

Comments on the Draft report on breaching Lower Snake River dams released Dec. 20, 2019

See the report here:

https://www.governor.wa.gov/sites/default/files/images/Lower%20Snake%20River%20Dams%20Report%20Draft%20for%20Public%20Review_122019.pdf?utm_medium=email&utm_source=govdelivery

Seattle Times report here:

<https://www.seattletimes.com/seattle-news/gov-inslees-office-releases-draft-report-on-breaching-lower-snake-river-dams/>

This report is a good reference for any conversation about the wisdom of the Snake River dams. There is much detailed information in the report and good context, providing contrasting viewpoints.

This critique of the report is primarily focused on the "Salmon/steelhead/orca/ecological" section.

The parts in Arial font are my comments; the parts in Cambria are quotes from the report.

The report mentions the lack of trust in the Columbia Basin Caucus agencies, including NOAA, noting that "...NOAA may be overly influenced by political forces that are in favor of retaining the LSRD." This skepticism toward the statements and estimates provided by those agencies paints a dubious shade on the entire report, as the preponderance of the report is based on information provided by NOAA and other agencies in favor of retaining the LSRD.

Only 11 pages of the 70-page report discuss "salmon, steelhead, orcas, and ecological" issues. Of those only one page is about orcas, despite the fact that this report derives from Gov. Inslee's Executive Order (https://www.governor.wa.gov/sites/default/files/exe_order/eo_18-02_1.pdf) mandating the SOUTHERN RESIDENT KILLER WHALE RECOVERY AND TASK FORCE.

The report repeats NOAA's "multiple factors" theory for the decline in orca numbers, starting with toxins, then vessel noise, and finally reduced food sources. NOAA is credited with finding that food availability and reproductive rates are positively correlated, but that crucial fact is quickly dismissed by noting that the correlation has not been quantified. Obviously precise quantification is difficult given the complexity of the relationships, but pointing out the complexity is not relevant except in an attempt to make that correlation sound unimportant. This bias typifies the entire report, in which the dams are presented as vitally important for multiple stakeholders, while the salmon and orcas are seen as less important and not proven to be impacted by the dams.

The report repeats without comment NOAA's conclusion that:

"Neither [Biological Opinion], nor the recovery plans NOAA Fisheries has developed for individual salmon species and stocks, concluded that breaching the dams is necessary for recovery of Snake River salmon or Southern Resident orcas." Thus NOAA's bias toward keeping the dams in place is amplified in this report.

The comments below are limited to **Section 4. Salmon/Steelhead/Orca/Ecological**.

One repeated claim, not referenced or explained in this report is that: "dam breaching would take time." How much time? How is it done? This assertion should have been resolved in the report, instead it's given as a discouraging assumption with no definition. The reality, as described in the ACOE EIS of 2002, is that two dams could be breached the first year, and two the second year, and within two years after breaching salmon returns would begin to increase substantially.

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Salmon populations decreased further with the construction of dams on the Columbia and Snake rivers. Based on estimates compiled by the Washington Department of Fish and Wildlife and the Oregon Department of Fish and Game in the Columbia River Fish Runs and Fisheries Status report, salmon runs in the Columbia and Snake river system have declined by over 90% during the last century.³¹

The time frame is shifted from the dams to the last century, implying the declines today are mostly due to fisheries, not dams. The first dam, Bonneville, was completed in 1937. That's the relevant date for this report.

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NOAA Fisheries assessed the operation of the four lower Snake River dams and their effects on listed salmon and steelhead in their Biological Opinion issued in 2008. In 2014, their supplemental Biological Opinion re-examined the issues, including consequences for Southern Resident orcas. Neither opinion, nor the recovery plans NOAA Fisheries has developed for individual salmon species and stocks, concluded that breaching the dams is necessary for recovery of Snake River salmon or Southern Resident orcas.⁶⁵

But if NOAA is influenced by political forces in favor of retaining the dams, this should be seen in that light.

At the same time, Columbia and Snake river fall Chinook were ranked as the fifth most important salmon stock for Southern Resident orcas, and Snake River spring/summer Chinook as the ninth most important. And orca scientists have acknowledged that Southern Resident orcas are shifting their foraging patterns in response to the lower salmon abundance levels within the Salish Sea, spending less time in the Sea and more time on the Western shore of Vancouver Island to intercept salmon migrating from Alaska to return to the Columbia and Snake river systems.

...acknowledged? as if conceding something? Is this meant to imply that the scientists agree there must be plenty of salmon at the mouth of the Columbia? The fact that So. Residents spend a major portion of their time at the mouth of the Columbia is being spun to mean that there must be abundant salmon there, rather than to show that there are very few salmon anywhere else and they depend on those fish.

Other scientists note that the Southern Residents still gather along the Washington coast and at the mouth of the Columbia River between January and April...

Actually at least some So. Residents tend to forage on salmon headed for the Columbia River 12 months a year now.

...to feed on Columbia and Snake spring/summer Chinook, which they argue is a critical time for the orcas to find nourishment and put on weight.⁶⁷

This is the only citation in this section that is not a publication by NOAA or BPA. It says that scientists "argue," whereas NOAA "ranks," "concludes," or "assesses."

Besides misrepresenting the facts outlined in the scientists' letter, the report ignores other highly relevant scientists' letters:

The following statements by dedicated orca scientists, fisheries, and research scientists arrive at very different conclusions.

October 22, 2019 - ...on behalf of 55 fisheries and natural resource scientists: "Restoring the lower Snake River by removing its four federal dams will significantly reduce mainstem water temperatures on a long-term basis, and is likely the only action that can do so, substantially lowering the risk of extinction for salmon and steelhead here."

(<http://www.orcanetwork.org/Main/PDF/55-Scientists-Snake-River-Letter.pdf>).

October 15, 2018 - We are writing as scientists and researchers with many decades of collective experience and a deep familiarity with the life history and current status of the Southern Resident Killer Whales: "Based on the science and the urgency of the current threats confronting the Southern Residents, we urge the Task Force to recommend to Governor Inslee that he take appropriate steps to ... convene a process to recommend steps for lower Snake River dam removal as soon as possible as top priorities for orca protection."

(<http://www.orcanetwork.org/Main/PDF/Scientists%20letter%20to%20Inslee%20101518.pdf>).

August 27, 2018 - We are writing as salmon scientists with decades of experience and considerable familiarity with the science concerning the protection and restoration of healthy, self-sustaining wild salmon populations in the Columbia and Snake River Basins: "...the most effective measure we know of to permanently increase the sustained abundance of Chinook salmon from the Snake and Columbia Rivers: removing the four federal dams on the lower Snake River and restoring the ecological health of that river corridor."

(<http://www.orcanetwork.org/Main/PDF/2018.Scientist.Ltr.Orca.TF.Aug.27.pdf>).

Ken Balcomb, founder and chief scientist of the Center for Whale Research, a veteran orca population biologist who has conducted demographic field studies on Southern Resident orcas since 1976, told KNKX radio: "Biological extinction – lack of reproduction – is almost there now. If we go at this rate, we have at most, what's left of this reproductive generation," Balcomb said. "Ten or twelve years and then (they'll) be biologically extinct." (*Orca task force adds 13 recommendations at final meeting as 'biological extinction' looms*, By Bellamy Pailthorp, Oct 8, 2019)

None of the information in any of these letters from highly esteemed orca and salmon scientists is mentioned, or given fair treatment, while the agencies and organizations with a vested interest in maintaining the dams are relied on almost exclusively for the substance of this report. It's as if Gov. Inslee's Executive Order had been called the SNAKE RIVER DAM RETENTION TASK FORCE.

In its Southern Resident Killer Whale Priority Chinook Stocks Report, NOAA and the Washington Department of Fish and Wildlife stated that, for Southern Resident recovery Columbia and Snake river salmon stocks are a lower priority than North and South Puget Sound salmon stocks because the Southern Residents' foraging patterns do not overlap as

much with Columbia and Snake River salmon as they do with the North and South Puget Sound salmon.⁶⁶

NOAA says Columbia and Snake salmon are a lesser priority than Salish Sea salmon only because there's very little data from coastal waters, although every other indication is that the orcas are foraging in coastal waters most of the year. In its 2008 Recovery Plan for Southern Resident Killer Whales, NOAA Fisheries underscored the importance of this watershed to the orcas, stating that, “[p]erhaps the single greatest change in food availability for resident killer whales since the late 1800s has been the decline of salmon from the Columbia River basin.”

As part of the ongoing Columbia River System Operations environmental impact statement, USACE, USBR and BPA are evaluating different operations and maintenance options for the dams on the lower Columbia and Snake rivers, including breaching one or more dams. The EIS will conclude with a decision in 2021. After the process is complete, if dam breaching is recommended, then those three agencies would need to seek Congressional authorization to do so.

No reference is given for the "agencies would need to seek Congressional authorization." What does it mean? By what law? Actually the Army Corps does not require Congressional authorization to breach, that's just what they tell the public. Army Corps documents say it's unnecessary for the Army Corps to require authorization to decommission projects, as shown by a 2017 letter from Jo Ellen Darcy, Assistant Secretary of the Army (Civil Works), clarifying that the Lower Snake River FR/EIS is the current operating EIS for the dams, that the EIS contains dam breaching as an alternative, which is the only untried alternative studied in the 2002FR/EIS, and an email from Beth Coffey, Army Corps of Engineers, to the Benton County PUD, stating: “The Corps can place a project in caretaker status when a project is no long generating the benefits for which it was constructed.” The BPA’s \$16 billion debt and responsibility for 92 percent of maintenance expenses require it to breach the dams to save taxpayer money.

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The upper Columbia once provided upwards of 40% of the returning adult salmon to the Columbia River system, reintroduction of the salmon to the upper Columbia could have an equal and more immediate benefit to orca and overall salmon recovery

According to the State of Washington Department of Fisheries Annual Report for 1949: “The development [LSRD] would remove part of the cost of waterborne shipping from the shipper and place it on the taxpayer, jeopardizing more than one-half of the Columbia river salmon production in exchange for 148 miles of subsidized barge route.” So the Snake River once provided upwards of 50%, not 40% of the returning adult salmon. By “upper Columbia, if that means above the Chief Joseph and Grand Coulee dams, which have no fish passage at all, it's simply not feasible.

•increasing hatchery production is a faster and more reliable way to increase salmon abundance overall and increase food for Southern Resident orcas than a large-scale dam removal process which would take years to accomplish and even longer for any increase in salmon populations to be realized.

Vague, intended to discourage. Hatchery production is nearly maxed out already. Again, it "would take years." Actually just two years from breaching to begin increased salmon runs.

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Support for breaching the LSRD to support salmon and orca recovery

- Although breaching the dams will take time, and the resulting improvements in salmon populations also will take time, this approach is overall the best way to increase resiliency in the system, especially considering climate change, and provides the greatest opportunity to prevent extinction and move toward sustainable, harvestable salmon runs.

Saying it "will take time," again, is a pro-dam talking point containing no information but meant to discourage, and not necessarily true. A year to breach and two more years for salmon numbers to increase, to be specific. Breaching not only increases resiliency and sustainability, it increases overall numbers of Chinook, which is the main point of breaching, but that isn't mentioned here.

- Fish ladders are a fragile system prone to disruption; these disruptions will increase as the dam infrastructure continues to age. Two of the four LSRD have only one fish ladder. If the ladder is "out" due to mechanical or other difficulty it will have significant impacts on fish migration.

Nobody says that, because while fish ladders disrupt upstream adult migrations in several ways, mortalities occur primarily to smolts, but even more significant is the fact that the vast majority of mortalities occur to smolts due to the slackwater reservoirs and the traumas of tumbling over the dams.

- Even with the improvements made to fish passage over the years, there are still not enough adult salmon getting over the dams to return to the upper watershed to spawn. Breaching the dams is the most reliable and effective way to ensure fish can access and use upstream habitat and increase overall productivity.

Again, the worst mortalities occur to the smolts getting downstream, not adults getting upstream. Thus the issues of slackwater reservoirs and the trauma of falling over the dams are more critical than fish passage upstream, but aren't mentioned in this report.

There are easily a dozen other reasons to breach that are not mentioned, such as:

Chinook salmon comprise over 80% of Southern Resident diet. Historically the largest portion were and still are from the Snake River. So. Residents typically forage for Chinook at the mouth of the Columbia River.

Without sufficient food, orcas metabolize fat cells, dumping toxins into their bloodstream, leading to disease and potentially death. When they are well fed the toxins remain lodged in their fatty tissues.

Transients (Bigg's Killer Whales) eat only marine mammals – seals, sea lions, and porpoises – and don't mate with Resident orcas. They carry much higher loads of persistent toxins, and are also subject to vessel noise, but are increasing, as they have abundant food. Southern Residents have not found enough salmon consistently since the mid-1990s, leading to reproductive failures, illnesses, and early mortalities.

Five federal court decisions over 20 years have ruled that the previously chosen options to help the salmon have failed, and that their survival is not improving. The last couple of decisions have all but mandated the federal agencies consider of LSR dam breaching as the only viable option to avoid the extinction of endangered salmon.

Washington Department of Fish and Wildlife has explained that the Snake River watershed has the most remaining natural habitat anywhere, and that the dams are less valuable and their benefits are more replaceable than the Columbia River dams.

The Fish Passage Center confirmed that adult salmon would increase substantially in orca habitat in the second year after breaching. The FPC has predicted a fourfold increase in juvenile salmon survival with breaching the four LSR dams and increasing spill over the four lower Columbia dams. (2017 CSS).

None of these points are mentioned in this report.

People who support breaching the LSRD do not agree with the NOAA estimates about the impact of breaching the LSRD on salmon populations or to Southern Resident orca recovery. They believe NOAA may be overly influenced by political forces that are in favor of retaining the LSRD.

It could also be stated that NOAA does not agree with the orca biologists and fisheries scientists' estimates when NOAA says breaching won't improve salmon and orca survival.

They see the Biological Opinions as a negotiation between the federal agencies responsible for the LSRD (USACE, USBR and BPA) and NOAA, which is also a federal agency, and believe NOAA is susceptible to pressure from the other federal agencies to maintain the status quo. They support the CSS model results as a more accurate representation of potential benefits for salmon if the LSRD were to be breached.

This is true, but could be further elaborated.

Supporters of breaching believe the river would relatively quickly return to what it once was — with sandy beaches, swimming holes and riparian areas of cottonwoods supporting abundant wildlife and waterfowl. In contrast, supporters of retaining the dams believe the river will become a mud filled, unstable floodplain with invasive species and high sediment loads and turbidity as the sediment currently impounded behind the dams are eroded.

False equivalency. The muddy version is very short term, just a few months. Invasive predators like pike minnow, bass, and walleye, would soon decrease, not increase, and the ACOE found that turbidity actually helps smolts avoid predators. This version inexplicably doesn't mention the 5-10,000 acres of bottomland that could be restored to orchards and vineyards after the dams are breached.

Supporters of breaching the LSRD point to the Conduit Dam removal on the White Salmon River and the Elwha Dam removal on the Elwha River as examples where a river recovered relatively quickly after dam removal and salmon returned. Supporters of retaining the LSRD believe that the Conduit and Elwha projects are not relevant examples because the scale is so different from the lower Snake River.

The scale difference does not disqualify the educational value of the examples. Also, it's the Condit dam, not Conduit. This mistake indicates the authors didn't do much homework on the success stories.

If there is continued interest in exploring the potential to breach the LSRD, the main opportunities...

If?? That interest will not likely die down as long as orcas, and so many other consumers of salmon, including humans, need those endangered salmon. Implying the interest in breaching may not continue is dismissive and derogatory.

•What is known and can be reasonably predicted about how the Snake River might respond to breaching of the dams? What steps could be taken to influence how and the speed at which the river responds?

There are good answers to these questions. The authors haven't done their homework on this point, as shown by "Conduit" for Condit.

•What are the current impacts of management (e.g., spill or hatcheries) on salmon returns? How durable are those management efforts in terms of maintaining and increasing salmon populations?

The answers are in the Smolt-to-Adult Ratios (SARs) and the dismal returns and fishing closures.

•What are the key differences around conclusions regarding latent mortality and is there an opportunity to develop agreement around a quantitative estimate?

Again, the answers are in the SARs and closures. There is no other way to quantify latent mortality.

•What are the current foraging patterns of the Southern Residents and where are increases in salmon production (from hatcheries and restoration of wild stocks) accomplished most quickly, most cost-effectively and with most impact?

The foraging patterns are no mystery but have been confused by NOAA. Southern Resident orcas depend on Snake River Chinook for their survival. There is no other way than restoring the Snake River to increase salmon numbers quickly.

The current differing estimates of the impact of dam breaching on salmon populations and the lack of trust in the organizations providing the estimates is seen as a significant challenge to progress.

That trust depends on the quality of the information provided. The lack of trust by the agencies in the scientists providing estimates that support breaching is a significant challenge.

Support for Alternatives to the Lower Snake River Dams

Should be titled Support for restoring the free-flowing Snake River, or Support for Breaching the Snake River dams. This section never mentions the support based on the increased abundance of Spring/Summer Chinook salmon, or the survival of Southern Resident orcas (as directed by Gov. Inslee's Exec. Order), or the spectrum of other wildlife that depend on those salmon.

Opportunities to Increase Understanding

To determine the full economic impacts of retaining or breaching the LSRD, more detailed analyses are required to determine (1) the viability and costs of retaining the LSRD (and viability and costs of LSRD breaching); (2) viability and costs of implementing needed infrastructure improvements; and (3) identify potential funding sources, if the LSRD are breached.

This short paragraph never mentions the need to increase understanding of the value of the survival or abundance of Snake River watershed salmon or the Southern Resident orcas, which is the actual purpose of the Governor's Executive Order, The Orca Recovery Task Force, and this Stakeholder study.

An Increase in Respect and Understanding is Needed

Dam supporters feel the “coast” is telling eastern Washington communities what to do in a way that lacks respect and understanding of local values and priorities and minimizes how changes to the dams would significantly affect their communities...Pushing for breaching the LSRD affects other issues that leaders in eastern Washington are trying to address. Some leaders noted that the pressure and negativity from proponents of dam breaching make it more challenging to make progress on issues like clean energy, worker’s rights and other concerns that might be held in common. They question the seriousness of the “coast’s” commitment to addressing salmon and orca recovery when the focus of energy from western Washington is on the LSRD instead of fully committing to the level of change needed in their own communities with their own sacrifices.

This paragraph perpetuates stereotypes, amplifies derogatory assumptions, and belittles arguments for breaching at great length, describing no actual facts but instead highlighting that dam supporters’ arguments are fueled in large part by disrespect for the messengers in support of breaching, again exposing the bias toward retaining the dams found throughout this report.

Nowhere in this report are the views of scientists such as those who wrote the letters cited above, or any advocates for the survival of endangered Snake River salmon or Southern Resident orcas represented comprehensively with empathy or understanding. This omission of these vital voices reinforces the same lack of understanding the report was intended to resolve. Instead the report perpetuates the problem it was tasked to address.

Respectfully

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