

## CONTEMPLATING THE FUTURE OF THE LOWER SNAKE RIVER DAMS

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### Environment, Land, and Natural Resources Alert

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For the first time in a decades-long dispute over the future of the lower Snake River dams (LSRD), federal agencies have analyzed the potential effects of breaching and removing the dams to support recovery of threatened and endangered salmon species. The analysis was included in a court-mandated environmental impact statement (EIS), ordered as a result of ongoing litigation over the impacts of the Columbia River System Operations on endangered salmon.<sup>1</sup> While ultimately the agencies' preferred alternative recommended a modified spill regime at the dams and improved fish passage facilities,<sup>2</sup> the fact that breaching the dams was considered at all demonstrates the building pressure to take more significant steps towards salmon conservation in the lower Snake River. However, the EIS also takes the position that removal of the dams would have profound adverse economic impacts, indicating that breaching the dams is not likely to occur in the near future.

### BACKGROUND

The LSRD play an critical role in the production of agricultural goods and renewable energy in the state of Washington. Comprised of four hydroelectric dams, the LSRD produce an average of 1,000 megawatts (MW) of electricity per year, which is roughly the amount of electricity consumed by Seattle annually.<sup>3</sup> The LSRD also enable the affordable waterborne transportation of agricultural goods between Lewiston, Idaho; the Tri-Cities, Washington; and the ports on the lower Columbia River. Moreover, the dams play a vital role in flood control, water supply, and the provision of water for agricultural irrigation.

But the LSRD are also at the heart of a decades-long dispute over how to balance these agricultural and energy needs against impacts to endangered and threatened salmon. All species of salmon that use the Snake River are currently listed as threatened or endangered under the Endangered Species Act.<sup>4</sup> The LSRD are among the largest human-constructed obstacles that fish and other aquatic species encounter on their migration to and from the Pacific Ocean. Many argue that the LSRD are preventing these endangered populations from ever recovering.

### FEDERAL AGENCIES' EIS – A BALANCING ACT

These conflicting interests are the subject of the recently released EIS, prepared by the U.S. Army Corps of Engineers, Bureau of Reclamation, and Bonneville Power Administration (collectively the “Federal Agencies”).

The EIS was prepared as a result of a lawsuit brought by environmental groups in *National Wildlife Federation v. National Marine Fisheries Service*.<sup>5</sup> The court in that case found that the Federal Agencies had not fully complied with the National Environmental Policy Act when they adopted a biological opinion by the National Marine Fisheries Service that evaluated the impacts of the Columbia River System Operations (CRSO). The court found that the Federal Agencies had not fully evaluated the impacts of the CRSO, the federal system of dams that

includes the LSRD, on threatened and endangered salmon. In its opinion, the court noted that “it may well require consideration of the reasonable alternative of breaching, bypassing, or removing one or more of the four Lower Snake River Dams,” something the Federal Agencies “have done their utmost to avoid considering for decades.”<sup>6</sup>

The Federal Agencies have now considered breaching and removing the LSRD in one of the proposed alternatives in the EIS (the “breaching alternative”). The structural measures in breaching alternative include breaching the four LSRD by removing the earthen embankment at each dam, resulting in a controlled release of water from dam reservoirs.<sup>7</sup> Ultimately, the Federal Agencies concluded that breaching the dams may have the highest benefits for endangered salmon, based on the predictive modeling used to develop each alternative.

However, the Federal Agencies concluded breaching the dams would prevent the Army Corps of Engineers from operating and maintaining the dams for their congressionally authorized purpose of navigation, hydropower, recreation, and water supply. The breaching alternative was also found to have the highest adverse social and economic effects of all the options considered.<sup>8</sup> Breaching the dams would additionally require new congressional authority and appropriations because the Federal Agencies do not have the authority or funds to immediately breach the dams' embankments.

Perhaps unsurprisingly, the option of breaching the dams was not compatible with one of the CRSO's operational objectives: to provide a reliable and economic power supply.<sup>9</sup> Breaching the dams would decrease hydropower generation by about 1,000 MW under average water conditions. The EIS notes that the LSRD play an important role in maintaining reliability in the carbon-free production of power used to supply load in the Pacific Northwest, providing a quarter of the CRSO's current reserves holding capacity and providing load when intermittent sources such as renewables cannot. The EIS concludes that breaching the LSRD would necessitate building significant quantities of replacement resources to maintain regional power reliability.

The EIS also noted that breaching the LSRD would have major adverse effects on transportation.<sup>10</sup> This option would render unavailable the lower Snake River draft navigation channel, eliminating commercial navigation to multiple ports on the lower Snake River. This, in turn, would lead to increased costs to transport goods to market. For instance, the cost to transport wheat, which accounted for 87 percent of the tonnage on the lower Snake River in 2018, would increase from 10 percent to 33 percent. Among other things, increased demand on rail infrastructure would follow, likely exceeding current rail capacity and requiring new facilities to be built.

Finally, the EIS concluded that breaching the LSRD would meet water management and water supply goals in most areas, finding that water supply in many areas would not be affected by the breach. However, the EIS does note that one group would experience major adverse effects with regard to water supply: entities that pump water for irrigation in and near the reservoir pools of the LSRD.<sup>11</sup> Once the dams are removed, the ground water elevations would drop up to 100 feet in some areas. The EIS assumes that 48,000 acres could no longer be irrigated as a result, leading to the loss of millions dollars in labor income and agricultural output.

Balancing these competing interests is obviously a complex and difficult task. Ultimately, the Federal Agencies' preferred alternative for the Columbia River system is a flexible spill operation that spills more water over the dams for fish passage when power generation is less valuable and spills less when power generation is more valuable.<sup>12</sup> This alternative creates a spill regime that includes a high rate of spill over six of the eight lower Columbia River and lower Snake River dams for up to 16 hours a day, then reduces spill for up to eight hours, providing benefits for both out-migrating juvenile salmonids and hydropower. The preferred alternative also includes measures for lamprey and resident fish, as well as fish passage improvement projects.

On 28 September 2020, a Record of Decision (ROD) was issued by the Federal Agencies that adopted the preferred alternative. While the ROD puts to bed the question of breaching the four dams for now, it is likely not the end of the conversation regarding the future of the LSRD.

## CONCLUSION

The recent effort to envision the lower Snake River without the LSRD marks a significant development in the ongoing conversation on the environmental and economic priorities of the CRSO. Removal of the dams would require significant action at the congressional level, and that does not currently appear forthcoming. However, a change in administration after the upcoming election could lead to new executive agency and congressional priorities that may lean towards breaching the LSRD.

## FOOTNOTES

<sup>1</sup> *N.W.F. v. Nat'l Marine Fisheries Serv.*, 184 F. Supp. 3d 861, 869 (2016).

<sup>2</sup> U.S. ARMY CORPS. OF ENG'RS ET AL., COLUMBIA RIVER SYSTEM OPERATIONS ENVIRONMENTAL IMPACT STATEMENT RECORD OF DECISION § 2.5.6 (Sept. 2020), [here](#).

<sup>3</sup> Lower Snake River Dams Stakeholder Engagement Report at 2 (Dec. 20, 2019), [here](#).

<sup>4</sup> *Id.*

<sup>5</sup> *N.W.F.*, 184 F.Supp.3d at 869.

<sup>6</sup> *Id.* at 942.

<sup>7</sup> U.S. ARMY CORPS. OF ENG'RS ET AL., COLUMBIA RIVER SYSTEM OPERATIONS ENVIRONMENTAL IMPACT STATEMENT, EXECUTIVE SUMMARY at 29 (Sept. 2020), [here](#).

<sup>8</sup> The other alternatives considered were (1) no action, (2) an option that would incorporate a juvenile fish passage spill operation, (3) an option that would reduce current restrictions on operating ranges and generating rates for hydropower facilities and increase juvenile fish transportation, and (4) an option that would include high levels of spill at the dams, dry-year augmentation of spring flow with water stored in upper basin reservoirs, annually drawing down the lower Snake River and Columbia River reservoirs to their minimum operating pools, and changes to juvenile fish transportation.

<sup>9</sup> *See supra*, note 7, at 30.

<sup>10</sup> *See supra*, note 7, at 32-33.

<sup>11</sup> *See supra*, note 7, at 32.

<sup>12</sup> *See supra*, note 7, at 37.

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