Act (ESA).³ The ESA requires the federal government to recover these salmon species. For the Snake River in particular, both old and new research points in one direction - the dams are a major cause of decline of the salmon runs.⁴ The four lower Snake River dams, constructed in the 1960s and 1970s, are obstructing 140 miles of prime salmon migration waterways. The low survival rates of salmon passing over these dams is well documented. All Snake River salmon runs are now listed under the ESA, including the Chinook salmon needed by the orcas.

For millennia the Southern Resident orcas have depended on Chinook salmon from the Columbia River, which once produced millions of Chinook annually, supporting a rich ecosystem that included both killer whales and humans. In fact, according to NOAA Fisheries, “[p]erhaps the single greatest change in food availability for resident killer whales since the late 1800s has been the decline of salmon from the Columbia River basin.”⁵ In 1992, both fall run and spring/summer-run Snake River Chinook were listed as threatened under the ESA.⁶ By 1999 Columbia River fall Chinook were also listed as threatened while the spring-run Chinook, which had collapsed to near extinction, warranted the highest listing as endangered.⁶ As the Columbia-Snake River Chinook have declined, so too have the Southern Resident killer whales.

The Southern Residents can be found in the coastal waters of the Northeast Pacific Ocean more than half the year.⁷ Research conducted over the last decade shows that Columbia-Snake River Chinook continue to be crucial to the Southern Residents’ continued existence. The whales appear to be especially reliant on the Snake River’s nutrient rich, high fat content early spring-run Chinook.⁸ Significantly, recent studies conducted by NOAA indicate that the Southern Residents’ visits to the coastal waters off Westport, Washington and the mouth of the Columbia River coincide with high concentrations of spring Chinook salmon.⁹

As indicated, these amazing whales are in trouble. In the last two years alone the endangered orca population has declined 10%. Every birth and death matters in a population as

³ NOAA Fisheries, (2014) Federal Columbia River Power System Biological Opinion, http://www.westcoast.fisheries.noaa.gov/fish_passage/fcrps_opinion/federal_columbia_river_power_system.html.

⁴ See e.g., Nat’l Wildlife Fed’n v. Nat’l Marine Fisheries Serv., 839 F. Supp. 2d 1117, 1131 (D. Or. 2011) (“[T]here is ample evidence in the record that indicates that the operation of the FCRPS causes substantial harm to listed salmonids. . . . NOAA Fisheries acknowledges that the existence and operation of the dams accounts for most of the mortality of juveniles migrating through the FCRPS.”)

⁵ NOAA, SRKW Recovery Plan Recovery Plan for Southern Resident Killer Whales, (Orcinus orca), National Marine Fisheries Service, Northwest Region, Seattle, Washington (January 2008), p. II-82.

⁶ U.S. Fish and Wildlife Service. Species profile for Chinook Salmon (*Oncorhynchus tshawytscha*), <http://ecos.fws.gov/speciesProfile/profile/speciesProfile?spcode=E06D>.

⁷ See 134 J. Acoust. Soc. Am. 5, Hanson et al., Assessing the Coastal Occurrence of Endangered Killer Whales Using Autonomous Passive Acoustic Recorders (November 2013), 3486, <http://oceanwidescience.org/cms/wp-content/uploads/2014/12/Hanson-et-al-2013.pdf> (on average the Southern Residents occur in inland waters less than half of the days each year.)

⁸ Ayres KL, et al., supra, <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0036842>.

⁹ Northwest Fisheries Science Center, NOAA Fisheries. 2013 Southern Resident Killer Whale Satellite Tagging, http://www.nwfsc.noaa.gov/research/divisions/cb/ecosystem/marinemammal/satellite_tagging/blog.cfm.

small as the Southern Residents. “[A]ny action that is likely to hinder the reproductive success or result in serious injury or mortality of a single individual is likely to appreciably reduce the survival and recovery of the [Southern Resident Killer Whales].”¹⁰ The death of four Southern Resident killer whales in 2014 highlights a disturbing trend. The October death of a seven week old calf was a serious blow to this population of whales. Then, in December 2014, a female (J32) died carrying a full term calf. At 18 years, J32 was just entering her reproductive prime and was expected to contribute three to four calves to the SRKW population over her lifetime. Her necropsy results are pending. With her loss, the likelihood of extinction of this population increased. No new calf has survived since September 2012. There should be at least two to three calves born each year if the Southern Resident population is to survive, with more births necessary for the population to recover.

Recovery Measures Are Not Working

The federal government, through NOAA Fisheries, has a legal obligation to recover the populations of ESA listed salmon and orcas.¹¹ Still, after 23 years on the endangered species list, Chinook salmon runs on the Snake River are barely surviving, not recovering. It is clear NOAA’s recovery measures are not working for either salmon or the killer whales. In fact, a federal court has thrown out NOAA’s salmon recovery plan repeatedly for violating the Endangered Species Act, remanding with orders to rewrite the plan to include measures that will permit the Columbia-Snake River watershed salmon to recover.¹² Again and again the court has directed the federal agencies to consider removing the four lower Snake River dams. Yet to date, they have failed to do so.

To Recover Endangered Salmon and Killer Whales, Dam Breaching Is Required

It is clear that breaching the four federal dams on the lower Snake River is the major step needed to avert extinction of the Snake’s salmon and to restore access of salmon and steelhead to 15 million acres of cooler, high-elevation watershed. This would substantially increase spawning habitat for Snake River Chinook and greatly increase the availability of a critical food source for the endangered Southern Resident orcas.

The recovery of Southern Resident Killer Whales depends on abundant salmon. This will be impossible to provide without restoring productivity to the Columbia-Snake River watershed. Breaching the four lower Snake River dams is the single most likely measure to restore the abundant Chinook salmon runs the whales need to recover. No other action under consideration has the potential to increase the SRKW population to a level where they could be down-listed to threatened or removed from the ESA completely. For these reasons we urge you to support breaching the four lower Snake River dams.

¹⁰ NOAA/NMFS, *Coordinated Long-term Operation of the Central Valley Project (CVP) and State Water Project (SWP) Biological Opinion* (2009), p. 54.

¹¹ In addition, the Army Corps of Engineers is required to review federal dam operations when advisable, to improve the quality of the environment in the overall public interest. 33 U.S.C. § 549a.

¹² See, e.g., *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 839 F. Supp. 2d at 1122-1123, 1129-1132 (summarizing the history of the litigation).

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