

P.O. Box 46  
Carmen, ID 83462  
January 1, 2020

Governor's Salmon Work Group  
Governor's Office of Species Conservation  
304 N 8th St, Suite 149  
Boise, ID 83702

RECEIVED BY OSC  
JAN - 6 2020

Dear Madam or Sir:

While I would love to see salmon returning to our rivers and creeks in larger numbers here in the Salmon River Valley, I believe that breaching the dams for this purpose would be a very unfortunate miscalculation in the long run. Here are my reasons:

1. Breaching only the dams in Idaho would leave large dams on the Columbia River between Idaho and the Pacific Ocean, and these dams would prevent the salmon from reaching our Idaho rivers in greatly increased numbers.
2. Breaching the dams would greatly reduce the hydroelectric power currently generated in Idaho, thus greatly increasing the rates for electric power, with serious impacts upon the profitability of industries currently in Idaho and those exploring the possibility of re-locating to Idaho, as well as increasing the costs of electricity for all Idaho residents and our schools, universities, prisons, and hospitals.
3. Reducing the hydroelectric power available would greatly impact Idaho Power's plans to reduce its reliance upon fossil fuel-fired power-generating plants, whether or not you support the global warming hypothesis!
4. Breaching the dams would have major negative impacts upon the irrigation systems necessary to Idaho's commercial ranching and farming operations in at least two ways: first, this action would greatly reduce the water retained in Idaho for summer irrigation (which is when it is needed!); and second, this change in water levels and the locations of stored water would necessitate great additional expense for changes in ditches, pumps, and other equipment required to reach the changed water levels and sources.

To sum it up, the combined impact of the above effects would injure Idaho's industries, ranchers, and farmers, probably many to the point of bankruptcy, while providing an extremely uncertain return in the shape of a few salmon.

I recommend waiting for a better technical solution (such as some of the dam-circumnavigation waterways which have been proposed) which could achieve the same positive results without the devastating economic results to our state economy and its workers. Perhaps these solutions could be simultaneously applied to the Washington State dams on the Columbia River and then the salmon could actually make their way up here to Salmon!

Elected officials are responsible for the welfare of all of their citizens, not just to the few with a currently popular agenda and an "easy" solution.

Sincerely,

A handwritten signature in black ink that reads "Molly R. Newcomb". The script is cursive and fluid, with the first letters of each word being capitalized and prominent.

Molly R. Newcomb  
208-756-1727

Carmen, Idaho (just north of Salmon)

**From:** [Herbert Pollard](#)  
**To:** [Species Conservation](#)  
**Subject:** Avian Predation Comments  
**Date:** Thursday, January 2, 2020 12:26:39 PM  
**Attachments:** [Govs salmon team 11.19.19.docx](#)

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Attached is a comment letter regarding avian predation on salmon smolts which I would like to have made available to the Salmon Workgroup.

If anyone would like to contact me, use this email: hapollard@yahoo.com or call or text 208 859-0263.

Gov's salmon team 11/19/19

MEMO

To: Members of the Idaho Governor's Salmon Team

From: Herb Pollard, Fishery Biologist

Subject: Avian Predation

As a fishery biologist with over 50 years of experience working on the Columbia River, and especially the Snake River and tributaries, I have been following the activities of the Governor's Salmon Team with interest. I attended the November 19, 2019 meeting in Boise particularly to see the presentation on avian predation, and I felt that the team members asked some good questions that were not well answered. I offer the following as some thoughts on the issue.

Aaron Lieberman asked a question relative to the historic level of avian predation on the Columbia River. The answer is explained in reports from Bird Research Northwest, <http://www.birdresearchnw.org/> the group that has contracted with BPA and the Corps to monitor and report on avian predators since 1997. (Go to the Bird Research Website link, follow to reports and publications, unpublished annual reports. Lots of excellent scientific info is available.) In the unpublished 1997 Annual Report, the research group summarizes the history of Caspian terns nesting in the Columbia River Estuary. Prior to 1984 there was no reported nesting of Caspian terns in the Columbia River estuary, so the answer to Mr. Lieberman's question would be: "Measurable tern predation did not historically exist on Columbia River salmon and steelhead". The large tern colonies in the Columbia River basin are recent developments due to man-made habitat. The rapid increases in tern populations through the late 1980s and 1990s was due to establishment of huge nesting colonies on dredge spoil islands constructed by the USA Corps of Engineers after the eruption of Mount St Helens in 1980 introduced large amounts of volcanic ash and sand into the lower Columbia River.

A couple of good publications that describe the increased numbers of Caspian terns on the West Coast and their dependence on man-made habitat are:

Gill, R. E., Jr., and L. R. Mewaldt. 1983. Pacific coast Caspian terns: dynamics of an expanding population. *Auk* 100:369-381.

Wires, Linda R. and Francesca J. Cuthbert Trends in Caspian Tern Numbers and Distribution in North America: A Review. *Waterbirds: The International Journal of Waterbird Biology*, Vol. 23, No. 3. (2000), pp. 388-404.

The Bird Research NW reports also describe the huge and rapid increase in numbers of cormorants and gulls in the 1980s and 1990s. I recommend that Team members read the Executive Summaries of the 1997-99 and 2012 Annual project reports from Bird Research NW.

David Doeringsfeld asked a question relative to how many smolts a bird might consume. That answer is also in the Bird Research NW reports. Both Caspian terns and double-crested cormorants eat very little except for fish. Caspian terns need about 250 grams of fish per day – or roughly ½ pound per bird per day and cormorants require around 360 grams or about 0.7 pounds per bird per day. The number of

fish eaten depends on whether they are steelhead smolts that might weigh 2 ounces or fall chinook smolts that might only weigh ¼ ounce or coho and spring chinook that are somewhere in between.

The 2012 Bird Research report estimates that 6,400 tern nests on East Sand Island consumed 4.9 million smolts, or about 765 smolts per nest. The plan to leave about 4,000 tern nests on East Sand Island would produce an estimate of about 3 million smolts consumed annually. Cormorants in 2012 consumed about 1,500 smolts per nest, so the plan to leave 5,000 cormorant nests on East Sand Island might require 7.5 million smolts. While the Agencies' plan appears to be a substantial improvement over the 20 million or more smolts lost annually through the 1990-2015 period, it still assigns 10 million smolts to bird predation in the estuary.

It is notable that the Corps report did not mention numbers of smolts lost to avian predation. In my view, a discussion of numbers is important. About 140 million hatchery origin and 60 million natural origin (200 million total) salmon and steelhead smolts are produced in the Columbia Basin in a good year. Only about 100 to 120 million are estimated to reach the estuary after migrations of up to 900 miles. Loss of 10 million or more of the survivors to the estuary bird colonies should be a matter of concern as much as improving survival at every point in the migration corridor.

### **Some additional thoughts:**

- Don't be confused by the smolt consumption estimates based on PIT tag recoveries

The estimates based on PIT tag recoveries are presented as percentages of the smolts passing near the bird colonies. These estimates are based on recovery or reading of tags that are located, in readable condition, on the colony sites. PIT tag estimates only represent tagged groups of fish, and many stocks of interest like wild steelhead do not carry a lot of tags. The bioenergetic models are based on the diet requirements and produce an estimate of numbers of fish that are consumed by the avian predators. The bioenergetic models often produce higher numbers than the PIT tag estimates. The bird researchers always note that the PIT tag estimates are minimum numbers, but these numbers are often presented as complete and accurate. The research reports recommend that both the PIT tag percentages and the bioenergetic models should be taken together to evaluate impacts, but the Corps presentation only uses the PIT tag percentages.

Many groups of fish, like wild steelhead and spring/summer chinook, coho, and fall chinook are not represented by many PIT tags. The tags recovered on the colony must pass through the digestive tract of avian predators and be deposited on the colony in readable condition. Some tags are damaged and unreadable and an unknown number are deposited over the water or on remote resting and roosting sites. PIT tag recoveries only represent predation by birds that are located on the colonies during the nesting period and are not representative of total impacts of avian predators.

The PIT tag information is useful and valuable, but it generates minimum estimates that only apply to tagged groups of fish and only to the birds on the colonies during the 100-day nesting period.

- Avian predation increased as a factor in smolt survival and adult anadromus fish returns in the 1980s and contributed to the listing of numerous stocks of salmon and steelhead in the 1990s.

The Bird Research NW reports describe the increase in tern, gull, and cormorant numbers in the 1980s and early 1990s. There were no nesting terns reported in the Columbia Basin in 1980. As early as 1992, fishery research biologists at NMFS Point Adams research station were raising concerns about the large numbers of new predators feeding on smolts in the estuary. By 1997, the world's largest colony of Caspian terns had developed on artificial islands in the Columbia River estuary and was estimated to be taking 10 to 20 million smolts annually. Cormorants were present when Lewis and Clark first explored the Columbia in 1805, but prior to 1980 there were only a few hundred nests, mostly on navigation markers and natural habitat. By 2010, the cormorant colonies had increased and surpassed the tern colonies as predators on anadromous smolts. Gull populations also increased 500 to 600% during this time according to the reports, and although gulls are less effective than terns and cormorants as predators on smolts, the early Bird Research reports estimate millions of smolts consumed by gulls, and the 2012 report notes gull predation in inland areas exceeds tern predation.

- The estimates of smolt losses to avian predators only apply to the nesting birds, on the nesting colonies, during the 100-day nesting period.

The impacts of non-nesting avian predators and of nesting birds during the other 265 days of the year and away from the colony sites are not included in the published estimates. Caspian terns arrive on the lower Columbia a few weeks before nesting starts and remain until the weather cools in the fall, 2 or 3 months after the nesting period. While we know that the peak of smolt migrations coincides with the nesting period, and smolts are less available later in the summer, some number of smolts must be taken away from the colony and outside the nesting time. Also, Caspian terns do not nest until 3 years of age, so there are two or three year-classes of non-nesting immature birds that are not associated with the colonies. Those are the birds we see on the Snake River and tributaries all summer.

Double-crested cormorants stay on the Columbia and Snake Rivers and tributaries all year. Like terns, cormorants do not usually nest until their third year, so there may be as many non-nesting birds distributed throughout the basin as nesting birds on the colonies. Concentrations of cormorants are often observed in areas like Multnomah Slough and other tributaries of the Lower Columbia that are important smolt rearing areas in the winter months and larger numbers of cormorants are being reported on the Salmon River and upper tributaries in the summer. The large nesting colonies located on the artificial islands are supporting a regionally expanded avian predation impact. The overall expansion of avian predators in the Northwest is a large departure from the normal, historical condition of the ecosystem.

Apparently, no effort has been made to evaluate the impact of the non-nesting, off-colony avian predators which could be important, particularly for listed stocks.

## **What to do?**

Nearly all of the nesting colonies of avian predators are located on artificial islands that were built as a result of maintaining the Columbia River navigation channel or were formed in reservoirs incidental to hydroelectric or irrigation dam construction. Natural islands before the Corps were either low sand and gravel bars which were flooded during the nesting period, or the islands that were higher than high water were vegetated with native trees and shrubs and populated with native wildlife. Historically, there was very little habitat suitable for ground-nesting, colonial birds. Returning the islands to a

condition close to historic norms would return avian predator numbers to a level similar to the historical conditions.

The Corps of Engineers management plan has made some significant progress towards reestablishing normative conditions and is starting to show that natural vegetation and natural predators can help restore balance to the ecosystem. I don't think the plan goes far enough, nor does it recognize that the numbers of avian predators will still be much larger than historical conditions. I recommend that all of the estuary islands either be lowered so that they are flooded by tides or vegetated with native vegetation soon after new dredge spoil disposal occurs. The upriver islands could be either lowered, vegetated or perhaps flooded by periodic flushing flows during the spring, similar to how they might have been flooded by normal spring freshets before the dams.

The historical condition was no more than a few small colonies of Caspian Terns on the limited natural habitat in the Inland Northwest. Double-crested cormorants nested in trees and a few rocky cliffs and islands. Likewise, gull numbers were much lower, due to little natural habitat. The large, single-species colonies are all non-typical and artificial. A realistic management plan would strive to restore the natural condition.

## **Where does avian predation management fit in with the overall effort to restore salmon and steelhead?**

I understand that the Idaho Governor's Salmon Team is primarily concerned with Snake River and particularly Idaho issues, however, the migration corridor issues outside of our borders limit the success of any effort to help salmon in Idaho. The Region has spent \$Billions on salmon enhancement and recovery for habitat improvement, fish screens, dam modifications, flow enhancements, artificial propagation, etc. Everything that has been done is based on the belief that if more live smolts can be delivered into the ocean, there is a good chance that more adults will come back to support fisheries and spawn. There is ample natural habitat in Idaho that could produce more smolts if the smolts could survive the out-migration and return as adults. There is sufficient artificial propagation to produce excellent fishing and support some recovery efforts. Survival of migrating smolts is key to salmon recovery.

Avian predator control would be much less costly than some of the other alternatives that have been used for salmon protection and some of the alternatives that are being considered. Avian predator control would also yield quicker results. I can't think of any habitat action anywhere in the basin that would put a million more smolts in the ocean next spring, but an effort to haze and remove avian predators in the estuary could. Hatcheries are expensive to build and operate and take years to build and develop (and there are probably enough hatchery fish if survival could be improved). Even if a decision was made to breach the Snake River Dams today, it would take years to deal with the funding, environmental, and political issues, and more years to breach the dams and allow the river to return to a natural condition.

The Region is facing an emergency of impending extinction of important resources and the social and economic costs of declining salmon populations are huge. The emergency of salmon declines deserves an emergency response, and I believe that serious and concentrated predator control is an appropriate emergency response.

That said, avian predator control is only one of the issues that must be improved for salmon recovery. Hatchery fish may be part of the solution, but only if impacts on natural populations are considered and appropriate hatchery practices are used. Fishery management is a big part of the issue and management practices such as differential harvest of hatchery fish is important. Habitat protection and improvement continue to be important, but will not be effective without improvements in migration survival. Flow management is important, and an effort to restore normative conditions for temperature and flow is essential – but there are limits on the availability of more water. Dam breaching would have some terrific benefits for anadromous fish in the Snake River, but taken by itself is not the complete solution for salmon recovery – and there may not be enough time left to focus only on that issue.

If you have taken enough time to read this information, thank you, and I wish you success.

Herb Pollard

A little bit about my qualifications to have an opinion on this issue:

In 1966, as a senior at Oregon State University, studying fishery management, I worked at Bonneville Dam for 6 months tagging salmon. I traveled the river system from Astoria to Stanley and Wenatchee recovering tags and talking to fishermen and fishery managers, and developed some understanding of the geography and fisheries of the system. In 1969, I completed an MS in Fishery Science at University of Idaho where I studied and published on the interactions of hatchery trout and wild steelhead. I worked for Idaho Fish and Game for 28 years as a Research and Management biologist, state fishery manager, anadromous fishery coordinator and regional supervisor. In those positions, I wrote the first long-term resident and anadromous fish management plans for IDFG and contributed to the development of many of the current hatchery programs and management systems. After retiring from IDFG, I spent 10 years with NMFS working on Endangered Species Act issues, primarily on the Snake River, but made a contribution to the ESA Section 4d rules that are presently in use for hatcheries and inland fisheries throughout the range of listed salmon. After retiring from NMFS I have worked as a fishery consultant and just recently concluded a 9-year term representing Idaho on the Pacific Fishery Management Council, including 4 years as chair and vice chair. I am fortunate to have been able to work and fish and study Idaho salmon from the ocean to the furthest reaches of the inland migration. I saw the Columbia before John Day Dam, and the Snake when there were no hatchery-origin salmon or steelhead. I have closely watched the changes for more than 50 years, and contributed to many of the actions and participated in many of the decisions that affect the status of anadromous fish in the system in 2020.



**From:** [Linwood Laughy](#)  
**To:** [Species Conservation](#)  
**Cc:** [Governors Inbox](#)  
**Subject:** Idaho Salmon Work Group Comments  
**Date:** Sunday, January 5, 2020 5:19:52 PM  
**Attachments:** [Idaho salmon work group 1.docx](#)

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Please share the attached comments with members of the Idaho Salmon Work Group.

Thank you.

Linwood Laughy   Moscow, Idaho

January 6, 2020

To: Members of Idaho's salmon work group

Cc: Governor Brad Little

From: Linwood Laughy, Moscow, Idaho

*The governor's workgroup will matter only if its members (and the governor) accept this truth: Idaho salmon cannot be restored by actions inside Idaho.*

Tom Stuart  
In *Idaho Mountain Express* 8-14-2019

Idaho's Governor Little established unequivocal expectations for Idaho's salmon work group—a set of policy recommendations that will “ensure abundant and sustainable populations of salmon and steelhead exist for present and future generations...”

Particularly noteworthy: *abundant* and *sustainable* in this context speak not of fish numbers that would merely remove Idaho's threatened and endangered salmon and steelhead from the endangered species list. Your responsibility is to identify policies and actions that will achieve *sustainable abundance*.

For decades fish and natural resource scientists have warned residents of the Pacific Northwest and government agencies of the likelihood of Snake River salmon and steelhead extinction. Scientists have also identified the major requirements that would lead to abundant and sustainable Snake River salmon and steelhead dating back to at least 1947. Here is what these scientists have said:

*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 with this unfounded opinion.*

Special Report on Selection of Sites, Lower Snake  
River Oregon, Washington and Idaho  
U.S. Army Corps of Engineers March 14, 1947

*Another serious threat to the Columbia river fishery is the proposed construction by the U.S. Army 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 transportation "saving" to the shipper would amount to \$2,000,000 annually, while salmon runs having a wholesale value of about \$9,000,000 would be threatened with destruction.*

State of Washington Department of Fisheries Annual  
Report 1949

*The natural river option has a strong scientific basis for being the best biological choice for Snake River salmon and steelhead recovery. The scientific basis includes survival, adult escapement, and fishery data collected prior to completion of the lower Snake River dams ...as well as studies on migration; predators; fish physiology and stress; hydromorphology; spawning, rearing and migration habitat preferences; and over 10,000 years of evolutionary legacy.*

Idaho's Anadromous Fish Stocks: Their Status and  
Recovery Options Report to the Director, Idaho  
Department of Fish and Game May 1, 1998

*As the discussion proceeds toward the 1999 decision point, you can anticipate that the scientific findings will be questioned and pressure will be exerted to influence the Department and Commission. I know we will all continue to resist these pressures while remaining open to legitimate scientific peer review.*

Keith E. Carlson, Commissioner, Idaho Fish and  
Game Commission in IDFG May 1, 1998 Idaho's  
Anadromous Fish Stocks

*Due to habitat loss resulting from the construction of impassable dams, the Snake River basin now contains 70 percent of the potential production for spring/summer chinook salmon and summer steelhead in the entire Columbia basin. Wild Snake River salmon and steelhead are an irreplaceable genetic resource that continues to play a vital ecological role even at their currently depressed levels. If these runs are allowed to vanish, the foundation of the Interior Northwest's ecosystems will be severely undermined.*

*The weight of scientific evidence clearly shows that wild Snake River salmon and steelhead runs cannot be recovered under existing river conditions. Enough time remains to restore them, but only if the failed practices of the past are abandoned and we move quickly to restore the normative river conditions under which these fish evolved. We urge you to provide leadership on this issue in order to ensure that the 1999 Decision isn't delayed. Biologically, the choice of how to best recover these fish is clear, and the consequences of maintaining the status quo are all but certain.*

March 22, 1999 letter to President Bill Clinton from  
more than 200 concerned scientists, most from Idaho,  
Washington and Oregon

*Based on the best scientific information available, it is the position of the Western Division of the American Fisheries Society that the four lower Snake River dams and reservoirs are a significant threat to the continued existence of remaining Snake River salmon, steelhead, Pacific lamprey, and white sturgeon; and if society-at-large wishes to restore Snake River salmon, steelhead, Pacific lamprey, and white sturgeon to sustainable, fishable levels, then a significant portion of the lower Snake River must be returned to a free-flowing condition by breaching the four lower Snake River dams.*

Resolution of the American Fisheries Society Western  
Division 2011

*Despite billions of dollars spent on these efforts, the listed species continue to be in a perilous state... The [Federal Columbia River Power System] remains a system that 'cries out' for a new approach.*

Judge Michael Simon, U.S District Court 2016

*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. The Snake River basin now supports 70% of the habitat available for recovery of spring/summer Chinook and steelhead trout in the entire Columbia River watershed...Nonetheless, at that time (and since) the federal agencies involved in operating these dams have chosen to take other approaches to restoring Columbia and Snake River salmon, approaches that consistently have been rejected by the courts as legally inadequate. We too believe these past efforts demonstrate that the focus on nursery habitat restoration and other measures short of dam removal cannot deliver sufficient survival benefits for salmon and steelhead, and that Lower Snake dam removal remains the most effective and available action to increase Snake River salmon abundance in the long-term.*

*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.*

Letter to Governor Inslee's Southern Resident Killer  
Whale Task Force from 33 salmon scientists, August  
27, 2018

*EPA modeling also shows that, when considered collectively, the four lower Snake Dams can affect [water] temperatures up to a potential maximum [increase] of 6.8°C/12.2°F (EPA, 2003).*

*The option of breaching lower Snake River dams, combined with existing or modified cold water releases, has enormous potential to alleviate the very serious problem of elevated summer temperatures in the lower Snake River and increase the survival rate from out-migrating smolts to returning adults (smolt-to-adult return; SAR) for all salmon species (Marmorek et al. 1998, Peters and Marmorek 2001, McCann et al. 2017). It would also significantly increase available spawning and rearing habitat for imperiled Snake River Fall Chinook.*

*No other action or actions can significantly lower summer water temperatures in the lower Snake River on a long-term basis, while also providing additional cooling in the lower Columbia.*

Letter from 55 concerned fisheries and natural resources scientists to Pacific Northwest policy makers, including the governors of Idaho, Washington and Oregon    October 22, 2019

After more than 30 years and the expenditure of billions of electricity ratepayer and taxpayer dollars, Snake River threatened and endangered salmon and steelhead continue their decline toward extinction. Supporting the *status quo* is both unjustifiable and unconscionable. As stated by the staff at the Fish Passage Center, increasing spill to the 125% gas cap and/or breaching the lower Snake River dams are the only two options left if Snake River salmon and steelhead are to survive. Fish scientists make clear this is not an either/or situation. Snake River threatened and endangered salmon and steelhead will not survive if the lower Snake River dams remain in place.

Governor Little has been quoted saying he is not in favor of breaching the lower Snake River dams and does not want Idaho's salmon work group to discuss that possibility. However, he also said he is in favor of breaching the *status quo*.

Nothing represents the *status quo* more than the continued existence of the lower Snake River dams.

## **Governor's Salmon Workgroup Public Comment Form**

Comments to the Governor's Salmon Workgroup will be accepted in-person or by email submitted to [species@osc.idaho.gov](mailto:species@osc.idaho.gov)

Date: **December 23, 2019**  
Name: **Joni Amen**  
Phone: **208-709-3681**  
Email: **joni.amen@fallriverelectric.com**

### **Comments:**

I work for Fall River Rural Electric Cooperative that serves just over 13,000 members (17,761 meters). My husband took a fishing trip to Alaska this summer. This river had no dams on it and the week that he arrived, the Fish and Game shut down fishing for salmon on this river because of such poor salmon returns from the ocean. There were simply no salmon swimming up the river this year because they weren't in the ocean to return.

Harnessing the natural occurring, renewable, abundant power of water flowing downhill was one of the greatest decisions in our nation's history. It has provided Idaho and the greater Northwest with the energy needed to be a powerhouse of economic production. Fall River's members in SE Idaho directly benefit from the power produced by these dams. The four Lower Snake River Hydro's, Palisades, and the other Columbia River hydroelectric plants generate year-round, renewable energy. This investment in the hydro infrastructure ensures that Idaho and the Northwest has significantly lower carbon emissions as compared to the rest of the United States. While the rest of the US is moving towards a reduced carbon power grid, Fall River and our members in Idaho enjoy a 97% carbon free power mix with a combined energy portfolio consisting of 87% hydro, 9% nuclear, 1% wind and solar generation, the envy of the rest of the nation. The four lower Snake River Hydroelectric systems are an essential part of that generation and are among the lowest costs resources BPA has access to.

Prior to the dams being installed in the 1930's and 40's, salmon populations and returns in the Columbia River drainage were at all-time lows. Again, this was prior to the installation of dams and the reason for the decline in returns was attributed to over harvesting at that time. While the dams have an impact on salmon, BPA recognizes that impact and have invested \$17 billion to mitigate those impacts. Fall River's member contribute \$1 million per year for fish and wildlife expense through the BPA. These investments combined with more favorable ocean conditions have made a difference with overall salmon returns trending upward over the decades. We are finding that ocean conditions is the real driver of salmon health and population. Studies on salmon returning to pristine river systems with no dams in Canada and Alaska and with little to no human impact, are seeing very similar salmon returns. The Atlantic salmon populations are nearly identical to the Columbia River returns. This all points to the fact that removing dams will not solve the problems for salmon. Pacific and Atlantic Ocean conditions have a far greater impact on populations than the dams do. In fact, the power produced by the dams would have to be replaced with carbon supported generation to ensure base load energy is available 24/7 and will likely add to the problem that salmon are already experiencing.

The \$17 billion, paid for by rate payers, is invested in habitat restoration of fish hatcheries, hydro facilities, improvements for fish passages, and many other activities aimed at improving fish populations. This has created positive long-term results for salmon populations and long-term trends have improved for most salmon stock, not declined as portrayed in the media. The four Lower Snake River Hydros are lost cost, renewable generation and an invaluable resource for our Nation. Removing those dams would accelerate carbon emissions and as we have seen in the news, taking out a few dams only emboldens the crazy idea of taking all the dams out. Fish are not the only consideration. The list of interests include: a desire to move to a carbon neutral generation mix, flood control, barging and transportation of goods, irrigation, recreation; and economies built to enhance salmon returns including fish hatcheries and other environmental enhancements which are in large part all paid for by the revenues generated by producing energy at the dams that some propose to remove.

I believe there are ways to continue to make measured improvements in fish passage and returns by setting goals and then working to manage the already substantial amounts of money dedicated to the preserving and improving a sustainable salmon population. Real solutions must include significant sacrifices from all areas which include addressing harvesting, predators, water pollution, and even excessive spill if that spill is not beneficial to returning salmon or total dissolved gas' impact on the health of salmon.

It would be a real shame to abandon the very renewable resources which have been so instrumental in backing up the integration of variable generation like wind and solar in Idaho and the Northwest. We have a real gem that provides affordable, renewable generation. The dams on the Columbia River drainage and especially the four Lower Snake River Dams are resources worth keeping. I cannot imagine how anyone would support destroying a national treasure.

**From:** [ronharriman@q.com](mailto:ronharriman@q.com)  
**To:** [Species Conservation](#)  
**Subject:** a paper covering the natural atmospheric control of water within the Snake and Salmon Rivers  
**Date:** Tuesday, January 7, 2020 1:50:26 PM  
**Attachments:** [This paper identifies by existing data that dam removal.docx](#)

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Idaho Salmon Work Group;

This is a reaction to the 9<sup>th</sup> Circuit 12-20-2019 decision Columbia River keeper V Wheeler. Attached is a paper discussing the temperatures of the water in the Snake and Salmon Rivers and the difficulty of cooling it and a solution for dealing with salmon passage through the dams on the Snake within Washington. This may not appear to be an Idaho problem as the dams are in Washington, but the preparation of the TMDL by the EPA on the Columbia and Snake Rivers will deal with temperature and at this time Idaho is the source of the heat in the water. I am sending this to your group, the governors of Idaho, Washington and Oregon, the irrigators in Washington and Oregon, our national and state contingencies of legislators, the news media throughout the Northwest, as a matter of concern and will when the suit comes after the TMDL is complete will file this as a Amicus Curiae with the court of record. I am available for comment publicly or will answer questions via email.

Ronald M. Harriman [ronharriman@q.com](mailto:ronharriman@q.com)

Nampa, Idaho



**THIS PAPER IDENTIFIES BY EXISTING DATA THAT DAM REMOVAL  
FOR SALMON RECOVERY ON THE COLUMBIA AND SNAKE RIVERS  
IS  
UNNECESSARY AND HARMFUL TO THE SALMON AND THE  
ECONOMIES OF BOTH WASHINGTON AND OREGON**

**I**

**Historic and Natural Atmospheric Conditions Coupled with Global Warming  
will Prevent Present Attempts to Control Water Temperature for Successful  
Salmon Recovery**

**A Clarification:** The recent 9<sup>th</sup> Circuit Court of Appeals, 12-20-2019 decision, is being touted by the Print Media and NGOs as a decision that will require Dam removal on the Snake and Columbia Rivers.

**Plaintiff's contention:** The water in the dams during upstream migration of Salmon is too warm when the fish are returning to the spawning grounds.

**THE PRESS INCORRECTLY REPORTED THE ISSUE**

**The decision does not remove the dams:** The court decision (included below) directs the EPA to complete a requirement of the Clean Water Act (CWA) that both Washington and Oregon have failed or refused to develop. This is a standard and required report on pollution in water. As neither state produced the report the court has directed the EPA to complete a report on pollution within the Columbia and Snake Rivers. This standard report is entitled "Total Maximum Daily Load" (TMDL). **Water temperature is considered and identified as a physical pollutant under the CWA.** (for your convenience the PDF link below will provide the decision by the 9<sup>th</sup> district)

**COLUMBIA RIVERKEEPER; IDAHO RIVERS UNITED; SNAKE RIVER WATERKEEPER, INC.; PACIFIC COAST FEDERATION OF FISHERMEN'S ASSOCIATIONS; THE INSTITUTE FOR FISHERIES RESOURCES, Plaintiffs-Appellees, v. ANDREW WHEELER, 18-35982, 12/20/2019, ID: 11539287, DktEntry: 42-1,**



COLUMBIA RIVERKEEPER V. WHEELER.pdf

**The Apparent Pretense and Intent of this suit**

- **"Pretense:** To establish that the water in both the Snake and Columbia River dams is too warm by EPA standards for Salmon survival (68F+).
- **Intent:** To lay the legal background for future court action after the TMDLs are complete and to ensure water temperatures are cooled enough to allow salmon survival and passage through the dams to reach the spawning grounds.

**The Presiding Unfortunate Fact: The Plaintiff's "intent" is not only prevented by atmospheric and natural upstream conditions; it is a physical impossibility to cool the water in these rivers. Dam removal cannot resolve the water temperatures in these rivers.**

## **THE TEMPERATURE PROBLEM IS NOT NEW IT IS AN ENVIRONMENTAL AND A NATURAL ATMOSPHERIC CONDITION**

**Data supporting this opinion is acquired from US Geographical Survey (USGS) the authoritative source for river data in the U.S. <https://waterdata.usgs.gov/nwis/rt> this site will also identify any U.S. river's flow, temperature and in most cases the pollutant content of any river presently monitored. Historical data is not online, but available at request.**

The USGS sites monitor conditions on the Snake and Salmon Rivers. These rivers provide the water filling the dams that are targeted to be removed. They are the **Ice Harbor, Little Goose, Lower Granite, and Lower Monumental Dams**. These USGS sites have continuously recorded water temperatures up to and exceeding 75F or 23.9C in these rivers during the warm months when spawning is occurring.

**Water at this temperature is deadly for Sockeye Salmon:** Approximately 97 miles of lake or slack water lie in the dams reservoirs which are filled with the naturally preheated water from the Snake and Salmon rivers. Temperatures this high are proven hazardous to and deadly to Sockeye salmon. Warm water fish thrive in such temperatures.

**Unfortunately removing the dams cannot cool the water in the rivers:** The AOW and nongovernment organizations (NGO)'s objective of removal of the above identified dams for cooling the water has **no validity**; as the temperature of the water will remain at those levels even if the dams are removed. The only advantage of removal is it would provide a flowing body of water which would keep the fish oriented. The downside is it would devastate agriculture, barging and warm water recreation in this area.

### **What are the natural and actual conditions of the Snake and Salmon River?**

The following records establish recorded natural water temperatures in the rivers above the dams historically exceed 70F or 15.56C during the spawning periods. The EPA has under the Clean Water Act (CWA) arbitrarily established an unsupportable and unattainable temperature for Cold Water Salmonid Spawning (CWSS) of 13.5C or 56.3F in all the rivers including some irrigation conduits in the Boise River Valley. Such temperatures are not supportable or attained other than the headwaters at the highest elevations (exceeding 6,500 feet in elevation) of rivers in the Stanley Basin of Idaho. Not even Red Fish Lake, the historical touted spawning ground for the Salmon River Sockeye (*Oncorhynchus nerka*) attains that temperature. It has been recorded as averaging 17.8C or 64F during spawning.

IE: Source.



Idaho Statesman  
eEdition.pdf

**To establish the data and clarify the physical impossibility of cooling the river and dam water** two recording sites operated by the USGS and located upstream from the questioned Snake River Dams were

selected that clearly record the temperatures in the natural flowing river channels during the spawning season exceed 70F or 21C. (both sites are posted below for your viewing)

There are many dams on the Snake River. To factually represent the actual river temperature of water flowing into and through the lower dams including the four dams in question on the lower Snake River. The first site chosen is located at King Hill, Idaho. Choosing this site has a twofold purpose. **First**, it was selected as it is 12 miles downstream from the Bliss Dam on the Snake River. **Second**, it represents a combination of water temperatures in the main Snake River and the tributaries to the Snake River through southern Idaho. The main tributaries in this area are springs flowing into the Snake River from the **Snake River Plain Aquifer** which holds as much water as **Lake Erie**. These tributaries begin in the Twin Falls area and extend through the Hagerman Valley. The temperatures of the water from these tributary springs are recorded on the E-sites of the Niagara Springs Steelhead Hatchery, the Clear Springs Private Fish Hatchery, and the Federal Hatchery in the Hagerman Valley at 59F or 15C year around. This area also includes two rivers with water generated from the **Snake River Aquifer**; the Malad and the Box Canyon. The accumulated water temperatures in the Snake River at this site during June, July and August are recorded by the USGS as exceeding 75F or 23C. (Actual USGS recording site provided below)



USGS 13154500  
SNAKE RIVER AT KIN

**The Malad River near Gooding, Id.** Records temperatures of 18.6C in June or 65.48F, 23.6C in July or



USGS Surface  
Water data for USA

74.48F, and 22.6C in August or 72.68F.

**The second selected site is located at White Bird, Idaho on the Salmon River.** This USGS site was selected to exhibit the historical water temperatures during the spawning season at 23C or 75F recorded in this section of the **free-flowing Salmon River** prior to the confluence with the Snake River and upstream of any dams. (Link to this site provided below)



USGS 13317000  
SALMON RIVER AT V

**“When temperatures get above 68 degrees, salmon have problems”, according to Dennis McLerran, an attorney with Cascadia Law Group, who is a former regional administrator for the EPA in the Northwest.**

**Conclusion:** The USGS monitoring sites clearly identify the temperature of the water flowing into the Snake River dams and subsequently downstream exceeds 70F during the summer months. The water is also clearly the source of heat in the reservoirs. No amount of work or expenditure will lower the water temperature in the Snake, Salmon or Columbia Rivers to the degree the litigators and EPA desire. This established historical data indicates that this has always been the condition, even prior to immigrant

settlement, as the atmospheric temperature worldwide according to NOAA has only risen 1.4F in the last 135 years.

## II

**A Question we must consider:** With the effect of warmer temperatures due to Global Warming is it practical to try to cool the rivers to meet arbitrary temperatures set by EPA?

**There is a solution:** A solution that will keep the economy of the Columbia and Snake Rivers in place, achieve the same result as removing the dams, and allow the salmon to reach their historical spawning grounds. This would be to construct a bypass system of continuous flowing water through or around the dams similar to a canal. This can be designed with riffles and shading to effectively cool the water and simulate a natural flow. Each segment of this artificial river should start in the flowing rivers above each dam and extend to the natural river channel below the dams. Doing this will maintain a consistent flow of running water around the dams from the spawning grounds to the ocean. It will certainly be more economical to cool a bypass if needed, than the entire river. Such a by-pass system could be constructed around these four dams for around \$3.4 million per mile. The 97 miles needed to bypass the slack water should cost approximately \$330 million.

**There is a caveat:** Ownership of each section of such a by-pass would have to be held in private ownership or the tribes under their treaties would have full fishing rights on the water.

### Finally:

It appears the EPA defendants did not present the complete and correct evidence to the 9th Circuit and also appears to be another ill-conceived plan to justify removing dams.

**It is important to save these fish:** We must stop using outdated studies, non-supportable EPA records or previous flawed court decisions based on incorrect data and **DO THE RESEARCH**. Over \$17 billion has been spent on salmon recovery efforts, what is the purpose of spending another \$17 billion?

It should also be recognized a major part of the Salmon problem is in the ocean and that both the undammed free running Rivers, the Fraser and Skeena Rivers, in British Columbia were also closed to Salmon and Steelhead fishing in 2016 and 2019 due to the lack of returning fish.

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Nampa, Idaho

Salmon <https://marinebiology.co/2016/09/04/salmon-found-to-be-primary-food-source-of-killer-whales/>