

ELEMENTAL PROCESS TO BREACH THE FOUR LOWER SNAKE RIVER DAMS

WHY

FINANCIAL CRISIS

Bonneville Power Administration (BPA) is the federal agency that manages the four lower Snake River dams (LSRD). BPA is in financial crisis, with a debt-to-asset-ratio of 90%.¹ The LSRD have a diminished benefit-cost-ratio of 0.15 to 1.00² and the power these dams provide is surplus; only 2 hours out of the last 93,000 hours produced were used by BPA customers.³ It is fiscally beneficial to breach the LSRD to alleviate financial burden from the tax and rate paying citizens. Breaching can be financed through existing debt reduction and credit mechanisms as a fish mitigation action or direct funding by BPA. Breaching the LSRD will save money in the long-term, because maintenance of one dam far exceeds the cost to breach all four.⁴

ENVIRONMENTAL IMPACT

During migration, each LSRD and reservoir kills 2 million juvenile Chinook salmon. The U.S. Army Corps of Engineers (the Corps) has already studied dam breaching as a means to increase Chinook salmon in the 2002 Feasibility Report / Environmental Impact Statement (2002 EIS), under Alternative 4. Dam breaching was determined to be the best option to increase salmon survival.⁵ Breaching the LSRD is environmentally beneficial to restore Chinook salmon and the species that depend on them.

WHO

U.S. ARMY CORPS OF ENGINEERS

The Corps has the authority to breach the LSRD. Despite claims made by the Corps breaching does not require congressional authorization or appropriation. Government leaders such as Governor Inslee, Senator Murray, and Senator Cantwell need to call Lt. Gen. Semonite of the Corps and insist that he initiate the immediate breach of the LSRD under Alternative 4 of the existing 2002 EIS.

WHEN

2019–IMMEDIATELY

Neither the ongoing litigation over the 2016 Federal Biological Opinion nor the Court order for a Columbia River Systems Operation review (CRSO/EIS) constrains USACE from breaching the dams through channel bypass today. Breaching is far easier than originally planned, making it possible to move from a decision to breach, to actual breaching in a matter of months, not years.

HOW

REMOVE EARTHEN BERM

Breaching of the four lower Snake River dams can be completed in four steps: (1) Begin reservoir draw-down (2) Excavate the earthen berm (3) Begin controlled hydraulic breach (4) Repeat on remaining three dams. The Corps Walla Walla District estimated this process would take several years and well over \$70 million, but it can be completed in a matter of months for around \$1 million.⁶



Before and after photo simulation of dam breaching on Lower Granite dam. U.S. Army Corps of Engineers (USACE) active 2002 EIS.

STEPS TO BREACH 1. Begin reservoir draw-down 2. Excavate the earthen berm 3. Begin controlled hydraulic breach 4. Repeat on remaining 3 dams

THE FOUR LOWER SNAKE RIVER DAMS DEBATE

The Snake River is the principal tributary to the Columbia River, draining approximately 109,000 square miles in Idaho, Wyoming, Utah, Nevada, Washington, and Oregon. The four lower Snake River dams (LSRD) includes four locks and dams in the state of Washington: Ice Harbor dam, Lower Monumental dam, Little Goose dam, and Lower Granite dam.¹ These dams are not designed to control floods, but were built to provide navigation and hydropower. Over the years, barge traffic has shifted to rail and some commodities have stopped using barges altogether. Moreover, nearly all of the hydropower produced by the LSRD is sold as a surplus.

Chinook “King” Salmon are keystone species and one of the premier native fish of the Pacific Northwest. These salmon are a vital food source for a diversity of wildlife, including Southern Resident Killer Whales, bears, seals, and large birds of prey.³ These fish are anadromous, meaning they live their lives in freshwater and saltwater: born in upstream rivers, migrate to sea, and return to their natal streams to spawn the next generation.²

The Columbia Snake River Basin was once the most prolific salmon habitat in the world, but today its salmon and steelhead numbers have plummeted. In the 1950s, almost 130,000 adult salmon and steelhead returned to the Snake River in the *spring* and *summer* to spawn, but by 2017 that number had dropped below 10,000.⁴ (These numbers do not include *fall* Chinook returns.) Since the 1970s juvenile fish from the lower Snake River drainage system migrate past as many as eight Federal dams before reaching the Pacific Ocean.¹ Roughly 40% of all Chinook salmon that migrate across all four dams and reservoirs will die; resulting in daily fish counts that continue to be below the 10-year average.

“Breaching” will reestablish normative river flows by removing the earthen berms of the dam, whereas “removal” will reestablish normative river flows by demolishing and removing the concrete structure of the dam. Dam breaching is a small scale U.S. Army Corps of Engineers (the Corps) project when compared to dam removal. Breaching the four lower Snake River dams (LSRD) will cost \$340 million and could be finished by 2020 if we began in 2019.⁴

THE COLUMBIA RIVER SYSTEM OPERATIONS/ENVIRONMENTAL IMPACT STATEMENT

In 2016 the U.S. District Court ordered an analysis under the National Environmental Policy Act. They stated the previous 2014 BiOp which assessed Chinook salmon lacked sufficient evidence to make a decision regarding the state of salmon; thus, the Columbia River System Operations/ Environmental Impact Statement (CRSO/EIS) was born. The CRSO/EIS is a regional, comprehensive effort to evaluate a range of operations alternatives for the 14 federal hydropower facilities that exist along the Columbia and Snake Rivers. USACE, U.S. Bureau of Reclamation, and Bonneville Power Administration are co-leads on the current CRSO/EIS process. This scope is much too large to be applied practically, as the decrease in Chinook salmon populations has already been identified as a result from the LSRD. Therefore, studying the entire Columbia River System, is a waste of federal resources, taxpayer money, and time that endangered species do not have. Since an assessment has already been made, and a solution has already been identified through the 200 EIS under Alternative 4. Chinook salmon are facing perilous conditions and dam breaching is their greatest opportunity for survival.

2002 FEASIBILITY REPORT / ENVIRONMENTAL IMPACT STATEMENT

The stated purpose of the 2002 Feasibility Report / Environmental Impact Statement (2002 EIS) was to evaluate and screen structural alternative measures that may increase the survival of juvenile anadromous fish through the Lower Snake River Project and assist in the Endangered Species Act recovery of listed salmon and steelhead stocks. Through this project, four action options or alternatives were researched.

Four Alternatives Evaluated in the 2002 EIS

Alternative 1	2002 Existing Conditions (Do nothing)	Alternative 2	Maximum Transport of Juvenile Salmon
Alternative 3	Major System Improvements	Alternative 4	Dam Breaching

Alternative 1, doing nothing, was considered a slightly better option than Alternative 2 or 3. The Corps selected a modified Alternative 3 (combined with elements of Alternative 2) as the recommended plan.¹ This decision wasted \$1 billion with no improvements in salmon returns.

Since 2002, three of the four proposed Alternatives from the 2002 EIS have been attempted, *yet salmon continue to decline*. The only alternative not used is Alternative 4—breaching the LSRD. The last option to save Chinook salmon, and the alternative originally recognized as the most probable option that would actually successfully recover salmon populations.

Puget Sound Partnership numbers indicate that Chinook salmon populations have dropped to as little as 3% of their historic numbers.⁵ We continue to see large scale impacts resulting from their rapid disappearance.

1. U.S. Army Corps of Engineers, Final Lower Snake River Juvenile Salmon Migration FR/EIS | 2. U.S. Fish and Wildlife Service, Salmon of the West | 3. The National Wildlife Federation | 4. Natural Resources Defense Council, In the Columbia-Snake River Basin, Salmon Are Losing Their Way | 5. The Seattle Times, Disappearance of wild salmon hurts local economy