



July 8, 2022

The Honorable Patty Murray  
United States Senate  
Washington, D.C. 20510

Governor Jay Inslee  
Office of the Governor  
PO Box 40002  
Olympia, WA 98504-0002

**RE: Comments on Lower Snake River Dams: Benefit Replacement Draft Report**

Dear Senator Murray and Governor Inslee:

On behalf of the Washington, Oregon, Idaho, and Wyoming Councils of Trout Unlimited and over 13,000 members, we want to thank you for your leadership in initiating a fair and thorough review of the status of the four Lower Snake River Dams (LSRDs) and the possibility of breaching those dams to provide for the restoration of the Snake River ecosystem, including recovery of the salmon and steelhead runs native to the Pacific Northwest. The citizens of the Northwest, and the United States as a whole, have a crucial—and likely fleeting—opportunity to help save critically threatened and endangered salmon and steelhead and the cultural, recreational, ecological, historical, and economic benefits they provide by removing the four lower Snake River dams (LSRD). The Northwest Councils of Trout Unlimited (TU) urge the leadership of the Pacific Northwest to make the critical and urgent decision to remove the four dams.

**The time for urgent action is now.** The salmon and steelhead runs in the Snake River system have been declining precipitously over the past decades. Despite hundreds of millions of dollars in annual expenditures by federal and state agencies, current salmon migration mitigation measures in the Columbia and Snake Rivers are not bringing back these runs. While full recovery of Snake River salmon populations cannot be guaranteed by dam removal, the clear scientific consensus is that existing mitigation efforts<sup>1</sup> have failed to reverse the decline in salmon populations, and recovery of the runs is unlikely under the status quo. Even the Bonneville Power Administration's analysis concludes that increases in the precipitously low salmon runs are "only likely if the lower Snake River dams are breached."<sup>2</sup> There is no doubt. If we do not remove the four LSRD, the salmon and steelhead runs in the Snake River will soon be lost forever. This is why Trout Unlimited has supported LSRD removal since 1998.

The Northwest Councils of TU commend Senator Murray and Governor Inslee for commissioning the *Lower Snake River Dams: Benefit Replacement Draft Report* (the "Draft Report"). The

<sup>1</sup> Significant restrictions on sport fishing for Snake River salmon and steelhead have been in place since the late 1970s. For example, Idaho ended fishing seasons for wild Chinook salmon. Some limited and strictly controlled fisheries targeted on hatchery salmon and steelhead occur when there is a surplus.

<sup>2</sup> Fish Passage Center (FPC). (2021). Comparative Survival Study of PIT-tagged Spring/Summer/Fall Chinook, Summer Steelhead, and Sockeye 2021 Annual Report. BPA Contract #19960200.

Draft Report is one of several important and compelling first steps toward the removal of the four dams. We are also thankful to Congressman Mike Simpson of Idaho for his courage and conviction in jumpstarting this effort through his 2021 *Columbia Basin Initiative*.

The Draft Report shows that not only can the benefits (e.g., energy, transportation, irrigation, recreation) of the LSRD be replaced, the cost of replacement when compared to the benefits realized from their breach is far less. Indeed, as noted below, the costs of replacing the services provided by the LSRD are likely overstated because the Draft Report does not include the benefits from removal and the costs avoided if the dams remain in place.

Notwithstanding our overall support and appreciation for the Draft Report, the Northwest Councils of TU do have several comments that we ask to be included or addressed in the final version. We offer these comments to help improve the final report, not to prolong the debate over the costs and benefits of dam removal. We believe that the Draft Report provides a reasonable order-of-magnitude assessment of the costs of replacing the services from dam removal. We do not have time to focus on more studies rather than concrete actions. “Paralysis by analysis” is not acceptable and will only delay the urgent need to breach the dams before we lose our salmon. We need policymakers to make the decision to remove the dams expeditiously, rather than “kick the can down the road” until it is too late and the fish are gone, forever.

We are however especially concerned about how the Draft Report presents certain information. **First**, as noted in our comments, the Draft Report summarizes its cost estimate as a large number but fails to emphasize that these costs are amortized over a 50-year period. What may seem to some readers as a very expensive project is really a far more reasonable expenditure on an annualized basis. The Final Report should instead include annualized costs. **Second**, and related, the Draft Report can be misconstrued to be a cost-benefit analysis, which it is not. The Final Report must clearly explain that the costs do not include the greater benefits that will be realized from the removal of the dams. In some cases, there will be direct cost savings, such as the elimination of the taxpayer subsidies for operating the locks or the huge reduction in avoided salmon mitigation costs. In other cases, there will be substantial benefits realized from the removal of the dams, such as increased recreational opportunities, benefits to tribal and commercial fishing, benefits for the Southern Resident Orca populations, and non-use values of knowing that salmon and steelhead runs will continue for our future generations. Even the costs of taking down the dams can be viewed as a potential benefit because of the local employment and economic development benefits. The Final Report should clearly acknowledge that the costs presented do not include offsetting benefits of dam removal.<sup>3</sup>

Our comments follow. Thank you for considering them.

**Comment I. The Draft Report demonstrates that the removal of the four dams and replacement of the benefits they provide are feasible and affordable, especially if the benefits of dam removal are included.**

The conclusions of the Draft Report are encouraging. It shows that the services provided by the dams and their reservoirs can be replaced. Conversely, nothing in the report or in current scientific research provides any support for believing that the salmon and steelhead runs will recover

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<sup>3</sup> For example, the ECONorthwest Report estimates that removal of the dams will result in a **net benefit** of \$8.65 billion. ECONorthwest, Lower Snake River Dams Economic Tradeoffs of Removal at iv (2019).

and increase if the dams remain in place. While the Draft Report is neutral as to a recommendation on dam removal, it provides a reasonable path forward for removing the dams, replacing the services provided, and helping to recover the salmon and steelhead runs – if we move forward resolutely and expeditiously before the salmon runs disappear forever.

While some might balk at the \$10.3-\$27.2B estimate of the costs of replacing the lost services, it is critical to note several things. **First**, the cost estimates are spread over a 50-year period, making the annual costs easily less than \$1B per year. The total costs are comparable to what the federal government and states have been spending over decades in their failed attempts in salmon recovery. **Second**, the cost estimates do not include the counter-balancing cost savings and increased benefits from dam removal, such as those from no longer operating and maintaining the dams and the lock systems, the reduced costs for salmon migration mitigation measures that have proven unsuccessful, the avoided costs of replacing 24 turbines, the recreational and ecosystem benefits from a free-flowing lower Snake River, the benefits to the endangered Southern Resident Orca populations from increased salmon runs, the avoided conflict and ever-increasing litigation expenses from defending against failed salmon recovery policies, and the societal benefits from having access to or simply knowledge of the presence of healthy salmon populations in the Columbia River system. **Third**, the high-end of the cost estimate is driven primarily by the upper bound estimate of replacing the energy currently provided by the dams. This estimate does not take into account increased reliance throughout the region on reliable renewable energy sources. Both wind and solar increasingly contribute to the PNW power grid and will certainly provide reliable power for replacing hydropower sources. Similarly, it also does not include the significant declines in the costs of renewable energy, conservation, and battery storage. **Fourth**, the federal government and the states are currently spending hundreds of millions of dollars – some would estimate over \$1B – every year on salmon recovery efforts in the Columbia River system that have shown no significant benefits against a backdrop of continued declines in runs. As the runs continue to decline or remain chronically depressed, the costs of these mitigation measures will only increase, either because current measures fail to improve recovery or the federal courts mandate more aggressive measures under the Endangered Species Act and tribal treaty obligations. As shown by the “Culverts case”, *United States v. Washington*, 827 F.3d 836 (9th Cir. 2016), federal courts have and will order multi-billion-dollar remedies to address declining salmon runs. **Finally**, without the removal of the dams, the salmon and steelhead runs in the Snake River system are destined to end – a priceless loss for future generations.

**Comment 2. The Draft Report should stress—in no uncertain terms—that without the removal of the dams there is no potential to achieve the goal of abundant, healthy, and fishable/harvestable Snake River salmon and steelhead and that we will soon lose the Snake River salmon and steelhead runs forever.**

The Northwest Councils of TU recognize and appreciate that the Draft Report needed to take a balanced and fair assessment of the future of the salmon and steelhead runs in the Snake River system if the LSRD are not removed. We support the analysis presented in Chapter 4 of the Draft Report; however, the Northwest Councils of TU encourage the report to be revised to emphasize the clear and unrebutted scientific consensus that salmon and steelhead runs in the Snake River will continue to decline to the point of extinction if the dams are not removed. If the dams remain in place, there is no evidence that current or future mitigation measures will increase the long-term number of fish migrating from the spawning grounds to the ocean and returning to spawn successfully. Despite tens of billions of dollars in expenditures by BPA and hundreds of millions more spent by

other state and federal agencies since 1981 to help recover the Columbia River salmon and steelhead runs, the stocks continue to decline.<sup>4</sup>

As recognized in the Draft Report, a common benchmark used to assess the recovery of salmon runs is the smolt-to-adult return (SAR) number. To merely maintain a population, the minimum SAR must be at least 2%, and to achieve a high likelihood of recovery, a SAR greater than 4% is needed (Storch et al., 2022). While occasionally the SARs for the Snake River have risen into the 2%-4% range, the long-term averages are less than 2% for both Chinook and steelhead. In its most recent annual report prepared under contract with BPA, the Fish Passage Center concluded that nothing short of breaching the dams would help increase the SAR: “CSS analyses have shown that **dramatic increases in SARs are only likely if the lower Snake River dams are breached** and spill is maximized at the lower Columbia River dams.”<sup>5</sup> It further noted that with current mitigation measures, “the ongoing, depressed SARs for the Snake River populations are unsurprising and to be expected.” Even BPA’s own analysis finds that, without removal of the LSRD and continued SARs of less than 2%, the salmon and steelhead runs will continue to decline past the tipping point for population collapse.

While the Draft Report relies on the above analysis as well as other research, the language of the report downplays the bottom line: current mitigation measures will not reverse the current decline in salmon and steelhead runs to the point of extinction. This point must be made clearly and concisely so that it is not overlooked in the ensuing policy debates over dam removal.

**Comment 3. The Final Report should explain that dam removal is necessary to unlock the value of the major habitat investments made in the Snake River Basin to date.**

What is especially vexing about the LSRD is that they reduce the value of all the important habitat work that has been and will be done upstream of the dams. Trout Unlimited, other conservation organizations, state agencies, and the federal government have been spending millions on upstream restoration work on a “Field of Dreams” mentality: “build it and they will return”; however, if the salmon literally cannot survive the gauntlet of dams, we have failed to maximize the potential benefits of these conservation investments.

In addition, the habitat restoration work builds on a strong foundation of protected habitat in the Snake River Basin where a substantial amount of spawning and rearing habitat in tributary streams is protected in its current high-quality condition through designated Wilderness, Wild and Scenic Rivers, National Recreation Areas and roadless areas on National Forest lands. Decades ago, the US Congress protected large landscapes such as the Eagle Cap Wilderness in northeast Oregon and the 2.2 million acre Frank Church River of No Return Wilderness Area in central Idaho, to name a couple. Many of the streams are in pristine or near pristine condition and await more abundant returns of

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<sup>4</sup> Northwest Power and Conservation Council (NPCC). 2017 Columbia River Basin Fish and Wildlife Program Costs Report (reporting \$16.4 billion in BPA costs for 1981-2017); NPCC. 2020. Columbia River Basin Fish and Wildlife Program Costs Report (reporting \$611.5 million in 2020 alone).

<sup>5</sup> FPC at iv (emphasis added).

adult salmon and steelhead to utilize the habitat. And, in some cases of these designated lands, Congress made clear that protection of salmon was one of the purposes of the law.<sup>6</sup>

By removing the dams, migrating salmon and other species can benefit from the millions of dollars in upstream restoration work and the already-protected high-quality spawning and rearing habitat. The Final Report should acknowledge the point that removing the dams is the key to maximizing the potential benefits of these investments.

**Comment 4. The Draft Report should include an estimate of the economic and non-economic losses that will occur if the dams are not removed, thereby causing the salmon and steelhead runs to be lost forever.**

Unfortunately, the Draft Report appears incomplete because it does not include estimates for the economic and non-economic benefits that will result from the removal of the LSRD. Any credible analysis of the policy trade-offs between dam removal and the status quo should account for the replacement costs of the benefits lost and the benefits gained. In particular, this kind of analysis should include the non-use existence value of removing the dams and protecting the Snake River salmon and steelhead runs. While many may disagree as to the estimates of non-use values, their legitimacy is well established. The ECONorthwest report estimated non-use values to be \$10.97B. Even if the non-use values were just one-quarter of the ECONorthwest estimate, their analysis still supported removal of the dams. To make a fair evaluation of the net costs of replacing the benefits of the dams, the Draft Report should include other use and non-use values as well. Timothy Egan once wrote, "The Pacific Northwest is simply this: wherever the salmon can get to."<sup>7</sup> The "existence value" of our regional identity cannot nor should not be understated.

**Comment 5. The Draft Report should present the benefit replacement costs on an annualized basis, not the total costs over 50 years.**

In an age where the public seldom reads past the headlines, the Draft Report's reference to dam removal costing from \$10.3B to \$27.2B could unfairly alarm the public who fail to recognize that these cost estimates are amortized over a 50-year period. Opponents of dam removal have seized on these billion-dollar costs to argue in soundbites that dam removal is simply too expensive. However, if these costs were presented as annualized numbers, the costs would be viewed as being significantly more reasonable—most likely in the range of \$300M to \$900M annually. While these numbers may still seem large, they must be considered in the overall context of the BPA system, the revenues it generates, its costs, and the benefits from restoring salmon runs. For example, in 2020, BPA alone spent \$611.5M on direct and indirect fish and wildlife protection measures in the Columbia River system.<sup>8</sup> Other federal and state agencies, along with non-governmental environmental and conservation organizations (NGOs) spend tens of millions more on salmon mitigation.

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<sup>6</sup> See for example the Sawtooth National Recreation Area Act of 1972, PL 92-400, "The Secretary shall administer the recreation area in accordance with the laws, rules and regulations applicable to the national forests in such manner as will best provide (1) the protection and conservation of the salmon and other fisheries..."

<sup>7</sup> Egan, T., The Good Rain: Across Time and Terrain in the Pacific Northwest (1990).

<sup>8</sup> Northwest Power and Conservation Council (NPCC). 2020 Columbia River Basin Fish and Wildlife Program Costs Report (2020)

**Comment 6. The Draft Report should present the net benefit replacement costs by including the relevant cost savings or other benefits from the removal of the LSRDs.**

In reviewing the Draft Report and its estimates of benefit replacement costs, it is difficult to determine whether the benefit replacement costs presented include reductions for certain cost savings and positive benefits that would be realized when the dams are removed. For example, in estimating the transportation benefits to be replaced, the Draft Report appears not to include the costs savings for not operating the lock system once the dams are gone. The Draft Report acknowledges that barge transportation is heavily subsidized by the taxpayer; however, it does not appear that saved federal subsidy is included in its cost estimates. Specifically, the Draft Report asserts that the 2019 ECONorthwest Report estimates the replacement and mitigation costs for navigation to be \$542-\$588M; however, the ECONorthwest Report notes that river transportation is so heavily subsidized by the federal taxpayer that the overall transportation benefits are less than the costs and do not justify continuing to operate the LSRD lock system:

This analysis indicates that removal would benefit society by the full amount of federal appropriations saved and would still remain positive at the highest costs of removal. Showing that even if the LSRD are not removed, it does not make sense from a public finance perspective to continue maintaining the LSRD for transportation purposes.<sup>9</sup>

The ECONorthwest report actually showed a net benefit of \$90M for dam removal; therefore, it would appear that the Draft Report does not include the cost savings associated with dam removal when it reports the costs of the benefits that would need to be replaced.

Similarly, it appears that the Draft Report may not include the cost savings associated with the removal of the dams when it estimates the costs of energy replacement. Removal of the dams will result in a reduction or elimination of costs for turbine replacement, other capital costs, annual operation and maintenance costs, salmon passage mitigation expenses, administrative overhead, and other similar costs. For example, the 24 turbines on the LSRD will be 50 years old by 2025 and will need to be replaced at a cost estimated by ECONorthwest to be \$46M per turbine. Removal of the dams would avoid the costs of turbine replacement. Likewise, federal and state agencies would realize additional cost savings from reduced salmon mitigation measures now required to address the impacts from the LSRD.<sup>10</sup> Moreover, the ECONorthwest report estimates the value of the power benefits from the LSRD to be \$2.21B, which includes the reduced costs; however, the Draft Report not only excludes the ECONorthwest estimate from Table 17, but it also appears to not include the significant cost savings that will partially offset the energy replacement costs.

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<sup>9</sup> ECONorthwest, Lower Snake River Dams Economic Tradeoffs of Removal (2019).

<sup>10</sup> One example is the Lower Snake River Compensation Program, which funds a number of hatcheries for salmon and steelhead. After dam removal and the recovery of anadromous fish runs it may be possible to phase out the use of these hatcheries as wild fish recover in sufficient numbers.

**Comment 7. Removal of the LSRD would also honor state and federal obligations to the many Pacific Northwest tribes who have relied on healthy salmon and steelhead runs for millennia.**

Many Northwest tribes have fished for salmon along the Snake River for millennia. The tribes that are most significantly affected by the dams are the Nez Perce, Yakama, Warm Springs, Umatilla, and Shoshone Bannock. These tribes signed treaties throughout the mid-1800s which ceded more than 40 million acres of land to the United States.<sup>11</sup> In return, the tribes reserved the right to fish in usual and accustomed areas. These tribes negotiated the right to salmon harvest in comparison to the historical harvests they had been sustaining since time immemorial. Removing the dams would restore 29% of subsistence fishing for the tribes listed in the next 25 years, and therefore allow the tribes to continue their traditional practices and uphold treaty rights to fish.

Without removal of the dams, the continued decline in the salmon and steelhead runs will almost certainly lead to more protracted and expensive litigation from the tribes and other environmental and conservation groups. Long-ago (e.g., *United States v. Winans*,<sup>12</sup> the *Boldt* decision<sup>13</sup>) and recent (e.g., the *Culverts* case<sup>14</sup>) experiences demonstrate that the states and the federal government have not fared well when litigating with Northwest tribes over salmon. Further delays in removing the dams and greater declines in salmon and steelhead runs will only increase the stringency and costs of mitigation measures, with even less likelihood of any meaningful improvement.

**Comment 8. The Draft Report should also acknowledge that dam removal will provide ecosystem benefits for species other than salmon and steelhead.**

While it may have been beyond the scope of work for the Draft Report, it would be useful to revise the report to reflect that the removal of the dams would have ecosystem benefits for species other than salmon and steelhead by providing greater connectivity and habitat diversity throughout the watershed. Greater connectivity would benefit the white sturgeon, bull trout, and Pacific lamprey by promoting increased life history diversity and species diversity and restoring hydrogeomorphic processes.<sup>15</sup>

**Comment 9. The Final Report should emphasize that the obligation to recover the Snake River salmon runs does not disappear if the dams are not removed; federal law and federal treaty obligations treaty will require the recovery burden to be shifted to other parties and interests.**

Finally, it is critical to note that the decision on dam removal is not a binary one. Whether or not the dams are removed, the obligation to recover and restore the salmon runs will persist and the costs for doing so will only increase over time, especially as the runs continue to decline and the range of options narrows. If our federal policymakers recommend against the removal of the dams, they will

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<sup>11</sup> Columbia River Inter-Tribal Fish Commission. (2021). Tribal Circumstances & Impacts from the Lower Snake River Project on the Nez Perce, Yakama, Umatilla, Warm Springs, and Shoshone Bannock Tribes.

<sup>12</sup> *United States v. Winans*, 198 U.S. 371 (1905).

<sup>13</sup> *United States v. Washington*, 384 F. Supp. 312 (W.D. Wash. 1974), aff'd, 520 F.2d 676 (9th Cir. 1975).

<sup>14</sup> *United States v. Washington*, 827 F.3d 836 (9th Cir. 2016).

<sup>15</sup> Storch, A. J., et al. (2022). A review of potential conservation and fisheries benefits of breaching four dams in the Lower Snake River (Washington, USA). *Water Biology and Security*, 1(2), 100030.

still have to figure out other alternative means for recovering the salmon runs to meet federal treaty obligations and the requirements of the Endangered Species Act. What these other alternatives are and how much they may cost are unknown and speculative at best. We believe that the best and most cost-effective plan for restoring the salmon runs is the removal of the dams; conversely, we can only assume that other alternatives will be more costly and less likely to successfully recover the runs of these iconic fish.

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Thank you for considering our comments and for your efforts in protecting and restoring the salmon and steelhead runs of the Pacific Northwest. While we recognize that more and more study may always be needed, now is not the time to delay further action on the LSRD. Bold and decisive action is critically necessary now. We urge the federal government and the Pacific Northwest states to begin immediately the necessary processes for the removal of the four Lower Snake River Dams. Time is running out.

Sincerely,

Pat Hesselgesser  
Washington Council Chair  
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Andrew M. Kenefick  
Washington Council Advocacy Co-Chair  
Seattle, WA

Mark Rogers  
Oregon Council Chair  
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