

“Shovel Ready” Executive Action to Create a Win for Native and Rural Americans and Endangered Species

Breaching Lower Snake River Dams Now Opens Up Economic Development in the Northwest

To: Biden Administration

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Date: July 1, 2021

Vision of Lower Granite Dam post-breach. 2002 Lower Snake River Juvenile Salmon Migration Feasibility Study and EIS. US Army Corps of Engineers.



This proposal calls for the immediate decommissioning and breaching of four surplus hydroelectric dams on the lower Snake River (LSRDs) in Eastern Washington.¹ Since this decision is within the authority of the Executive Branch, we ask that President Biden, as the Commander in Chief, issue direction to the Chief of Engineers of the U.S. Army Corps of Engineers (USACE), or by Executive Order, to begin breaching the dams this year. Immediate breaching will save endangered salmon and orcas, address tribal treaty violations, build climate change resiliency, and add much needed jobs for rural Americans. It is also technically feasible.

Executive Action is Necessary to Achieve a Long Overdue and Decisive Response

For decades, environmental groups, lobbyists, public utilities, politicians, and regional divisions of federal government agencies have attempted to resolve the controversy over the lower Snake River dams without meaningful progress. Misinformation and misunderstandings on both sides of the dam debate have distracted from the readily achievable common goal of affordable power generation that would simultaneously maintain biological diversity, respect tribal treaty rights, and generate long-term jobs, including in renewable energy. Without decisive executive action, the region will continue to waste valuable time and resources on a problem that can be solved with a “win-win” solution, while the populations of salmon dwindle toward impending near-term extinction.

Breaching the Lower Snake River Dams is a “Shovel Ready” Project

Breaching is *today* a “shovel ready” project, and a nonpartisan opportunity that can begin December 2021 and be completed in 2 years.² Concurrent or subsequent funding for essential mitigation, 500 additional jobs, and immediate economic development from

reclaimed lands can be achieved as breaching begins. As BPA's resource projections indicate, replacement of surplus base load power prior to breach is not necessary.³ Modeling by the Northwest Power and Conservation Council shows that LSRD hydropower is not needed.⁴ Because the LSRDs are run-of-river dams, without significant accumulation capacity, they cannot store power for peak demand events.⁵

Breaching the LSRDs is an Executive Branch Decision that Must be Implemented Now to Avoid Impending Extinction of Salmon and Prevent Further Economic Stagnation

The LSRDs have been steadily reducing endangered wild salmon to the point of imminent extinction, while contributing to stagnant economies in rural Washington and Idaho for decades. On February 5, 2021, U.S. Rep. Mike Simpson (R. Idaho) unveiled a \$33.5 billion Energy & Salmon Concept ("Simpson Concept") to breach the LSRDs to save endangered salmon and revitalize the economy.⁶ The Simpson Concept recognizes that in the last 30 years the Northwest has spent over \$17 billion on failed fish recovery efforts, and a decision not to breach means near immediate and total extinction for salmon and steelhead.⁷

The first step to a quick win for rural communities, tribes, salmon, and orcas is to begin breaching the LSRDs *this year*, starting with Lower Granite dam. This will immediately free up millions of dollars that BPA can then use for necessary transmission grid improvements, and result in a quick climate crisis win as well.

As a second phase, additional infrastructure and river restoration projects can follow as part of a stimulus package to "Build Back Better," and create even more sustainable long-term jobs for the Northwest. However, breaching is an executive branch decision that must be implemented now to prevent extinction of Snake River salmon runs.

Cost Estimates for Breach and Direct Mitigation

Breaching refers to the process of removing the LSRDs earthen embankments as described in the US Army Corps 2002 *Lower Snake River Juvenile Salmon Mitigation Feasibility Report/Environmental Impact Statement* ("2002 EIS"),⁸ the most comprehensive government study analyzing the breach process. The 2002 EIS recognized the value of breaching to avert salmon and steelhead extinction, which is now imminent as the renewed 2020 *Columbia River System Operations EIS* shows.⁹ USACE's 2002 plan to remove the earthen berm used hydraulic breaching to wash away the bottom and widest part of the earthen berm. Subsequent engineering shows that notching and removing the entire earthen portion of the LSRDs via controlled hydraulic breaching can be easily done at a much cheaper cost than the original plan estimate, utilizing structures designed in the initial construction.¹⁰

Breaching in this manner costs less than \$280 million, significantly less than envisioned in the Simpson Concept.¹¹ Mitigation costs for direct impacts of breaching are under \$500 million.¹² Mitigation, except for minor rail modifications, can occur simultaneously or post-breach.

Critical Reasons to Breach the Lower Snake River Dams in 2021

- (1) **Immediate job creation in rural America.** Breaching and mitigation provides up to 500 immediate jobs in this economically devastated area, and 4,170 - 8,500 long term jobs per year in construction, recreation, renewable energy, agriculture, and local/regional economic development, with each short term and long term jobs material for the region.¹³
- (2) **Endangered species protection, biodiversity restoration and climate change resiliency.** Restoring the 140-mile lower Snake River’s riparian corridor expands key habitat for endangered and nearly extinct species, restores biodiversity, combats warming water temperatures, decreases methane emissions (from dam reservoirs), and increases carbon sequestration in alignment with the goals of the “30x30” Executive Order.¹⁴
 - **Salmon/Steelhead.** NOAA recognizes the Snake River Basin as historically the most productive region in the Columbia River Basin, producing 40% of the spring/summer chinook and 55% of its steelhead.¹⁵ As the Simpson Concept notes and government data shows, the smolt-to-adult return (SAR) ratio average for 10 years is now *below 1%* -- a trajectory toward near-term extinction.¹⁶
 - **Orcas.** Only 75 Southern Resident Killer Whales remain. These orcas eat chinook salmon, making dam breaching critical to their survival.¹⁷
- (3) **Address tribal treaty violations.** The LSRDs inundate traditional hunting, gathering, fishing and cultural sites and severely compromise tribal fishing rights.¹⁸
- (4) **Advance social and environmental justice.** With the infusion of limited amount of short term breaching money, disadvantaged populations, including Native Americans and rural residents, will have increased opportunities for jobs and economic development in the places they live right away.
- (5) **Resolve an accumulation of litigation losses.** Litigation under the Endangered Species Act and National Environmental Policy Act against National Marine Fisheries Service, US Army Corps, and US Bureau of Reclamation has been ongoing since 2001. The government has lost every round, and the plaintiffs filed an *Eighth Supplemental Complaint for Declaratory and Injunctive Relief* on January 20, 2021. *See American Rivers et al. v. NMFS et al.*, U.S. District Court of Oregon, Civ. No. 01-0640-SI). The LSRDs also violate the Clean Water Act due to the hot water temperatures in the reservoirs behind the dams. *See Columbia Riverkeeper v. Wheeler*, 944 F.3d 1204 (2019).
- (6) **Increase clean renewable energy.** BPA’s interconnection queue is stacked with wind and solar generation waiting for dam breach to free up about 3,000 MWs of grid transmission capacity, exemplifying the potential expansion of truly clean energy, while accelerating coal plant closures.¹⁹
- (7) **Improve and expand railroad infrastructure.** Barge traffic continues to significantly decline on its own, despite heavy subsidies. Expanded rail infrastructure would provide more flexible and economical transportation for grain growers and other businesses in the region, and is recognized as such by a growing number of stakeholders.

¹ Ice Harbor (1961), Lower Monumental (1969), Little Goose (1970), and Lower Granite (1975).

² To avoid interfering with salmon runs, winter is the appropriate biological window.

³ This is due to the LSRDs’ surplus power production and non-essential, if any, contribution, to system reliability. *See Lower Snake River Dams: Economic Tradeoffs of Removal*, ECONorthwest, July 2019 at p. 4 (“The Lower Snake River Dams supply a small share of the energy needs for the Pacific Northwest region, and account for less power than BPA currently exports to other

regions, primarily California.”); BPA’s Power Services, 2020 Resource Program Summary (noting decrease in load demand due to energy efficiency and competitive solar pricing), available at <https://www.bpa.gov/p/Power-Contracts/Resource-Program/Documents/BPA%202020%20Resource%20Program%20Refresh%20Summary.pdf> (visited Feb. 12, 2021).

⁴ The 1980 Northwest Power Act created the Northwest Power and Conservation Council to develop regional power plans and fish and wildlife programs to balance the Northwest’s environment and energy needs. Studies being integrated into the Council’s 2021 Power Plan show a dramatic increase in solar, making reductions in power from coal plants and underperforming dams like those on the lower Snake River not only possible, but preferred. See Northwest Power and Conservation Council Memo from John Ollis, Manager of Planning and Analysis, to Power Committee Members, at p. 28-30, available at https://www.nwcouncil.org/sites/default/files/2021_03_p1.pdf (visited March 31, 2021).

⁵ *Claims of Sustained Peaking, Ramping, Reserve, Flexibility and Balancing Power from the Lower Snake River Dams; What is Feasible?*, Waddell, et al. (Nov. 2020), available at <https://damsense.org/wp-content/uploads/2020/12/Peaking-Power-2020.pdf> (visited Feb. 15, 2021).

⁶ Rep. Mike Simpson’s Energy & Salmon Concept available at <https://simpson.house.gov/salmon/>

⁷ See “Free the Snake: Restoring America’s Greatest Salmon River”, available at <https://www.patagonia.com/stories/free-the-snake-restoring-americas-greatest-salmon-river/story-17723.html> (visited Feb. 11, 2021); see also “Struggle for the Snake,” 1971 film by Pullman, Washington based KWSU-TV, available at <https://www.idahorivers.org/newsroom/2017/3/2/1971-film-shows-that-army-corps-cooked-books-to-dam-lower-snake-river> (visited Feb. 11, 2021).

⁸ Available on the US Army Corps, Walla Walla District website, at <https://www.nwd.usace.army.mil/Portals/28/docs/library/2002%20LSR%20study/Summary.pdf?ver=2019-05-03-131237-337> (visited Feb. 11, 2021).

⁹ 2020 Columbia River System Operations EIS available at <https://www.nwd.usace.army.mil/CRSO/>

¹⁰ REEVALUATION of The Lower Snake River Juvenile Salmon Migration Feasibility Report And SUPPLEMENTAL Environmental Impact Statement, Appendix D Natural River Drawdown Engineering, Prepared by Jim Waddell, PE/CE, USACE retired, Lead Author John Twa, ME, Technical Support/Editing/Graphics Anon Fisheries Biologists & Planners, USACE, Feb 2016. <https://damsense.org/breach-plan-estimate-21-feb-2016-copy/>

¹¹ Ibid, Direct costs for breaching all four dams in order to secure them in a “non-operational” status identified in the 2002 EIS are: dam embankment removal, river channelization, decommissioning and secure power house, navigation locks and spillways, etc. \$279 million is based on the 2002 EIS cost estimates corrected and updated.

¹² Direct mitigation costs associated with breaching all four dams as identified in the 2002 EIS are: Federal - railroad relocations, bridge abutment protection, reservoir embankment protection, drainage structure protection, railroad/roadway damage repair, recreation access modification, reservoir revegetation, cultural resource protection. Non-federal : irrigation system at Ice Harbor reservoir; groundwater wells (all four dams); Potlatch Corporation water intake and effluent diffuser Lower Granite). However, the \$500 million mitigation costs developed by Waddell, et al. include corrected federal and non-federal costs as well as off river short line rail upgrades and additional sidings at grain elevators on the river. The Simpson Concept includes much broader mitigation to foster economic stimulus and grow the Northwest’s renewable energy sector, this is not however mitigation caused by or required by LSRD breaching.

¹³ Job estimates are based on calculations by Jim Waddell using recognized engineering principles (such as RSMMeans). Mr. Waddell has extensive experience in manpower calculations including from his time as Deputy District Engineer at Walla Walla, the US Army Corps district in charge of the LSRDs and the US Army Corps’ Center of Expertise for cost engineering. Economists value the recreational benefits of a free flowing lower Snake River alone at \$1.5 billion dollars per year. *National Economic Analysis of the Four Lower Snake River Dams: Earth Economics: A Review of the 2002 Lower Snake Feasibility Report/Environmental Impact Statement Economic Appendix (I)*, Feb. 2016, at p. 15, available at https://static1.squarespace.com/static/561dcdc6e4b039470e9afc00/t/5b7f1c4d0ebbe8d5b497b141/1535056979298/EarthEconomics_AnalysisoftheFourLowerSnakeRiverDams_Feb2016.pdf (visited Feb. 22, 2021); for employment statistics see https://www.bls.gov/eag/eag.wa_kennewick_msa.htm (visited Feb 14, 2021).

¹⁴ “30x30” Executive Order available at <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/>

¹⁵ NOAA statistics available at www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/interior_columbia/snake/Final%20Snake%20Recovery%20Plan%20Docs/9.29.2017_recovering_snake_river_salmon_steelhead_facts_reduced.pdf

¹⁶ SAR values are the percentage of young pit-tagged fish that are counted returning to spawning grounds as adults. In 2020, this number was 0.06% for spring and summer chinook. See www.cbr.washington.edu/dart/query/adult_daily.

¹⁷ *Southern Resident Killer Whales & Columbia/Snake River Chinook: A Review of the Available Scientific Evidence*, Feb. 2020, <https://damsense.org/wp-content/uploads/2020/02/Feb-2020-Review-paper.pdf>

¹⁸ See Columbia River Inter-Tribal Fish Commission, Fisheries Timeline, available at <https://www.critfc.org/about-us/fisheries-timeline/> (visited Feb. 11, 2021). The Nez Perce General Council passed a Resolution (SPGC20-02, June 2020) recognizing “that the Snake River is a living entity that possesses fundamental rights, in accordance with longstanding Nez Perce tribal beliefs and practices.”; see *U.S. v. Washington*, 853 F.3d 946 (9 Cir. 2017), judgment affirmed by an equally divided Court, *Washington v. U.S.*, 138 S. Ct. 1832, 1833, (2018) (Washington State (and in *dicta* the United States) government are liable to signatory tribes for violating the 1855 Stevens Treaties by failing to remove fish passage barriers).

¹⁹ BPA’s interconnection queue is available at <https://www.bpa.gov/transmission/Doing%20Business/Interconnection/Pages/default.aspx> (visited Feb. 11, 2021).

Background on Subject Matter Experts

Jim Waddell, Civil Engineer, US Army Corps (Retired) (360) 775-7799, jim@damsense.org

Jim Waddell is a Civil Engineer who is retired from a 35-year public service career with the U.S. Army Corps of Engineers. In 2018, he was elected as a Clallam County, Washington Public Utility Commissioner. For over 20 years of his career in the Corps he was a leader in developing the policies and practice of Sustainable Development within multiple federal agencies, such as the Environmental Protection Agency and the National Science Foundation. His work with the NSF and then as the Senior Policy Analyst for the Environment in the White House Office of Science and Technology Policy was largely focused on climate change policy, budgets, and research integration. He was the first in the Federal Government to identify and integrate all the global warming research programs allowing scientific information to better inform National and International policies. His efforts in 1989 helped establish and organize the US Global Change Research Program. In 1999, Mr. Waddell became the Deputy District Engineer for Programs at the Walla Walla District when the Lower Snake Feasibility Study was in its 5th year of development. This \$33 million dollar study was the most comprehensive effort ever undertaken by any government to determine the feasibility of breaching dams to restore salmon runs. His recommendation to breach the dams based on the study and input from over 100,000 commenters who were largely in favor of breaching was ignored. After his retirement from the Corps in 2013 he commenced a reevaluation of the study, and his work shows that breaching the four LSRDs is not only a sound biological choice but will prevent the waste of millions of taxpayer dollars and loss of economic benefits to the nation and region.

Chris Pinney, Senior Fisheries Biologist, Walla Walla District, US Army Corps (Retired)

Chris served for 25 years as the senior fisheries biologist at the Walla Walla District Corps of Engineers. In this capacity, he participated in dozens of salmon, steelhead, and other aquatic species studies affected by Corps' dams and reservoirs in the Snake River basin and lower Columbia. He provided critical guidance affecting dam operations, maintenance, and repair functions to ensure compliance with the National Environmental Policy Act, Endangered Species Act, and other state/federal mandates to protect and recover impacted species. His analysis and expertise led to recommendations over many years that breaching the LSRDs was the only feasible means of recovering listed species.

Ken Balcomb, Director, Center for Whale Research

Ken obtained his bachelor's degree in Zoology in 1963 from UC Davis. Soon after, he was employed by the US government as Field Biologist GS5-7, first in Eastern Pacific large whale research and later in Central Pacific marine bird research. During the Vietnam War era, he was a commissioned US Navy pilot and oceanographic specialist. He then did his graduate studies at UC Santa Cruz with Dr. Ken Norris, the world-famous marine mammal biologist. While a graduate student, Ken conducted Humpback whale research in the North Atlantic with colleague Dr. Steve Katona and taught marine biology aboard r/v Regina Maris for Dr. George Nichols of ORES and Harvard University. Ken is a pioneer in photo-identification of cetaceans and is the founder of Orca Survey (1976), a study of Pacific Northwest Southern Resident killer whales (orcas). He founded the non-profit Center for Whale Research in 1985 and is its volunteer Executive Director and NWFSC contract Principal Investigator of Orca Survey. Ken is a Charter Member of the Society for Marine Mammalogy.