SRKW CSI/DamTruth – promoting chinook salmon abundance for endangered Southern Resident Killer Whales' survival and recovery

February 14, 2022

Via Email and USPS

The Honorable Michael Connor
Assistant Secretary of the Army (Civil Works)
108 Army Pentagon
Washington DC 20310-0108

The Honorable Deb Haaland
Secretary of Interior
1849 C Street NW
Washington, D.C. 20240

The Honorable Gina Raimondo
Secretary of Commerce
1401 Constitution Ave. NW
Washington, D.C. 20230

The Honorable Jennifer Granholm
Secretary of Energy
1000 Independence Ave. SW
Washington, D.C. 20585

The Honorable Brenda Mallory
Chair, Council on Environmental Quality
730 Jackson Place NW
Washington, D.C. 20503

Re: **A National Solution Is Need for Salmon Quasi-Extinction Caused by the Four Federal Lower Snake River Dams in Eastern Washington**

Dear Asst. Secretary Connor, Secretaries Haaland, Granholm, and Raimondo, and Chair Mallory:

The Biden Administration must take the lead to prevent imminent Snake River salmon extinction. We write to urge you—the Biden Administration—to breach the four lower Snake River dams beginning this year to recover the once bountiful Snake River salmon and steelhead runs, to create a solution that makes tribes, farmers, fishers and irrigators economically whole, and revitalizes river communities. Breaching will also end significant methane emissions from the dams' reservoirs and trigger recovery of an ecosystem the size of France. The Snake River dams are federal dams that have created a federal salmon extinction problem that for decades the Pacific Northwest has been unable to resolve. Indeed, the issue has become intractable in the region and cries out for national leadership.

We also write to dispel the myth that breaching the four lower Snake River dams presents a choice between clean energy or iconic Northwest salmon. This so-called choice is a fiction perpetrated by those few who benefit from the dams at a high cost to the rest of the Pacific Northwest. We can have both clean energy generated by existing new renewables—primarily

solar and wind installations—and abundant salmon and steelhead runs. If the dams were breached starting this year, the runs could expand significantly in a span of less than 10 years.[1]

The Snake River, the largest tributary of the Columbia River, was once one of the world's greatest salmon rivers, producing about half the salmon in the Columbia Basin. This is no longer true. Snake River salmon must now pass eight dams each way to and from the ocean—four on the Snake River and four on the Columbia River. In contrast, other salmon runs in the Columbia Basin that pass four or fewer dams have been able to sustain their populations. Prior to the construction of the four lower Snake River dams, Snake River salmon too were able to sustain their runs. Their populations collapsed with the completion of the dams in 1975.[2] The difference is four dams versus eight.[3]

Costly litigation to recover Snake River salmon has continued for the better part of three decades. The courts have repeatedly ruled that the United States Army Corps of Engineers (Corps) and other federal agencies have violated the Endangered Species Act by failing to protect the salmon and steelhead runs adequately from the lower Snake River dam operations. While the litigation continues, to date plaintiffs have failed to seek the remedy of breaching the four lower Snake River dams. Breaching the dams must be part of any comprehensive solution. Without breaching, there can be no fish recovery, costly litigation will continue, and Snake River salmon will complete their run to extinction.

A National Solution to the Dam Problem Will Allow Snake River Salmon to Recover

Salmon will recover if the four lower Snake River dams are breached. The U.S. Fish and Wildlife Service in 1946 warned that building four dams proposed for the lower Snake River likely would result in extinction of salmon produced in the vast pristine headwaters of the

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[1] Chris A. Pinney, *Declaration of Chris A. Pinney in Support of Amicus Brief*, *National Wildlife Federation v. National Marine Fisheries*, Case No. 3:01-cv-00640-SI, filed 10/21/21, U.S. Dist. Ct. Portland, Case No. 3:01-cv-00640-SI, paragraphs 28-44, https://www.srkwcsi.org/_files/ugd/a3022b_5f5e4cde350b4602ac7032e8c97e5e3c.pdf. Pinney is a fisheries biologist who was employed by the Walla Walla District, U.S. Army Corps of Engineers (Corps) from November 1991 through December 31, 2018. Pinney, among other things, was responsible for ecological research and passage survival, recovery, and quasi-extinction risk evaluations, utilizing salmonid stock demographic and lifecycle hypothesis testing for Snake and Columbia River run-of-the-river dams.

[2] Richard Scully, *OPINION: Protecting endangered fish is not 'radical environmentalism'*, https://lmtribune.com/opinion/protecting-endangered-fish-is-not-radical-environmentalism/article_37bed3d5-8a2f-588c-ac4c-b3ad61dfa062.html, accessed 2/1/22.

[3] Columbia Basin Bulletin, *Annual Salmon Survival Report Says Breaching, More Spill Necessary to Improve Snake River Salmon/Steelhead Smolt-to-Adult Returns,* https://www.cbbulletin.com/annual-salmon-survival-report-says-breaching-more-spill-necessary-to-improve-snake-river-salmon-steelhead-smolt-to-adult-returns/, accessed 2/4/22; Fish Passage Center, *2021 Annual Report, Comparative Survival Study of PIT-tagged Spring/Summer/Fall Chinook, Summer Steelhead, and Sockeye, https://www.fpc.org/documents/CSS/2021_CSS_Annual_Report.pdf, accessed 2/4/22.*

Snake River Basin, the largest cold water refuge in the lower 48 states. The Corps of Engineers ignored the warnings and built the four dams from 1960 to 1975, with the predicted devastating impacts to the fish.

Due to the destructive effects of the four lower Snake River dams, the Corps conducted a lengthy study that in 2002 concluded the dams could not be fixed to recover the salmon runs.[4] Nonetheless, the Corps chose to try to fix the dams. The fixes did not work. The salmon continued their decline toward extinction.

In 2020 the federal agencies completed another lengthy study, the *Columbia River Systems Operations/EIS*, (CRSO EIS), this time court-ordered at a cost of $80 million. It again showed the four ill-designed dams on the lower Snake River must be breached to recover Snake River salmon, and that breaching would have a positive economic impact on the Bonneville Power Administration's bottom line and rates. *Repeat—with breaching, Snake River salmon would be restored and Bonneville's costs would go down.*

The CRSO EIS showed that breaching the four lower Snake River dams to recreate a free flowing river—which would avert extinction of Snake River salmon and save billions of dollars—*actually would reduce Bonneville's annual costs by up to 15 percent compared to the disastrous status quo*. See Table 3-309 below from the CRSO EIS, Chapter 3. MO3 is the reasonable alternative of breaching the four lower Snake River dams.

Table 3-309. Change in Annual-equivalent Costs under the Multiple Objective Alternatives compared to the No Action Alternative ($2019)

MO	Construction Costs of Structural Measures (annual)	Change in Capital Costs (annual)	Change in O&M Costs (annual)	Change in Annual Mitigation (Low F&W Costs)	Change in Annual Mitigation (High F&W Costs)	Change in Total Annual-Equivalent Costs (Low F&W costs)	Percent Change in Annual-Equivalent Costs (Low F&W costs)	Change in Total Annual-Equivalent Costs (High F&W costs)	Percent Change in Annual-Equivalent Costs (High F&W costs)
MO1	$20,000,000	$0	$0	$1,000,000	$1,000,000	$21,000,000	2.0%	$21,000,000	2.0%
MO2	$52,000,000	$0	-$1,000,000	$2,000,000	$55,000,000	$53,000,000	5.0%	$106,000,000	10.0%
MO3	$46,000,000	-$32,000,000	-$79,000,000	-$94,000,000	$11,000,000	-$159,000,000	-15.1%	-$54,000,000	-5.1%
MO4	$44,000,000	$0	$0	-$99,000,000	$6,000,000	-$55,000,000	-5.2%	$50,000,000	4.7%

[4] *Summary, Lower Snake River Juvenile Salmon Migration Feasibility Report/Environmental Impact Statement, U.S. Army Corps of Engineers, February 2002, https://www.nww.usace.army.mil/Portals/28/docs/library/2002 LSR study/Summary.pdf?ver=2019-05-03-131237-337. Analysis showed that* ***breaching the dams had the highest probability of meeting the government's salmon survival and recovery criteria****, while employing* ***the other so-called "reasonable" alternatives would be slightly worse than doing nothing****. Nevertheless, the Corps implemented the "****slightly worse than doing nothing****" alternatives. Predictably, the ESA-listed runs are in worse shape today than in 2002.*

A 2021 Nez Perce fisheries study found that 77% of the lower Snake River spring-summer chinook salmon runs will be quasi-extinct by 2025.[5] The steelhead runs are close behind. One definition of quasi-extinction is a level below which continued survival of the population is assumed to be precluded.[6]

A federal government study agrees with the Nez Perce, but puts the extinction date a little farther out, finding that Snake River spring/summer chinook could be nearly extinct by 2060.[7] "*The findings spotlight a need for immediate action*, said Richard Zabel, an author on the paper and head of the fish ecology division at the National Oceanic and Atmospheric Administration's Northwest Fisheries Science Center in Seattle. "*Dam breaching and all alternatives have to be on the table*," Zabel said.[8]

If dam breaching is not started during this administration's term, quasi-extinction will not be "assumed" extinction. It will be irreversible extinction.

A National Solution to the Dam Problem Will Help Combat Climate Change

The Snake River dams produce dirty energy and damage the climate. The energy produced by the lower Snake River dams cannot be called "clean" when the dams have destroyed a river ecosystem, heated the river water to levels lethal to fish in violation of the Clean Water Act, and driven salmon and steelhead into a death spiral that is leading to near term extinction. Further, the dams directly contribute to global warming, since the dam reservoirs emit significant methane, a potent greenhouse gas that the Biden Administration has pledged to reduce. The dams also drive climate change through flooding carbon sinks, and through blocking marine nutrients essential to healthy forests.

The reservoirs behind the lower Snake River dams are methane factories. Organic matter from agriculture and river flow is captured in the reservoirs. The matter then decomposes in oxygen depleted water. This produces methane, a greenhouse gas 84 times more potent than carbon dioxide. A study of the lower Snake River dams estimates the total greenhouse gas emissions

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[5] *Declaration of David B. Johnson In Support of Plaintiffs' Motion for Preliminary Injunction, National Wildlife Federation v. National Marine Fisheries*, U.S. Dist. Court, Portland, Case No. 3:01-cv-00640-SI, filed 7/16/21, see paras. 20-24, https://www.srkwcsi.org/_files/ugd/a3022b_50285ef02f444576b4858a4442ae2150.pdf

[6] Budy, P. *Analytical approaches to assessing recovery options for Snake River chinook salmon*. UTCFWRU 2001(1): 1-86, p. 20, https://www.fws.gov/columbiariver/publications/recopt.pdf.

[7] Crozier, et al., *Climate change threatens Chinook salmon throughout their life cycle*, February 18, 2021, https://www.nature.com/articles/s42003-021-01734-w,)

[8] Lynda V. Mapes, *Warming seas could wipe out Snake River chinook by 2060, scientists predict,* 2/18/21, https://www.seattletimes.com/seattle-news/environment/warming-seas-could-wipe-out-snake-river-chinook-by-2060-scientists-predict/, accessed 2/1/22.

are the equivalent of 86,053 metric tons of CO2, or roughly the same as a mid-sized natural gas-powered generating plant.[9] Dam breaching would end these emissions.

The dams have destroyed a river basin ecosystem. The dams have flooded miles and miles of riparian areas and wetlands, resulting in the destruction of huge carbon sinks that formerly sequestered and stored greenhouse gases. If the dams were breached, the riparian areas and wetlands would be restored, along with their carbon sequestering and storage capabilities.

The dams have weakened sizeable iconic Pacific Northwest forests that historically sequestered carbon, by depriving them of the marine nutrients that were provided by the enormous salmon and steelhead runs of the past.[10] The weakened forests have become far more susceptible to increasingly cataclysmic wild fires. The fires have twin effects. As they burn, they release massive amounts of heat-capturing carbon dioxide into the atmosphere. With the destruction of the trees, the fires remove the forests' ability to sequester carbon dioxide. Healthy forests would return with recovered salmon runs in the Snake River Basin, and with them, the ability to sequester greenhouse gases.

A National Solution to the Dam Problem Will Help BPA and Its Ratepayers

Energy produced by the four lower Snake River dams is not needed. Over 50% of the Lower Snake River Dams' hydropower is produced during the spring runoff, from March through June, the four months with the least demand for power and lowest prices for electricity. During this period, the Pacific Northwest is awash in surplus energy, with energy supply from hydropower alone often twice BPA's total load demand.[11]

Moreover, throughout the year the Pacific Northwest has a glut of energy that is expected to last for at least the next decade. The glut has greatly reduced the average price of energy in the open market in the West and has created a problem for the Bonneville Power Administration

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[9] John Twa, *An Update to the 2016 Paper "The Lower Snake River Reservoirs Generate Significant Amounts of Methane, a Potent Greenhouse Gas,"* July 2020, https://damsense.org/wp-content/uploads/2020/11/2020-Methane-Paper.pdf; Pacific Northwest National Laboratory, 2013, *Evaluating Greenhouse Gas Emissions from Hydropower Complexes on Large Rivers in Eastern Washington*, https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-22297.pdf, accessed 1/26/22. See also John Harrison, et al., 1/18/22, *Understanding Greenhouse Gas Emissions from Reservoirs: Insights from Field Studies and a Global Model*, Harrison American Rivers Webinar 2022.

[10] Thomas Quinn, James Helfield, Catherine Austin, Rachel Hovel, and Andrew Bunn, *A Multi-decade Experiment Shows that Fertilization by Salmon Carcasses Enhanced Tree Growth in the Riparian Zone*, available at esajournals.onlinelibrary.wiley.com/doi/abs/10.1002/ecy.2453.

[11] Anthony Jones, Rocky Mountain Econometrics, *Bonneville Power Administration and the Lower Snake River Dams: The Folly of Conventional Wisdom*, June 2018, http://www.rmecon.com/examples/BPA & LSRDs 6-5-18.pdf, accessed 2/5/22.

(BPA).[12] With more renewables coming into the grid each year, prices are expected to decrease, which will not improve BPA's energy marketing position.[13]

Another significant problem for BPA is the high cost of producing hydropower. BPA can no longer sell hydropower at competitive prices. Since 2009, BPA has raised its contracted utility customers' power prices by 30 percent, and avoided even greater increases by blowing through at least $900 million in financial reserves. Breaching the lower Snake River dams would remove these money losers from BPA's books and help its bottom line.

It is well past time to breach the four lower Snake River dams. The dams and their slack-water reservoirs are an ecosystem and environmental nightmare. The reservoirs contribute to global warming and are driving Snake River salmon and steelhead to extinction. This violates treaties that guarantee tribes the right to fish in their usual and accustomed areas, and devastates tribal culture and a way of life. The dams have long outlived their usefulness. To avoid extinction Snake River salmon need a free flowing river. A national solution is needed. We call on you to craft this solution and begin breaching the dams this year.

We request a meeting to brief and review this information with you in the very near future, if possible in the Pacific Northwest. If not possible, we will come to Washington, D.C. We look forward to your prompt response to this letter. Please contact info@damTRUTH.org to set up a meeting and advise us how we may help you.

Respectfully,

s/ *Sharon Grace*

SRKW CSI/DamTruth
Sharon Grace, Attorney, SRKW CSI Coordinator, Orca Scat Team Field Worker
Rod Sando, Former Natural Resources Manager, Minnesota, Idaho, Columbia Fish & Wildlife
Betsey Thoennes, Project Manager, Technology Integration Consultant
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[12] Lin Laughy, *Pacific Northwest Power Supply and The Lower Snake River Dams*, 2/8/22, https://a3022b6c-2124-4cd1-81a9-072ad3db5e19.usrfiles.com/ugd/a3022b_4a2ddb9a295040778b55af89d9bdddea.pdf.

[13] *Id*.; Northwest Power & Conservation Council, *The State of the Columbia River Basin Draft Annual Report 2021,* https://www.nwcouncil.org/sites/default/files/2021-7.pdf, p. 10, accessed 2/6/22.