

April 13, 2020

D. Peter Helmlinger, P.E.  
Brigadier General  
U.S. Army  
Division Commander

Elliot Mainzer  
Administrator and CEO  
Bonneville Power Administration  
U.S. Department of Energy

Lorri Gray  
Regional Director, Columbia-Pacific Northwest  
Bureau of Reclamation  
U.S. Department of the Interior

Re: Columbia River System Operations – Draft Environmental Impact Statement

Dear Brigadier General Helmlinger, Administrator Mainzer, and Director Gray,

First, I acknowledge and thank General Semonite and the Army Corps of Engineers for heroically and rapidly standing up field hospitals across America in this time of great need for medical services.

In keeping with that note of appreciation, please note that this comment is not directed at, or meant to impugn, the character of any group or individual. I appreciate the opportunity to provide comments below to help guide the final draft and implementation.

What follows is an analysis of institutional relationships and dynamics that have been in effect since at least the mid-1940s, based on sound social science. Since the 1940s, each administration of the agencies now known as the Columbia Basin Federal Caucus (BPA, Army Corps of Engineers, NOAA Fisheries, Bureau of Reclamation, USFW, US Forest Service, and four other agencies) (<https://www.salmonrecovery.gov/>) have acted similarly toward their responsibilities to construct and operate the four lower Snake River dams, reflecting the same basic biases, exaggerations, and statistical manipulations to embellish the benefits of the dams and minimize the harm done. The current version of this pattern of strategies to win political arguments involves extensive public opinion manipulations through networks of public utilities, port authorities, trade and industry organizations, media outlets and political allies. The messaging disseminated by these multiple methods of interfacing with the public can be seen in the shortcomings and failures of the draft DEIS listed below.

The same argument has been raging for about 75 years. In 1947, 14 years before the first of four dams was completed, the Army Corps was required by Congress to consult with state salmon biologists to assess whether the proposed dams might harm fish. In their Special Report on Selection of Sites - Lower Snake River on March 14, 1947 the Corps wrote:

"The problem of passing migratory fish over dams on lower Snake River was discussed with representatives of the U.S. Fish and Wildlife Service, State of Washington Department of Fisheries, Fish Commission of Oregon, Oregon State Game Commission, and the State of Idaho

Department of Fish and Game. The consensus of opinion of these agencies was that any series of dams on lower Snake River would be hazardous and might entirely eliminate the runs of migratory fish in that stream. In view of the experience at Bonneville Dam, this office does not concur (sic) with this unfounded opinion."

In the State of Washington Dept. of Fisheries Annual Report for **1949**, Alvin Anderson, Director of Fisheries wrote:

#### **Lower Snake River Dams**

"Another serious threat to the Columbia river fishery is the proposed construction by the US Army Corps of Engineers of Ice Harbor and three other dams on the lower Snake river between Pasco Wash, and Lewiston, Idaho, to provide slackwater navigation and a relatively minor block of power. The development 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."

The Army Corps simply rejected the consensus opinions of the top fisheries biologists from the federal gov't and three states, and a more strident warning from the Washington Director of Fisheries, with the addition of the note that the navigational benefits of the dams will only benefit barge traffic because it will be subsidized by taxpayers. **That's where the debate remains today. The Army Corps and all the agencies of the Columbia Basin Federal Caucus still reject all scientific opinion saying the dams are killing endangered salmon. Now it is clear that by killing those salmon the dams are also killing Southern Resident orcas.**

Those in charge of operating the dams over the generations have been defending them while those who care about salmon, wildlife, and now orcas, have implored the agencies in charge to do the right thing and restore the Snake River and its salmon. Whether or not the arguments have evolved in recent years, there is little or no prospect that the Snake River dams will be breached in the foreseeable future given the currently divisive and paralyzed nature of the debates.

This comment is an attempt to gain an overview of over 7 decades of this debate that began and continues with simple rejection and disparagement of the best available scientific opinion and other verifiable information about the limited benefits or the negative impacts of the Snake River dams.

#### **I. Failings of the Columbia River System Operations (CRSO) Draft Environmental Impact Statement (DEIS).**

Without going into exhaustive detail, the following are some shortcomings and failures easily found in this DEIS, any of which should disqualify it from passing legal challenges or providing any plan for improving anadromous fish populations in the Snake River basin.

Many of the following points (not necessarily in order of importance) are adapted from comment letters submitted by Dam Sense, the Orca Salmon Alliance, the Center for Biological Diversity, Defenders of Wildlife, and other contributions by leading authorities. Please see those comments for more complete discussions, citations and references.

1. The DEIS is invalid because Peaking, Ramping, Balancing, and Reserve hydropower benefits of the LSRDs are widely inaccurate. The DEIS claims over 2,000 MW, which is inconsistent with the 15 MW claimed in the still operative 2002 EIS. Power Replacement Costs & Loss of Load Probability are vastly overstated. Least-cost power resource acquisition strategies are not modeled. The DEIS ignores surplus power i.e., power that goes to the interchange market. Most up to date costs and forecasts of wind and solar are not used for cost replacement, if replacement of power is needed. The DEIS claims that annual replacement value for the power lost to the LSRD's is almost a billion dollars a year, which is fictional, given the probability that little or no replacement power will be needed.

2. The DEIS is invalid because Snake River Chinook are considered insignificant prey source for Southern Resident Killer Whales (SRKW) ignoring NOAA's Northwest Fisheries Science Center data and other available science on SRKW historical and present day range and diet. The DEIS includes only three referenced sources on the Southern Residents, does not include the most recent population estimate from the Center for Whale Research and NMFS, and does not include any peer-reviewed studies from independent scientists or data from NMFS regarding the orcas' presence in coastal habitat or the importance of Chinook salmon to the orcas' survival. For some examples of NOAA providing faulty estimates while ignoring the best available science, and, see *Southern Resident Killer Whales & Columbia/Snake River Chinook: A Review Of The Available Scientific Evidence* ([http://www.orcanetwork.org/Main/PDF/Salmon\\_Orca\\_Scientist\\_White\\_Paper\\_02-20-20.pdf](http://www.orcanetwork.org/Main/PDF/Salmon_Orca_Scientist_White_Paper_02-20-20.pdf)). The data compiled by NMFS from dedicated surveys, satellite-tagging, and passive acoustic monitoring indicate that the timing of the Southern Residents' presence near the mouth of the Columbia River coincides with peak spring Chinook salmon returns. NMFS itself has noted this area to be a "high use foraging area," and approximately 50% of the time spent by the orcas in coastal waters is between Grays Harbor and the Columbia River. The Co-Lead Agencies fail to consider the seasonal role of Columbia Basin Chinook in providing the Southern Residents with a key source of food and nutrition during the late winter and early spring. By ignoring key findings and scientific reports, the DEIS improperly diminishes the importance of Columbia/Snake River salmon as a critical prey resource for Southern Resident orcas.

3. Transition from barge to rail *assumes* a rail rate increase of 25-50%. Use of rail line along lower Snake not mentioned.

4. Breach cost (without mitigation) is uncorrected from 2002 EIS despite multiple studies showing far lower costs. Error of approx. \$600 million.

5. Breach alternative MO3 is obfuscated by conflating with construction and mitigation costs on other dams. This is the poison pill that makes LSRD breaching more expensive than the Preferred Alternative.

6. Irrigation mitigation of MO3 is based on devaluing irrigated land, 47,840 acres. Pipe extension and pump installation mitigation overlooked, with actual cost estimated at \$20 million from Sampson, Rob 2018 "*A brief review of the impacts to irrigated farmland from breaching the four dams on Lower Snake River (LSR)*".

7. Salmon survival/mortality data are understated and insufficient. The DEIS does not assess latent mortality and reservoir mortality of smolts, which account for the vast majority of salmon mortalities, or the Smolt to Adult Ratio (SAR) values for recovery standards in each MO. The DEIS fails to acknowledge

that out-migrating smolts not directly killed by the hydropower system may succumb to delayed mortality in the estuary and ocean due to accumulated, successive, hydropower system-related impacts.

8. MO3 Anadromous fish mitigation cost is estimated at \$78.1 million for additional hatchery salmon based on assumption that many would die during breaching. That cost is unnecessary if breaching occurs during winter when almost no fish are in the river. The 2002 EIS does not include that expense in its breach alternative for the same reason.

9. Methane production of LSRDs is ignored under all MO's. Contrary to the DEIS, MO3 reduces greenhouse gas emissions as supported by US Department of Energy 2013 "Evaluating greenhouse gas emissions from hydropower complexes on large rivers in Eastern Washington."

10. Under the ESA, recovery means "improvement in the status of listed species to the point at which listing is no longer appropriate." The Preferred Alternative and all alternatives except MO3 fail to improve any of the 13 distinct runs of salmon and steelhead evolutionarily significant units (ESUs), the Federal Caucus Agencies are tasked by the ESA and five successive Federal Court decisions to restore.

11. The DEIS is invalid because the Federal Caucus Agencies have failed to respond to opposing scientific viewpoints "objectively and in good faith," as required by NEPA, including those of the government's own experts like NOAA's Northwest Fisheries Science Center and the Fish Passage Center.

12. The DEIS fails to acknowledge that Columbia River Basin hydropower development and ongoing operations have significantly altered and destroyed salmon habitat. The LSR dams have drastically reduced or eliminated access to historically accessible habitat, reduced natural river flow important for out-migrating smolts, flooded and covered spawning beds with sediment, increased water temperatures, and facilitated increased predation on salmon smolts. Additionally, turbines, bypass systems, and sluiceways directly kill both adult and juvenile salmon.

13. Congressional authorization assumption for MO3 incorrect and has been misrepresented for over two decades to dissuade and delay the necessary breaching alternative, be it Alt 4 in the 2002 FR/DEIS for the Snake River or this CRSO DEIS. The Corps HQ down to the Division needs to apply some true leadership to rectify this false 'whose got the power and authority' excuse derivation. The Corps has the power and authority to manage, thus decommission and deconstruct, its water projects, as demonstrated by the failed bill to create such Congressional authority put before Congress by southeast and central Washington representatives to the House.

14. The DEIS fails to acknowledge that breaching the dams is the only biologically feasible mitigation to prevent the extinction of listed endangered species, including Southern Resident orcas.

15. According to Earth Economics, the LSRDs have a combined Benefit-to-Cost ratio of 0.15. Whereas, if they breach, the BCR would be 4 to 1 and could be as high as 20 to 1. Why is this not revealed in the DEIS, and why is BPA not acting on this information?

16. Expenses incurred by breaching can be written off as a fish mitigation credit. BPA would get a double win by removing costly projects and providing endangered salmon with a greater potential to recover. BPA is aware of this and yet continues to remain defensive of keeping the dams - why?

17. According to Chris Penny, USACE, Walla Walla District Fishery Biologist (28 years 1991- 2018), Senior Subject Matter Expert on ESA-listed Salmon and Steelhead Passage through the Snake and Columbia river hydrosystems and lifecycle modeling for extinction risk and recovery determinations and management:

“The NOAA-constructed information for the best selection of a Preferred Alternative is there in the CRSO EIS and fully supports 4 LSR dam breaching in alternative MO3, but the information is well hidden in the complexity of the Appendices. By design of the co-leads this dissuades the reader from seeing the accurate information, to support their pre-determined and pre-selected status quo. The COMPASS-modeled reach survivals in the Appended Tables of Raw Data of Appendix E are very consistent with both NOAA NWFSC annual reporting of the PIT-tag detection modeling (50-70% Snake River and 40-60% Columbia River reach survivals) and the PATH modeling statistical exercise for breach (Alt 4) in the 2002 FR/EIS for Snake River juvenile salmon migration (85-96% Snake River reach survivals, Columbia River variability stays near the same). These vital and critical reach survival statistics were not brought forth in any adequate way or manner by the co-lead authors, acting woefully and gravely to salmon and steelhead.”

## **II. A Socioeconomic perspective.**

In most conversations about the Snake River dams, the federally appropriated funding and loan guarantees spent to operate and mitigate the harm done by the dams is considered a consequence of the Army Corps' historical decision to build the dams for hydropower and navigation, and now the determination of the Federal Caucus Agencies to disingenuously defend them. The unrecovered taxpayer and ratepayer costs incurred to keep the dams operating - approximately \$1Billion/year - is generally considered wasted, but less important than the loss of endangered species.

From the perspective of the Federal Agencies, however, the high level of annual federal funding is by all indications the driving force and predominant value that supports the status quo by providing significant economic benefits to the Agencies themselves and to the regional economy through the multiplier effect. Given their 7+ decade history of egregious failures to respect the best available science or comply with environmental regulations, clearly this significant economic stimulus paid to the Agencies effectively drives their decision-making process to keep the dams operating regardless of the overwhelming loss of salmon or orcas. The Co-Lead Agencies are surely not ignorant or scientifically illiterate, but their predominant intention is to maintain their own bureaucratic infrastructures and payrolls by continuing to operate the Snake River dams. Losing their responsibilities to operate and mitigate for the dams is treated as an existential threat for the Agencies. By logical deduction it is becoming increasingly obvious that self-preservation of the institutions needed to operate and mitigate for the dams is their guiding principle and highest priority, and has been since long before the dams were constructed.

To further the goal of keeping the dams operating, the federal funding also funds systematic public misinformation campaigns to generate political support for keeping the dams in place through the Agencies' networks of influence (public utility districts, port authorities, trade and industry groups and aligned media outlets, lobbyists, public officials and other political allies), to maintain widespread public opposition to breaching by inflating the benefits of the dams and minimizing the harm done, while conjuring up divisive stereotypes to cast aspersions on critics. To date these efforts have successfully

silenced effective political support for breaching, while endangered salmon and orcas continue their declines to extinction, as predicted decades ago.

From this perspective, all the shortcomings and failures listed above and all the inaccurate estimates and biased opinions repeated by the Agencies continually since at least 1947 have not been failures at all, but have succeeded in perpetuating a status quo in which high levels of federal funding continue to flow into the agencies and surrounding communities. For the Federal Caucus Agencies, all of the abject failures listed above are deliberate and have accomplished their goals by stymying public debate and prolonging legal challenges indefinitely.

While it's important and effective to correct the record by providing accurate information about each bit of misinformation disseminated by the Caucus Agencies and their proxies, and to launch public awareness campaigns to instill the values of wild salmon and orcas and the need to breach the dams, the resistance to breaching on the part of the Caucus Agencies derives from federal appropriations and loan guarantees, and not from scientific facts or public opinion, or indeed any information provided to or even discovered by the Caucus Agencies over the decades. All the passionate protectors of salmon, rivers, or wildlife over the decades, and now the intense public desire to prevent the extinction of Southern Resident orcas, have not yet budged the resolve of the Federal Caucus Agencies to seriously consider breaching the four lower Snake River dams.

This seemingly endless cycle of legal challenges, debates and arbitrary and capricious defenses has created its own industries to write the faulty BiOps, the deficient Environmental Impact Statements and legal documents, and to mount extensive and expensive public disinformation campaigns to justify keeping the dams, all of which also requires further federal funding, which in turn also ironically supports the Caucus Agencies and surrounding communities, contributing to their motivation to keep the controversies simmering, and keep the dams operating.

A key question that is not addressed in the DEIS is the sum totals of federal funds or loan guarantees made available to BPA and the Federal Caucus annually. The answers are not easy to find except by deduction from publicized indications.

One example that includes an ominous warning: April 23, 2019 - Congressman Mike Simpson (R - Idaho) at the 2019 Andrus Center conference: Energy, Salmon, Agriculture and Community: Can We Come Together? said:

"Their ability to borrow money, 16 billion dollars in debt, I think it's 2023 or something like that, their ability to borrow runs out and Congress has to reauthorize that and I'm telling you, I don't know that Congress will reauthorize that. I have seen over my period of time more and more pressure in Congress to do away with power marketing administrations...selling off BPA transmission."

Media reports indicate that BPA has spent over \$900M in 10 years while adding billions to its federal debt obligations. BPA is one of, if not the most highly leveraged utilities in the country despite raising rates 30% over the same period. BPA isn't recovering its costs, because the Snake River dams generate little or no revenue and never have.

According to Rocky Mountain Econometrics (February 18, 2020), the cost to maintain the LSRD by the Corps of Engineers: \$49 M per year. The Fish and Wildlife Mitigation cost associated with the LSRD: \$300 Million+ per year.

According to the Walla Walla Union-Bulletin ([https://www.union-bulletin.com/local/lower-monumental-dam-celebrates-half-century-mark/article\\_33dd909a-9831-11e9-8a14-c3b489c6f05d.html](https://www.union-bulletin.com/local/lower-monumental-dam-celebrates-half-century-mark/article_33dd909a-9831-11e9-8a14-c3b489c6f05d.html)):

About 50 Walla Walla District employees work at the [Lower Monumental dam] as electricians, lock operators, mechanics, welders, riggers, painters, utility workers, heavy equipment operators, biologists, park rangers, environmental resource specialists, administrative support staff, maintenance workers and engineers.

It would be informative to estimate the total payroll for all those employees, including benefits, admin, travel budgets, etc., multiplied by four to account for all four dams, adjusting for each dam's circumstances, to arrive at the total payroll costs to the ACOE that would be eliminated or reassigned if the dams were breached. Then multiply that by the multiplier effect of their spending in Tri-Cities to Lewiston areas to estimate the total economic effects of the federal money spent in the region to keep the dams in place.

In *Recovering a Lost River*, author Steven Hawley writes that between 2001 and 2011, NOAA's Northwest Fisheries Science Center, which is responsible for both endangered salmon in the Columbia-Snake River Basin and the endangered Southern Resident killer whales, received more than three-quarters of its budget from the Bonneville Power Administration and the Army Corps of Engineers. The proportion of those expenditures dedicated to studies of Snake River salmon or habitat issues is unclear.

A helpful template for discussing the planning required and the economic consequences of breaching the Snake River dams can be found in the history of military base closures to reduce costs of maintaining excess military infrastructure, found in *Military Base Closures: Socioeconomic Impacts* (<https://fas.org/sgp/crs/natsec/RS22147.pdf>). This report discusses the processes of declaring a base closure or alteration, from early assessments and public reactions to the expected impacts, through the planning process, to the outcome after closure and redevelopment have been accomplished.

"According to The Office of Economic Adjustment (OEA): Since 1988, more than 350 bases have been closed or realigned (a change the way the military service uses the base, reduce the numbers of personnel, etc). These downsizing actions or Base closures occur when the Department of Defense (DoD) needs to transform its infrastructure to meet changing needs of the military. These changes happen through a formal, congressionally authorized process called BRAC, which stands for Base Realignment and Closure."

"Base closures can represent a significant economic challenge for communities. OEA works extensively with communities to guide them through the process of organizing to effectively plan and diversify their economy, redevelop base sites and lands, and minimize the impact of the closure on the community. The process was created in 1988 to reduce pork barrel politics with members of Congress that arise when facilities face activity reductions."

"Any change to operations on a local military installation can have an impact on the surrounding communities. Whether it is an increase or reduction in number of forces located on base, a base closure, or program adjustment, these changes can disrupt the economic stability of towns and even whole states. To minimize the impacts of military operational changes, OEA provides

technical guidance and expertise, as well as financial assistance to state and local governments directly affected by these changes."

"The loss of related jobs, and efforts to replace them and to implement a viable base reuse plan, can pose significant challenges for affected communities. However, while base closures and realignments often create socioeconomic distress in communities initially, research has shown that they generally have not had the dire effects that many communities expected. For rural areas, however, the impacts can be greater and the economic recovery slower. Early planning and decisive leadership from officials are important factors in addressing local socioeconomic impacts from base realignment and closing.

"While it is predictable that communities will react to news of a base's closing with concern and anxiety, evidence from past BRAC rounds shows that local economies are, in many cases, more resilient after an economic shock than they expected."

The process outlined above to close military bases presupposes that leadership has reached a consensus based on reliable information and made the determination that closure is required, and that comprehensive planning is needed to mitigate impacts prior to closure. In the case of the Snake River dams, the BPA and the Army Corps have effectively prevented productive discussions by injecting saturation misinformation campaigns into the debates, and have thus successfully blocked any planning process. The Federal Caucus Agencies have employed egregiously erroneous claims to justify keeping the dams that preclude any forthright conversation toward restoring Snake River salmon and So. Resident orcas. The erroneous statements found in the DEIS, listed above, are only one example by which the public has been repeatedly misinformed for over seven decades.

The CB Bulletin editorial board writes (at <https://www.cbulletin.com/editors-notebook-a-new-environmental-impact-statement-for-columbia-snake-dams-turning-point-or-status-quo/>):

"Breaching these dams would require a political will to engage in a substantial economic restructuring. As we all know, such an act will impact Northwest energy production, irrigation, and transportation. It will impact agriculture, food processing, ports, roads and rails. So it's not just breaching dams that's on the table, but also mitigating for an altered economic landscape.

"So the EIS process will extend the game, will not result in a solution that will save threatened and endangered Snake River salmon and steelhead or help the plight of southern resident killer whales, our side will end up back court, and the merry-go-round will continue. That is, if we continue playing the Corps' game on their home court with their rules."

There are some welcome glimmers of leadership emerging to help prepare for breaching the dams. Gov. Kate Brown of Oregon wrote to Washington Governor Inslee on February 11, 2020:

"The science is clear that removing the earthen portions of the four lower Snake River dams is the most certain and robust solution to Snake River salmon and steelhead recovery. No other action has the potential to improve overall survival two-to three-fold and simultaneously address both the orca and salmon recovery dilemma while providing certainty in the legal challenge that has complicated operations for decades. This option would likely provide a dramatic increase in salmon available for orca forage, particularly during the late winter when vulnerable gestating orcas may be foraging off the mouth of the Columbia River."



“I believe restoring the lower Snake River must be a key presumption of our long-term solution for salmon and orca recovery, but much must be done before this is accomplished in order to help minimize and mitigate for potential harm to other vital sectors.”

Congressman Mike Simpson said on April 23, 2019: “If the dams were to come out, how would you address Lewiston? If the dams were to come out, how would you address barging and the grain growers and getting wheat down the river? If the dams were to come out, how would you address the farmers who have concerns that they would have to lower all their intake pipes and everything else to be able to farm? There are an awful lot of questions that need to be asked because you need to address these if you are going to solve this problem.”

Young marine mammal researcher and educator London Fletcher wrote April 7 (<https://www.pnwprotectors.com/post/a-word-from-orca-warrior-london-fletcher>):

“We are at an inflection point in the history of our species. The stakes of this issue are high. Nothing less than the balance of life as we know it hangs on precariously by a thread. We have heard the cries of mother nature and she is no longer negotiating for her survival.

“The SARS-CoV-2 pandemic has illustrated the resilience of our Earth if given a chance to heal. Here in Washington, the majority of people are banding together to do what is required to end our current health crisis and similar efforts are required of us to heal the Columbia basin and our fisheries, where warm waters have allowed invasive species to spread like a virus. The Columbia River System and its tributaries are the lungs of our watershed, but we have blocked the trachea and bronchi. Our watershed is suffocating and will soon tire out if action is not taken now. We need to decommission, de-water, and remove these dams which stand as towering monuments of ethnocide and extinction.

“There isn’t one silver bullet to save the Southern Resident Killer Whales, but we do know what will get us there in the shortest amount of time. We must breach the lower four Snake River dams. The Columbia basin is crying for help as the extinction of wild salmon, steelhead and Southern Resident Killer Whales marches ever closer. We must all be steadfast in our resolve to reverse the wrongs of our past and set forth on a path that restores balance to our ecosystem.”

Rep. Mike Simpson said a year ago: “I went last year with some of my staff up to Marsh Creek, up by Stanley, to watch a salmon come back and create its redd and lay its eggs and die. It was the end of a cycle and the beginning of a new one. These are the most incredible creatures I think that God’s created. It’s a cycle that God created. We shouldn’t mess with it.”

Human individuals tend to find their roles, relationships, and responsibilities in accordance with the cultural traditions of the institutions they come to inhabit. Since its inception in 1948 the traditional role of the Walla Walla District of the US Army Corps of Engineers Northwest Division has been to use public funding to develop hydropower and navigation on the Snake and Columbia rivers. Since the 1940s salmon biologists have stated clearly that the four lower Snake River dams would likely extirpate some of the largest and most robust runs of salmon and steelhead on Earth, and yet the federal funding was provided and the construction of the dams went ahead, in hopes the dams would create great wealth in the region and that the economic returns would one day repay the federal government.

Such wealth did not appear however, while the magnificent salmon of the Idaho wilderness have indeed come to the precipice of extinction. And yet the traditional values of the Walla Walla District to solicit federal funding to operate the Snake River dams have continued to prevail, now increasingly requiring misleading the public to justify continuing to operate the dams.

In a landmark 2001 study titled *Culture in Whales and Dolphins* ([http://www.orcanetwork.org/Main/index.php?categories\\_file=Field%20Studies#rendell](http://www.orcanetwork.org/Main/index.php?categories_file=Field%20Studies#rendell)), Canadian marine mammalogists Luke Rendell and Hal Whitehead found that: “The complex and stable vocal and behavioural cultures of sympatric groups of killer whales (*Orcinus orca*) appear to have no parallel outside humans and represent an independent evolution of cultural faculties.” In other words, orcas also live according the cultural traditions of the communities they come to inhabit.

Since at least the mid-1990s the much beloved Southern Resident orca population has been unable to find enough of their traditional diet, primarily Chinook salmon, within their traditional range, resulting in their inability to reproduce sufficiently to maintain the viability of their pods and matriline. These precious and wondrous whales are sliding fast into the oblivion of extinction due largely to the diminishment of the Chinook salmon of the Idaho wilderness resulting from the construction and continued operation of the four lower Snake River dams.

We humans are now in a time of global upheaval, in which our institutions and allocations of economic resources are being questioned and rearranged in response to a raging pandemic. As we begin to settle into new values, priorities, and institutional identities, it is possible that the benefits of healthy ecosystems, habitats and wildlife populations will become better known and appreciated throughout human societies. With that cultural shift, possibly the Snake River dams will at last be breached, allowing the salmon of the Idaho wilderness to reinvigorate their seasonal runs, and the Southern Resident orcas to thrive once again.

Sincerely and with respect,



Howard Garrett, BA, Sociology  
Orca Network