

Overview of Impacts Anticipated in the Event of Removal of Snake River Dams

By Wanda Keefer, Manager, Port of Clarkston

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CUMULATIVE EFFECT FOR THIS REGION: While the cumulative effect analysis of an EIS typically puts together all impacts and looks forward into the future for the entire project, we need the federal agencies to do a cumulative effect on the small rural communities in north central Idaho and Southeast Washington. Communities will have fewer resources due to loss of agriculture, more costs because they'll have to make sure assets are maintained, more investment in irrigation and wastewater facilities, problem-solving with a transitioning shoreline, loss of air quality due to dust and a whole lot of social costs for the adjustment of people transitioning away from a culture of connection with the rivers. There's no doubt this region will take the most significant hit if dams are removed. If there's some investment that can be done to help achieve a broader national objective, we need to be made whole. And that cost needs factored into the calculations.

COMMUNITY IMPACTS:

1. Potential Loss of Family Farms; Higher Transportation Costs Will Make Elderly Farmers Ask Whether Its Worth It to Continue: According to USDA's "Farm Household Income and Characteristics" in 2012, more than 31 percent of principal farm operators were age 65 or older. The average age of principal operators in 2012 was 58 and has been greater than 50 since at least the 1974 Census of Agriculture. Farms are operated on low profit margins. Swings of a few cents per bushel in increased transportation costs can wipe out profits. According to the Lewis-Clark Terminal in their August 2019 letter, truck freight transportation costs for wheat produced in Grangeville, ID, will climb from \$.27/bushel to \$.45/bushel for a destination adjustment from Lewiston, ID to the McCoy unit train terminal near Rosalia, WA¹. This wheat is not consumed locally and must incur those costs plus higher freight to move by rail instead of barge in order to reach domestic or foreign markets. Amounts close to 90% are exported to foreign markets.
 - a. There comes a tipping point² where a small farmer asks the question whether it is worth it to continue. Maybe it's time to retire and sell the farm. What might have been future generations of farmers (children and grandchildren) need to seek new occupations.
 - b. The average farm size in the Palouse region is between 966 acres per farm in Columbia county to 1,462 acres per farm in Garfield County. These are not large farms³.
2. The demise of small farms will have a significant impact in rural communities: It's possible that farmer retirements could increase substantially overnight, and if that does occur, local economies that have relied on the agriculture industry will experience significant negative impacts. Farm equipment businesses and retail businesses throughout this region will take

¹ This higher cost is likely to consume all profits and more, before grain can even be put on more expensive rail for the next stage of transportation.

² How could even a small profit remain after the most local component of transportation costs has increased by 66% at the local level and then costs more because rail is more expensive than barge (and less efficient) to get it to where it can be loaded onto ocean going vessels? The decision to stop farming may not be discretionary. No business can afford to operate at a loss.

³ Washington State, in particular, has a high number of family farms compared to corporate farms. These are multi-generational, and the farmers have a significant impact on nearby rural communities.

hits. Perhaps even more significant, though, is the loss of income and property values in rural communities. Funding for education, investment in transportation infrastructure for the few remaining farmers and even resources available for local hospitals and medical facilities extinct.

3. Water Quality:

- a. When water volumes in the Snake River are decreased significantly, municipalities and private businesses releasing effluent into the river are going to have difficulty satisfying increasingly stringent Water Quality Standards which are expressed in “parts-per-million” limits in their releases. How is this being factored into analysis?
- b. Sediment has built up behind each of the four lower Snake River Dams. Releasing the sediment will be detrimental to water quality conditions and may include releases of toxins. Has any adjustment for this type of water quality impact been included?

4. Water Supply: Water security could become a stressor in our communities, just food security is an issue presently in our region. One of the results of Condit Dam removal near White Salmon, WA, is that when the water was released from the dam, the water table dropped. So many people on that stretch of the river were required to deepen their wells to have access to water. Likely, something similar would happen if Snake River dams are removed.

- a. Individuals would need to make additional investments in wells in order to have a supply of drinking water;
- b. Municipalities would need to make additional investments to have water available for their constituents;
- c. Just as the parts-per-million discussion of surface water above is an issue, when volumes of ground water are reduced, contaminants can reach levels significant enough to not be safe for human consumption. Pre-treating water before it can be used will increase costs in municipal water supply. Private, individual water supply is less regulated, and consumption of contaminants can be a health challenge for many in our region.
- d. The world supply of water is changing due to climate change. Some years very little snowpack resupplies reserves (e.g., glaciers are shrinking all over the planet). Some aquifers in our region are not recharging. Having dams in place to hold a supply of water is insurance against bad years, because other creatures, including people, not just fish require water.
- e. The Snake River Basin Adjudication—which determined water allocations along the Snake and Clearwater Rivers--occurred based on availability of current volumes of water. Excess water “owned” by the Nez Perce Tribe is sent down river to benefit fish, as the Tribe was major beneficiary of that Adjudication. The Adjudication would need to be reconsidered, due to significantly changing conditions and lower volumes of water available.

5. Flood Protection: Levies holding back water so the City of Lewiston does not flood every year are maintained by USACE. Will any resources remain for levy maintenance and on-going flood protection? How are federal budget savings addressed in any cost/benefit analysis? Is there an assumption that the technical role by USACE operations will continue to be in effect so that local communities do not need to find additional resources to fill that gap? If so, how can federal resources be assured?

6. Loss of Recreation⁴:

⁴ An important political reality that the City of Asotin (and me as one of their representatives can speak to) is the fact that USACE recreational funding is in extreme short supply and has never been a

- A. The four lower Snake River Dams resulted in the creation of recreational amenities. These include 26 miles of walking trails in the Lewis-Clark Valley designated as Clearwater and Snake Rivers National Recreation Trail.
 - a. Will municipalities be required to take over maintenance, or will federal resources be available to assist in keeping grass green and mowed, trees trimmed and safe, beaches available for swimming and more?
 - b. If water levels have retreated significantly, what resources will be allocated to assure that irrigation water is available from a river with significantly reduced water flow. This would be to keep the levy pathways green, but water is needed for the Clarkston Golf and Country Club as well.
 - B. Boating amenities exist today in the form of boat launches, short-term recreation docks, and marinas in our valley and at other locations on the river system. Before that, anyone with the interest and means could put in a private dock out in the river to get access. With dam removal, it is unlikely that private docks will not be allowed. What is being factored into the analysis that would assure that people will still be able to boat?⁵ Has replacement of recreational facilities allowing access to the river and supporting amenities such as restrooms and campsites been factored into the analysis?
7. Loss of health:
- A. If water levels have retreated significantly, how will federal resources be applied in transition of the shorelines, so that the urban areas are not filled with blowing dust and asthmatics can breathe? (Condit Dam removal in White Salmon recognized this serious problem.)
 - B. When water levels decrease and populations of geese and other waterfowl increase, levels of e coli increase in the water rise to such a degree that they are not safe for swimming. This will be exacerbated by significantly smaller volumes of water. What plan will be put in place so people seeking relief from high temperatures—who perhaps cannot afford air conditioning or access to local pools—can swim safely in the Snake River? How are the costs of implementing this plan factored into the analysis?
8. Loss of quiet enjoyment within small communities on Highway 12: Social and economic impacts of trucks⁶ moving through small communities (namely: Clarkston, Pomeroy,

Congressional funding priority. The EIS cannot assume that communities will receive any kind of recreational assistance from the federal government, particularly since the commercial aspect will be gone. This is borne out by a strong history of neglect by USACE of its own recreational amenities—due primarily to lack of funding. Example: While in Washington, DC, during one mission, I approached USACE Headquarters requesting recreational funding so that the JARPA submitted by the City of Asotin could be staffed/processed. Headquarters ended up providing a little more funding to USACE Walla Walla, but USACE Walla Walla applied it to a project they considered more pressing—potable water at Charboneau Park. Potable water was a laudable goal. Why did it take me advocating in Washington, DC, for an equally important project to the local economy to get funding for that project? BECAUSE, while the majority of Congressionals concur that navigation is in our national interests, they buy into that argument far less as to recreational interests and have never made recreation funding important or adequate.

⁵ The ECONorthwest/Vulcan report recognized that motorized boating would be disadvantaged by the change from a lake to a river and that fewer motorized boats could be accommodated. This will be a shock for people who boat in this valley.

⁶ The 2016 Palouse Regional Freight Study determined that the “major proportions of flows” of truck traffic trips generated on major roadways within the counties of Whitman, Columbia, Garfield and Asotin were agriculture-related, as compared to wholesale, transportation, warehousing, forestry, utilities,

Dayton, Waitsburg, Prescott, Burbank) to grain terminals in Pasco for the reasons listed below. Quiet enjoyment within our small rural communities is a big price to pay for the doubtful minimal gains to fish, and it's paid by the locals, no one else.

ECOSYSTEM IMPACTS:

1. Increased carbon releases with changed transportation methods, because no transportation alternative has fewer carbon releases than barging downriver.
2. Increased carbon releases from construction of roadway and rail improvements.
3. New carbon releases from tearing out the dams. (Dam removal equipment will contribute to carbon into the atmosphere.)
4. Increased carbon releases due to changed energy generation.
5. Increased carbon releases due to release of methane gas created in the breakdown of garbage where landfills are on the shoreline; these have been held in place by water levels, but when water drops, the methane is released.
6. Increased sediment in the water for years, creating less than desirable conditions for migrating fish.
7. Lack of ratepayer resources to invest in habitat restoration and hatchery continuation/refurbishing or new improvements.
8. New dam construction—to create a supply for wind and solar energy so it's less intermittent—will contribute carbon into the atmosphere and take valuable land out of production (presuming it's still in production with high transportation costs killing off family farms.) Wind and solar advocates realize that those power sources are intermittent. No batteries exist that can store the energy when it is not needed and release it when it is. Therefore, *one solution is to have wind and solar resources pump water out of nearby rivers into newly constructed dams, for release and energy generation when the wind isn't blowing and the sun isn't shining.* These dams will be higher in elevation, so that they won't be where fish normally run. However, higher elevation dams are also more susceptible to freezing, so in the winter, when we need energy to stay warm, water behind the dams might be frozen, rather than flowing through the entire winter like the existing dams do.

ECONOMIC IMPACTS:

1. The lack of competition to railroads when barging goes away will result in higher pricing for movement of all freight. These higher prices and lack of competition need to be factored in to:
 - a. Overall cost analysis
 - b. Sustainability of freight movement in general
2. The cruise boat industry will be erased if there are no dams on the Snake River. Annually, approximately 30,000 passengers and crew travel the Columbia all the way up the Snake River, with turnaround at the Port of Clarkston. The primary ages of these passengers is 70, 80 and 90 years old. (They travel this way because it is less taxing; frequently they have mobility issues.) This type of tourist spends roughly \$500/night per passenger (\$1,000 per couple per room). In addition, according to James Palmeri of Shore Excursions, a separate company supporting the American Queen Steamboat Company's river tours, the industry stand is \$124/day per passenger in discretionary spending, and \$47/day per crew member, also in discretionary spending. (Tourism impact analysis normally combines these numbers.) This loss of revenue needs to be included in economic impacts. (Please see

construction, retail and manufacturing industries. This is despite the fact that the number of establishments in this freight dependent industry is small compared to other industries.

“Social Impacts” below relating to end-of-life experiences of a life-time that cruising allows for elderly people—the ease of access to Hells Canyon National Recreation Area.)

TRANSPORTATION IMPACTS:

1. Rail expansion to meet increasing demand cannot be presumed to occur at will, with public support, at private expense, (which appeared to be the case from the PNWA presenters) and with permitting ease. Rail improvements must be factored into overall costs, because they would not be needed if dams were not removed.
2. Capacity for alternative modes of transportation must be considered: Existing transportation alternatives (roadways and railways) are inadequate to meet today’s demand. (You will recall that in some locations, train speeds are limited to 20/miles per hour, due to deterioration of bridges and overpasses that were constructed in the 1930s and 40s.) The number of rail cars available is inadequate. More unit trains (110 rail cars) could move products today, including agricultural products, if the cars were available. They are not. Also, in smaller rural areas, the volumes generated are not large enough to demand a unit train. Railroad companies don’t want to mess with small volumes anymore. That’s why roadway improvements will be necessary for every road getting product to locations like the McCoy Grain Loading Terminal near Rosalia.

A significant amount of investment (calculated in 1999 numbers in the news article included as Attachment A) would need to be made to have adequate capacity for putting today’s products being barged onto roads or railways. How much more investment would have to be made to serve future demands? At what cost also to the topography of the land? Is an increasing footprint, required for road and rail expansion, going to be palatable to the public? How much farmland will have to be swallowed up to accommodate increasing demands for roadways and railroads? How much climate impact will additional volumes of hardscape contribute to the climate change we are now experiencing? Construction itself contributes carbon into the atmosphere.

Capacity relating to the Snake River dams is quite the opposite. Likely, the river highway will not need any major modifications for the next 40 – 60 years to cover increasing demands from a growing global population. As environmental benefits of low carbon emission and public costs relating to safety become better recognized, more product could be moved on the river system. But it has to be there for that to happen.

3. Increased costs for farmers to transport by rail cannot be written off from the evaluation because it is a market condition and the entrepreneurs simply adjust (the ECONorthwest/Vulcan report position by authors during webinar).
4. Will the increased costs of road maintenance and higher costs for managing traffic at intersections of small communities be factored in?
5. Are soil stabilization investments needed to keep roadways and base for railways, held in place by water in the Snake River before dam removal, been factored in?
6. Are soil stabilization investments needed to keep bridges, held solid, in part, by water in the Snake River before dam removal, been factored in?
7. Has additional wear and tear on bridges that may already be rated poorly on condition been factored in?

SOCIAL IMPACTS:

1. Our community consists of water people. Interaction with the rivers is in our DNA. We pay a “scenery tax” in the form of lower incomes every year to live where we do. If the scenery and recreational opportunities go away, why should we remain here? Why don’t we all flock to already-crowded areas like Lake Coeur d’Alene? People leave, businesses have a smaller workforce, businesses leave. We live here because we can live on a lake.

There is 150+ years of social history of living on, moving on and interacting with the rivers, dating back to paddlewheeler days in the 1860s. Dam removal will have a significant impact on the culture of those living here. It’s doubtful that sufficient resources could be provided to ease that transition.

2. If cruise boats no longer send passengers to Hells Canyon National Recreation Area, it removes a critical mass of visitors, making jet boat tour companies less viable. Therefore, locals seeking to enjoy the benefits of the National Recreation Area are deprived of access. Is that factored in?
3. There is a social cost when rural communities are less economically viable because major industries like wheat farming and cruise boat tourism has been severely damaged or eliminated altogether. Those same communities are facing high costs for services, due to needed adjustments in infrastructure and decreasing property values. When urban areas presumably “win” at the expense of poorer rural areas, it results in social injustice.
4. The ECONorthwest/Vulcan study assigned a “non-use” value to households of \$11 billion who presumably would pay because people are going to feel good because fish can be in a natural river. It’s a concept or a theory and the abundance that was promised is not likely to occur. The federal agencies didn’t go there in 2002, nor in subsequent studies, as far as I can tell. I don’t necessarily want them to, but where is an assignment of value to real end-of-life opportunities for 100s of thousands (or millions depending on how far in the future you go) of would-be cruise boat passengers of all ages who will be deprived of experiencing the unique geology, big horn sheep, abandoned mines, petroglyphs, historic locations, white water rapids and more. That’s a once-in-a-lifetime experience. Dam removal closes the door on the experience because it limits current access.

To restate: Elderly cruise boat passengers completing their bucket list of life experiences are able to access Hells Canyon National Recreation Area because cruise boats bring them up here and transfer them easily from the cruise boat to a jet boat over the width of a dock. Can end-of-life bucket list experiences be assigned a value? It’s deprivation of a real experience, rather than a theoretical concept.

LITIGATION RESOURCE IMPACTS:

1. The resources used to address lawsuits that are continually filed every time there is an operational action on the river system will not go away. (They describe Snake Dam removal as the “Holy Grail.”) But they won’t stop there. The Yakama Nation called for Columbia dam removal on Oct. 14, 2019. If free-flowing river advocates are successful in their demands for lower Snake River dam removal, they will next direct their energies to removing the four remaining dams on the Columbia River that provide navigation. Also under fire will be Hells Canyon dam serving Idaho and Oregon, and Grand Coulee dam serving central

Washington. State and federal resources will continue to be needed to protect existing infrastructure.

2. Not in My BackYard (NIMBY): Many, many people will be affected by the need for expanding roadways and railroads. They, if given a preference, will not be choosing to have that on or near their personal property. Their quality of life will be impacted. There are likely to be protests and lawsuits for significant roadway and railway expansion needed to just absorb future capacity if the river navigation system is left in place. The need for hardscape will be much worse. Private, state and federal resources will have to be expended in these kinds of administrative battles without any benefit to fish or orcas.

ONE LAST WORD: The concept behind Snake River dam removal is that fish passage will be improved. The number of adult fish returns in 2014 was phenomenal with 2.5 million fish through Bonneville Dam. If fish passage was the only factor affecting recovery, then returns should have increased every year after 2014. More spill occurred after 2014 and other improvements were put in place. But numbers went down. That clearly illustrates that factors beyond fish passage affect the return of adult fish returns. If that number is to be increased, every possible resource should not be expended on mitigating impacts of dam removal—which would provide a negligible benefit. Money should be spent where it will make a difference.

Attachment A

Panel hears of study showing cost of Snake River drawdowns

Stephen Weigand, Lewiston Morning Tribune

Feb 18, 1999

OLYMPIA -- Drawdowns of Snake River reservoirs would cost Washington's transportation system hundreds of millions of dollars in repair and improvements, according to a study discussed here Wednesday.

Drawdowns below minimum operating pool or dam breaching would make barging 4.4 million tons of commodities on the Snake River impossible above the Tri-Cities, resulting in higher rail and semi-truck traffic.

Lund Consulting and HDR Engineering conducted the Snake River Drawdown Study and presented its findings to the House Transportation Committee.

The costs cited by the study include:

Bridge and road repair, \$48 million to \$192 million.

State roadway improvement, not including county roads, \$84 million to \$101 million.

Improvement of U.S. Highway 395 between the Tri-Cities and Ritzville, \$20 million to \$24 million.

Repairs and improvements to State Highway 26 between the Tri-Cities and Colfax, \$19 million to \$23 million.

Repairs and improvements to State Highway 124 between the Tri-Cities and Waitsburg, \$32 million to \$38 million.

Improvements to intersections and off-ramps because an estimated 700 trucks driving in and out of the Tri-Cities area, \$13 million to \$16 million.

New or improved rail facilities, \$182 million to \$214 million.

Track and bridge improvements, \$17 million to \$21 million.

Grain elevator improvements, \$59 million to \$71 million.

New rail cars, \$50 million to \$55 million.

Highway improvements related to rail, \$56 million to \$67 million.

New or rehabilitated transportation facilities, \$132 million to \$406 million.

The group emphasized that its findings address only the impact to transportation. Other impact studies are under way by other agencies.

The U.S. Army Corps of Engineers is considering breaching the dams to help salmon recovery efforts. The final decision of what to do about the four Snake River dams will be made by Congress.

Eugene L. Alford
(865-1946)
A.L. Alford (1907-1968)
A.L. Alford Jr. (1938-)

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THE LEWISTON TRIBUNE

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GUEST EDITORIAL

Dam removal would impoverish the Northwest

This editorial was published by the *Columbian of Vancouver, Wash.*

As dams along the Columbia and Snake rivers come under increasing scrutiny, it is essential to note the positive impact those dams have had on the Northwest.

Inexpensive, reliable, clean, renewable electricity has been essential to growing the region's economy for more than 70 years. The dams have provided irrigation that is helpful to Columbia Basin farms that feed the world; have allowed for river transportation that carries raw and finished products to the rest of the globe while reducing truck traffic; and have provided industrial and household consumers with relatively cheap power.

In 2017, Clark Public Utili-

ties purchased 63 percent of its electricity from the Bonneville Power Administration, meaning the hydroelectricity that charges your smartphones and runs your microwave oven and powers your lamps. Bonneville Dam alone generates enough electricity to supply 900,000 homes, according to the Army Corps of Engineers.

Despite those clear benefits, some environmentalists continue to push for removal of the dams. Activists have advocated for the breaching of four dams along the Snake River; more recently, a pair of Native American tribes have called for the removal of three Columbia River dams — Bonneville, The Dalles and John Day.

The goal, they say, is to support salmon recovery and help dwindling populations of orcas that rely on salmon for

food. Indeed, these are worthy goals, and decades of efforts to bolster salmon runs have met with middling success.

Representatives of the Yakama Nation, in calling for removal of the Columbia River dams, claim that the tribe never agreed to construction of the dams, as required by an 1855 treaty with the U.S. government. That might be a compelling argument; there is no shortage of examples in which the United States has ignored treaties over the past 150 years, and the government should be held accountable when necessary. The issue likely will be up to a court to decide.

Representatives of the Lummi Indian Reservation in Whatcom County, meanwhile, decry the decline of local orca pods. "Our people understand

that the salmon, like the orca, are the miner's canary for the health of the Salish Sea and for all its children," tribal chairman Jeremiah Julius said.

Indeed, these are valid concerns. But in calling for dam removal, tribal leaders and activists thus far have neglected to provide reasonable alternatives for powering the region. Breaching dams would require the construction of additional power plants fueled by natural gas or coal or nuclear energy — each with their own environmental drawbacks. Wind energy and solar energy also must play a role in reshaping power production, but such a transformation requires time.

At a time when Washington is moving toward clean energy, with a new state law dictating the elimination of fossil fuels for electricity generation by

2045, hydropower will become even more essential for the state's prosperity. In addition, federal studies in 2001 and 2010 have found that removal of dams along the Snake River would have a minimal impact on the orcas' chances for survival.

Dams throughout the Northwest have been problematic and environmentally impacted. They undoubtedly have played a role — along with other factors — in diminishing salmon runs. But removal would be a radical step that would devastate the economy of the entire region.

A balanced and incremental approach that includes the development of alternative energy is required to ensure the health of both people and fish throughout the Northwest.