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April 13, 2020

Comments on the Columbia River System Operations Draft Environmental Impact Statement

Introduction

Chinook salmon produced in the Snake/Columbia Basin are a crucial source of food for the critically endangered Southern Resident Killer Whales' survival and recovery. Yet, in the Basin, it's not about salmon. It's about hydropower, ports, agribusiness, industry and, for more than 25 years, the federal government's failure to give salmon and steelhead a fighting chance to recover. Nothing in the Columbia River System Operations Draft Environmental Impact Statement ("CRSO DEIS") changes this dynamic. The DEIS is a waste of time, lacks political courage, relies on bad science, stale data and disinformation, and is a frivolous failure, not to mention a slap in the face to the U.S. District Court in Oregon.

The system wide operations review always was the federal agencies' grand plan to delay any meaningful review of the Snake River dams and their effect on salmon and steelhead for as many years as possible. And while the federal agencies went large in scope and long on words, they went small on critical thinking, science and analysis to reach the agencies' pre-ordained conclusion that the four lower Snake River dams are to be maintained at all costs. The DEIS is the definition of arbitrary and capricious. The federal agencies have failed on almost all levels.

Lower Snake River wild salmon and steelhead, and the salmon dependent Southern Resident Killer Whales are out of time. They are heading to near term extinction. Decades of effort and $17 billion in mitigation money has demonstrated that none will survive, without immediate breaching of the four lower Snake River dams as part of any survival and recovery plan.

Background

Five times over the last 25 years, in litigation primarily focused on the survival of the fall juvenile Chinook salmon and steelhead migrating downstream to the Pacific Ocean, the federal district court in Oregon has ruled that the federal government has acted illegally by failing to adequately protect Snake/Columbia Basin Chinook salmon and steelhead. See *Nat'l Wildlife Fedn v. Nat'l Marine Fisheries Serv.,* 184 F. Supp. 3d 861, 788 (D Or. 2016). The court expressed great concern about the hydrosystem dams' effects on salmonids, particularly the effects of the lower Snake River dams. After considering a wealth of evidence, the court found that ***the fish must pass up to eight dams "and suffer a very high mortality rate in doing so, sometimes as high as 92%***." *Id*. at 788-789.

Yet, once again, the Army Corps of Engineers ("Corps"), Bureau of Reclamation ("BOR") and Bonneville Power Authority ("BPA") (collectively the "federal agencies") have drafted a "tinkering around the edges" EIS to come up with a pre-determined no-breach decision. Instead of conducting a review that focused on the need to protect salmon and steelhead from dam operations, the DEIS focused on the need to operate the 14 Columbia River System ("CRS") dams, with harm to salmonids merely a secondary concern.

The DEIS is a win for the federal agencies that have a vested interest in retaining the four lower Snake River dams and the jobs that go with it. It is a win for the agencies that retain their ability to spread hundreds of millions of public dollars around eastern Washington, money that buys support for the dams and helps keep them in place. It is a win for the relatively few special interests' that directly benefit from the dams—all of which benefits are paid for by ratepayers and taxpayers. And it is a win for the politicians who receive political cover from the endless study and environmental review process.

The losers are the salmon and steelhead, the 139 plus species that depend on the fish, including the Southern Resident Killer Whales, and the entire Snake/Columbia Basin ecosystem, not to mention ratepayers and taxpayers who pay for the whole charade.

The final EIS and new BiOp undoubtedly will be challenged in court again due to the federal agencies' flagrant disregard for the court's directives and the document's blatant illegality. The defendant federal agencies undoubtedly will lose again, but what is their loss? The taxpayers will pay the plaintiffs' attorneys' fees. The court will remand the BiOp and Final EIS, with instructions once again to add adequate protections for listed salmon and steelhead. Because the new unlawful BiOp will have some protections in place for fish and wildlife, on remand the unlawful BiOp will remain in place until the next (unlawful) BiOp is drafted, and the process will begin again.

This is a never-ending full employment scenario for the dam/litigation industry that has endured for more than 25 years. What a carousel ride! And it is an all-expenses-paid ride that uses our money to pay for the wasteful federal agencies, the destructive dams, the perpetual litigation, and the actions that are driving salmon and Southern Resident orcas to extinction, while degrading the lower Snake River ecosystem for every living thing.

We need to break this cycle and get off the carousel.

Fatal Flaws Abound in the CRSO DEIS

The Federal Agencies Failed to Comply with the National Environmental Policy Act's Central Purpose, which Is to Inform

The National Environmental Policy Act (NEPA) requires an EIS for a proposed action that will significantly affect the quality of the environment. NEPA and its implementing regulations clearly set forth the purpose of an EIS. "It shall provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment." 50 CFR §1502.1. To do this "[t]he EIS "should present the environmental impacts of the proposal and the alternatives in comparative form, ***thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public***." 50 CFR §1502.14.

The DEIS fails to sharply define the issues or provide a clear basis for choice among the alternatives. For example, it is difficult even to find a cohesive, concise definition of the proposed action for which the CRSO EIS is required. The definition below is borrowed from the *Endangered Species Act (ESA) Section 7(a)(2) Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response, Continued Operation and Maintenance of the Columbia River System,* p. 29:

> This ESA section 7(a)(2) consultation evaluates the effects of an ongoing federal action: the operation, maintenance, and management of the 14 federal dam and reservoir projects in the Columbia River System that are managed as a coordinated system for multiple congressionally authorized public purposes by the Action Agencies (BPA et al. 2018a). The proposed action includes operational measures (e.g., flood risk management, navigation, fish passage, and hydropower generation) and non-operational measures (e.g., support for conservation hatchery programs, predation management, habitat improvement actions, and RM&E programs). The proposed action, including both operational and non-operational measures, is largely consistent with RPA measures stemming from the 2008 biological opinion, as supplemented in 2010 and 2014.

Presumably this is also the CRSO DEIS No Action Alternative from September 2016, that this member of the general public could not find in the DEIS. Compare this to the confusing Purpose and Need Statement set forth in the CRSO DEIS *Executive Summary*, p. 16. Since the federal agencies use the No Action Alternative as the baseline, the failure to provide a clear definition of the No Action Alternative is a fundamental failure.

The CRSO DEIS is not user friendly. For example, eleven downloads are necessary to obtain a complete copy of the DEIS. Each section does not have its own table of contents. Only the first download contains the table of contents, the table of figures, the table of tables, and the definitions for abbreviations. Therefore, the reader must go back and forth between the first part and any other part to find particular sections or subjects of interest. Perhaps more significant is the fact that for key word searches, one must search through eleven separate downloads in an attempt to find information on a particular subject. This might be reasonable if the comment period were six months. But it is not reasonable for a 45 day comment period.

The DEIS is difficult to understand. It uses industry and scientific jargon and goes into great detail on many issues only experts could understand, while providing little or no detail on foundational elements for the public. As an informational document, the CRSO DEIS should be written in lay language that clearly and concisely sets forth each alternative and its associated effects on the environment. This it fails to do.

Another fundamental failure is that the DEIS is biased heavily in favor of operations and maintenance of the hydrosystem and its economic effects, while paying almost no attention to commercial, sport or recreational fishing and its economics. It is also biased heavily in favor of the economics of the status quo, rather than the economics abundance fish runs would provide to the Snake/Columbia Basin economy, or the economic benefit that would accompany dams breaching.

An additional foundational flaw in the DEIS is that the federal agencies failed to consider readily available public documents when they drafted the document. Examples are reports drafted by Rocky Mountain Econometrics on hydropower, transport, and navigation; NOAA's studies and recovery plans for Snake/Columbia Basin salmonids; NOAA's studies and documents that discuss the importance of Columbia River Chinook to Southern Resident Killer Whales; University of Washington studies documenting the importance of Columbia summer/spring Chinook to Southern Resident Killer Whales; Earth Economics reports on Snake or Columbia Basin recreation, natural capital, and the economic benefits of breaching the dams; independent studies on Pacific Northwest energy resources, and public studies of reservoir greenhouse gas emissions, to point out a few.

The DEIS Is Fatally Flawed since the Federal Agencies Suppressed Relevant Information from the Public while Drafting the DEIS

The federal agencies are required to "make every effort to disclose and discuss ***at appropriate points*** in the draft statement all major points of view on the environmental impacts of the alternatives including the proposed action." Emphasis added; 50 C.F.R. §1502.9.

The federal agencies failed to comply with this regulatory mandate. In fact, rather than share major points of view while drafting the EIS, the federal agencies actively suppressed information. At the same time the federal agencies were sending updates to the public, (see the *Columbia River Systems Operations Update* that the federal agencies emailed, mailed

and made available on the CRSO website),[1] they were hiding important fish survival information analyses developed by other agencies. To withhold this information from the public, the federal agencies required the Fish Passage Center ('FPC") to sign a non-disclosure agreement that required the FPC to withhold information from decision makers and the public, until the federal agencies had published the CRSO DEIS. See Attachment 1 to these Comments, FPC Document, DeHart Memo to File re Alleged Noncompliance, dated 10/4/19.

As a result, the public was able to review only that information the federal agencies published. The FPC was prohibited from posting its relevant information for the public to review until February 28, 2020, the date the federal agencies published the CRSO DEIS. On that date the FPC posted Chapter 2 of the Comparative Survival Study, the analysis of the CRSO EIS alternatives, in which the FPC determined that lower Snake River dam breaching was the best biologic alternative for salmon and steelhead. See http://www.fpc.org/documents/CSS.html, CRSO tab, Attachment 2 to these Comments.

The federal agencies' non-disclosure agreement regarding the FPC analyses of the DEIS alternatives forces decision makers and the public to read the FPC material, as well as the 8000 page DEIS in the short 45 comment period. The obvious purpose of the federal agencies' forced nondisclosure agreement was to hinder publication of information relevant to the DEIS options. Otherwise it had no purpose. The nondisclosure agreement is particularly repugnant, in light of the fact that taxpayers and ratepayers fund the federal agencies. The public has a right to see that information as it is developed.

The Federal Agencies Failed to Comply with the Page Limits Prescribed in the Federal Regulations

The text of final environmental impact statements (e.g., paragraphs (d) through (g) of §1502.10) shall normally be less than 150 pages and ***for proposals of unusual scope or complexity shall normally be less than 300 pages***. Emphasis added; 50 C.F.R. §1502.7. Paragraphs (d) through (g) refer to the body of the EIS. The body includes the purpose and need for the action, the alternatives, the affected environment and the environmental consequences. This is "the heart" of an EIS. *Nat'l Wildlife Fedn v. Nat'l Marine Fisheries Serv.*, 184 F. Supp. 3d at 878.

To sharply define the issues and provide a clear basis for choice among the alternatives to protect ESA-listed fish did not require more than 300 pages. Nevertheless, the Army Corps of Engineers ("Corps"), Bureau of Reclamation ("BOR") and Bonneville Power Authority ("BPA") (collectively the "federal agencies") ignored the page limit. Rather than draft an EIS the public and decision makers could understand, the federal agencies chose, instead, to write the body of the statement using 5000 pages in a complicated, difficult to read, difficult to analyze DEIS that does not sharply define issues or provide a clear basis for choice

[1] See https://usace.contentdm.oclc.org/utils/getfile/collection/p16021coll8/id/4108.

among the alternatives.[2] To expect the public to be able to read, digest, analyze and make intelligent comments about this four-year-in-the-making DEIS in the 45 day comment period is unreasonable. Thus, the DEIS fails as an informational document.

The DEIS Is Fatally Flawed because It Uses an Inappropriate Baseline

The DEIS uses the No Action Alternative as a baseline against which to compare all other alternatives. While this is standard practice in ordinary EIS's, this is not an ordinary EIS. There is a history of 25 years of unlawful biological opinions behind this DEIS. The Oregon district court has ruled that the No Action Alternative in the 2008 BiOp has been unlawful from the time it was first drafted, because the 73 RPAs in it fail to adequately protect ESA listed species.[3] Finding negligible or minor adverse impacts to ESA listed species, when compared to an unlawful baseline, is akin to declaring, as the Bush administration did in 2004, that the dams have existed so long that they are part of the natural landscape and, consequently, don't have to be considered. The court rejected this contention.

The DEIS Is Fatally Flawed because It Fails to Accurately Set Forth Important Facts

Another fatal flaw to the CRSO DEIS is that it fails the honesty test. Spin is abundant. For example, the federal agencies state that the Preferred Alternative better meets the Purpose and Need and objectives of the hydrosystem, while "avoiding, reducing, or minimizing adverse effects to environmental, economic, and social resources." CRSO DEIS, p. 7-15. Yet the federal agencies again announce, as they did in 2002, that breaching the four lower Snake River dams and restoring the lower Snake River to a near free flowing river would give migratory fish the best chance of recovering. See, e.g., *Executive Summary*, p. 25. The agencies also admit that dam breaching is the most cost effective, and is supported by the tribes. Indeed, the tribes have been strong proponents of dam breaching, asserting that breaching the dams will result in large improvements to certain salmonid populations, and this in turn would have beneficial impacts to the overall function of the Northwest ecosystem and for tribal ways of life. *Id*. at 7-9.

As the tribes and federal agencies are well aware, the Ninth Circuit en banc in *United States v. Washington*, 853 F.3d 946 (9th Cir. 2017), held that both Washington State and the United States governments are liable to signatory tribes for blocking or impeding salmon migration in violation of the 1855 Stevens Treaties. This exposes the United States and potentially

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[2] Compare this 5000 page DEIS to the 103 page report the Pentagon drafted in 2017 for the security of the United States to warn the nation of the likelihood of a pandemic brought on by a novel coronavirus, predicting with startling accuracy shortages of masks, hospital beds and ventilators that could occur in an outbreak. See, https://www.thenation.com/article/politics/covid-military-shortage-pandemic/.

[3] The DEIS states that "the No Action Alternative includes all operations, maintenance, fish and wildlife programs, and mitigation efforts in effect when the EIS was initiated in September 2016." *Executive Summary*, p. 19. This is, in essence, the 73 RPAs the court considered and struck down in May 2016.

Washington State to huge damages liability to the tribes, if the dams continue to be maintained. Breaching the dams this year can cut off this liability.

Another example of the federal agencies shading the truth is that for several years Snake River steelhead runs have been so low that they have hit the "trigger" prescribed in the federal agencies' 2009 FCRPS Adaptive Management Implementation Plan.[4] The trigger requires the agencies to engage in immediate action to save the species. Nevertheless, the federal agencies have ignored the trigger. Rather than acknowledge that the trigger has been hit and that the federal agencies are ignoring it, the DEIS merely states:

> On February 4, 2020, the co-lead agencies viewed a presentation prepared by NMFS regarding returns for the 2019 fish passage season and the Adaptive Management Implementation Plan. Although not all returns occurred prior to the presentation, NMFS utilized current return numbers to project return numbers if current return rates continued in 2020 and 2021. These projections signaled that returns are low, especially for Snake River steelhead. The co-lead agencies are currently evaluating the information provided by NMFS and will have a more detailed discussion of this information in the final EIS, including any updates that NMFS may provide once all returns have occurred, if appropriate.

Id., at 3-301. Thus, the DEIS fails its central purpose, to inform the public and decision makers that immediate action is needed to save Snake River steelhead. This would seem to be a critical fact for the public and decision makers to know.

In other parts of the CRSO DEIS, the federal agencies are flat out inaccurate with the truth. This is particularly true regarding hydropower and its effects and costs. The federal agencies state as fact that new congressional authority and associated funding would be required to implement lower Snake River dam breaching *measures evaluated in the EIS*. DEIS *Executive Summary*, p. 12. But the federal agencies do not inform the public or decision makers that neither new funding nor new congressional authority would be needed to make the dams nonoperational, which is different than *the measures the federal agencies evaluated in the EIS*. Without additional appropriations or congressional authority, the earthen berms could be breached, allowing fish to pass around the concrete structures. Existing fish credits and mitigation money could cover most, if not all, of the breaching costs.

The federal agencies state as fact that the lower Snake River projects provide more than 2,000 MW of sustained peaking capabilities during the winter, and a quarter of the federal power system's current reserves holding capability. *Executive Summary*, p. 25. The agencies fail to inform the public or decision makers, that if the lower Snake River dams were to be used for sustained peaking power, the drawdown behind the dams needed to sustain the peaking power would damage the banks, roads, rail tracks and other infrastructure. It would also take days to refill the reservoirs, during which no power would

[4] See https://www.salmonrecovery.gov/Files/BiologicalOpinions/AMIP_09 10 09.pdf.

be generated.

The agencies contend that the dams play an important role in maintaining reliability, and their flexibility and dispatchability are valuable components of the CRS. *Executive Summary*, p. 25. The agencies fail to inform the public and decision makers that the Snake River dams generate the most energy when it is least needed in the springtime, when demands for heating and air conditioning are at their lowest. Energy from the Snake River dams is constrained during the low river flows the rest of the year in cold winter months and hot summer months, when the energy is most needed. Thus, the Snake River dams' capacity for reliability and flexibility is much less than described by the federal agencies.

The federal agencies argue that lower Snake River dam breaching would more than double the region's risk of power shortages compared to the No Action Alternative—from 6.6 percent risk of a year having power shortages in the No Action Alternative (roughly one year in 15) to 13.9 percent in MO3 (or nearly one year in 7). *Id.*, p. 25. The federal agencies also contend that significant quantities of replacement resources would have to be built to maintain regional power reliability at the No Action Alternative levels. They state that without such a resource build-out, the region would face the likelihood of a loss of load event, e.g. a power blackout, nearly one in every seven years in MO3 for the base case including the current fleet of regional coal plants. *Id*., p. 25. These contentions are not correct. According to Rocky Mountain Econometrics, energy from the lower Snake River dams was needed for only two hours in the last 10 years, and that energy could have been purchased on the open market. In addition, BPA has had surplus energy every year for the last 80 years, except in 1937, a low water year.

Regarding costs, the federal agencies contend that for Bonneville's wholesale power rate, MO3's (the dam breaching alternative's) conventional least-cost natural gas turbine resource portfolio, would cost about $200 million per year. The agencies state that this along with related structural and fish and wildlife spending adjustments, places upward rate pressure of between 8.2 percent and 9.6 percent over the No Action Alternative, depending upon the source of funding for those resources. *Id.*, pp. 25-26.

If the Snake River dams' energy production were to be replaced by green energy, the federal agencies falsely project a $419 million annual cost for a zero carbon portfolio. *Id*., p. 26. They then state that, "[t]he costs of an expanded zero-carbon resource portfolio designed to replace the full capability of the lower Snake River dams would be significant: up to $527 million a year above the resource costs assumed in the base case analysis." *Id*. They continue, "If Bonneville had to replace the lower Snake River projects' full capability with zero-carbon resources, the rate pressure *could be* up to 50 percent on wholesale power rates. *Id*., p. 27.

All of this cost information is false, since replacement power is not needed. The federal agencies recognize this in the maps set forth in Appendix H where they show that MO3 actually exerts negative pressure on rates in most areas. See DEIS Figure 5-4 and 5-6, Residential Rate Pressure Mapping, below. But if the public or decision makers were to read only the CRSO DEIS *Executive Summary*, they would not have the true information that

dam breaching exerts negative to no pressure on rates. This is ***the best ratepayer result of all the alternatives***.

Further, the federal agencies fail to inform the public or decision makers that the No Action Alternative has high costs. BPA customers have experienced a 36% increase in wholesale electricity rates over the last 10 years with the No Action Alternative. According to BPA, 12% of its revenue comes from what BPA calls "surplus sales" or "secondary revenue."[5] BPA admits that when BPA produces more power than its wholesale customers need, then BPA goes to the spot market (like a stock trading market) and sells it power at a rate oftentimes lower than BPA's wholesale rate. *Id*. BPA sometimes pays to get rid of surplus power to avoid too much power on the transmission grid.

By statute, BPA is required to set its wholesale rate at its cost of energy production. BPA actually sets it rate at its cost of production of energy, reduced by projected income from BPA's surplus sales. If BPA sells energy for anything less, BPA loses money on the sale. Yet BPA admits that it often sells surplus power for less than the cost of production. That means that BPA ratepayers must pay a higher wholesale rate than surplus buyers pay, but also that ratepayers subsidize surplus buyers. These are most frequently California customers.

The federal agencies continue the disinformation throughout the DEIS. In Chapter 7, Table 7.1, page 7-18, the agencies compare the alternatives. In the category whether MO3, the dam breaching alternative, will "Provide an Adequate, Efficient, Economical, And Reliable Power Supply That Supports the Integrated Columbia River Power System," the agencies answer "No. Due to loss of hydropower generation on Lower Snake Projects, which adversely affects the adequacy, economics and reliability of the system, and leads to significant upward pressure on power rates relative to the No Action Alternative."

Compare the two maps below for MO3, dam breaching and the Preferred Alternative for the four states of Washington, Idaho, Montana and Oregon. They show that the pressure put on rates from MO3, the dam breaching alternative, for most areas is -2.5% to 0%, while the preferred alternative exerts rate pressure of 0% to 1%. The rate pressure for the other alternatives rises above 10% in some areas. The information contained in these maps is buried in the CRSO DEIS, at Appendix H, at pp. H-5-39 through H-5-44. The residential rate pressure maps for MO3, the breach alternative, and the Preferred Alternative are displayed below.

[5] See https://www.lagrandeobserver.com/news/regional/bpa-seeks-to-clear-misconceptions/article_fb12c546-7534-11ea-a1bc-affe6d07f750.html.

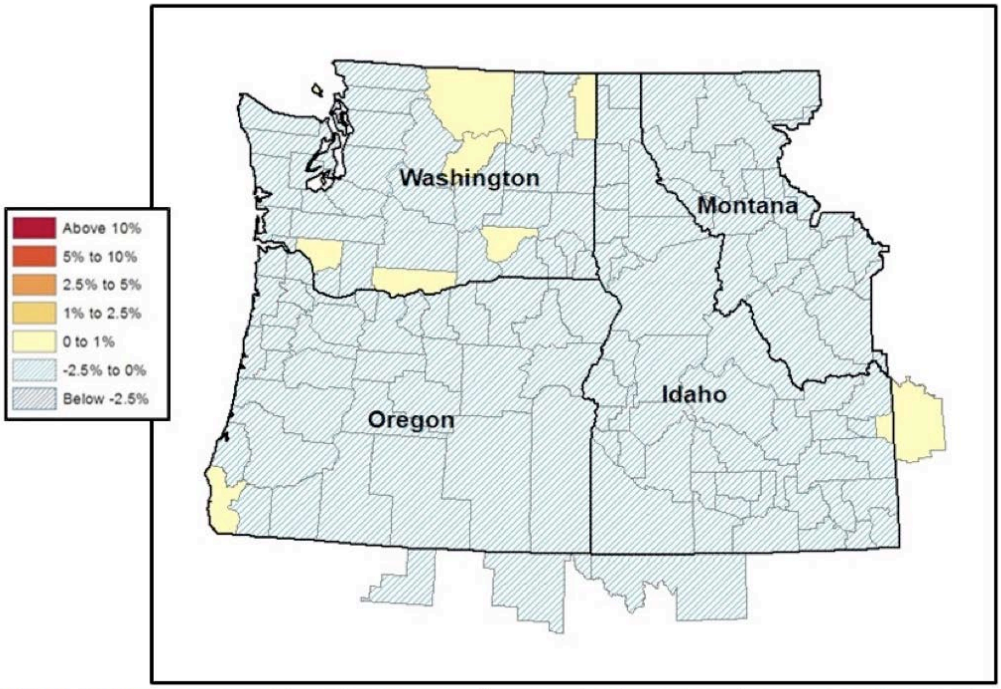

Figure 5-4. MO3 Average Residential Rate Pressure by County (% Change from the No Action Alternative)

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Appendix H, Power and Transmission

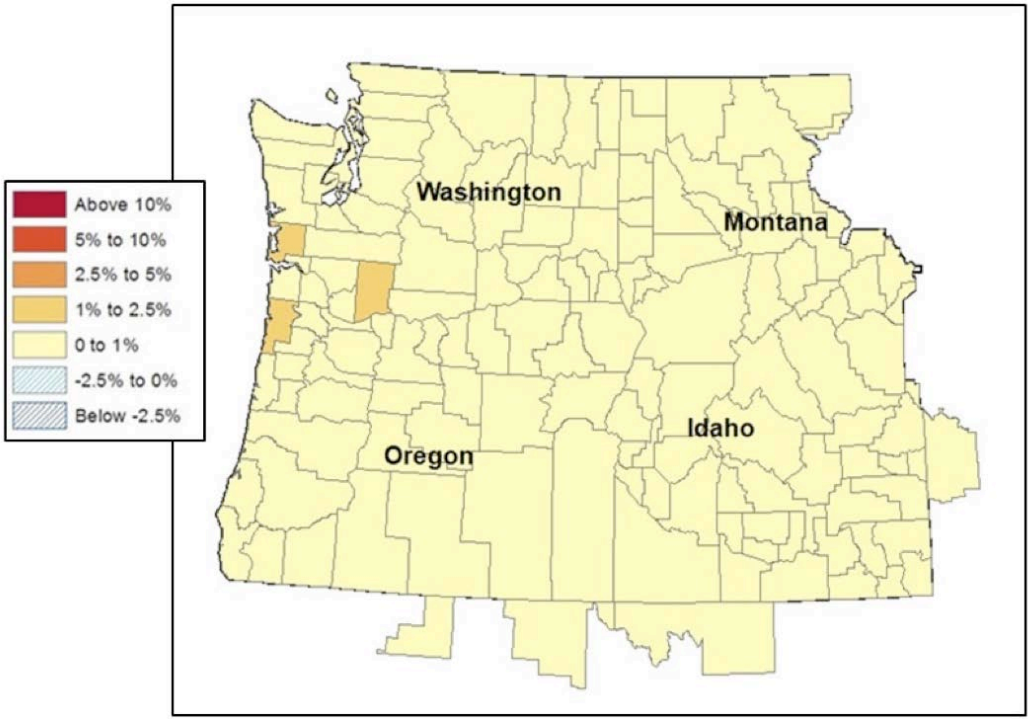

Figure 5-6. Preferred Alternative Average Residential Rate Pressure by County (% Change from the No Action Alternative)

The Federal Agencies Buried the Fact that Dam Breaching Is the Most Cost Effective Alternative for Ratepayers

What should be headline information for ratepayers that dam breaching is the most cost effective alternative in terms of operating and maintaining the hydrosystem, the federal agencies have buried in a chart on the very last page of Chapter 3. There the federal agencies finally acknowledge that breaching the four lower Snake dams is the most cost effective alternative. This is despite the many pages the agencies spend discussing the highly inflated costs they have assigned to dam breaching, and after they falsely state that dam breaching could raise rates by as much as 50%. Without the inflated costs, the savings from dam breaching are far greater.

Columbia River System Operations Environmental Impact Statement
Chapter 3, Affected Environment and Environmental Consequences

Table 3-308. Annual-equivalent Costs under the Alternatives ($2019)

Alternative	Construction Costs of Structural Measures (present value)	Construction Costs of Structural Measures (annual)	Capital Costs (annual)	O&M Costs (annual)	Mitigation (Low F&W Costs) (annual)	Mitigation (High F&W Costs) (annual)	Annual-Equivalent Costs (Low F&W costs)	Annual-Equivalent Costs (High F&W costs)
NAA	NA	NA	$245,000,000	$478,000,000	$332,000,000	$332,000,000	$1,055,000,000	$1,055,000,000
MO1	$533,000,000	$20,000,000	$245,000,000	$478,000,000	$333,000,000	$333,000,000	$1,076,000,000	$1,076,000,000
MO2	$1,412,000,000	$52,000,000	$245,000,000	$477,000,000	$334,000,000	$387,000,000	$1,108,000,000	$1,161,000,000
MO3	$1,235,000,000	$46,000,000	$213,000,000	$399,000,000	$238,000,000	$343,000,000	$896,000,000	$1,001,000,000
MO4	$1,200,000,000	$44,000,000	$245,000,000	$478,000,000	$233,000,000	$338,000,000	$1,000,000,000	$1,105,000,000

Table 3-309. Change in Annual-equivalent Costs under the Multiple Objective Alternatives compared to the No Action Alternative ($2019)

MO	Construction Costs of Structural Measures (annual)	Change in Capital Costs (annual)	Change in O&M Costs (annual)	Change in Annual Mitigation (Low F&W Costs)	Change in Annual Mitigation (High F&W Costs)	Change in Total Annual-Equivalent Costs (Low F&W costs)	Percent Change in Annual-Equivalent Costs (Low F&W costs)	Change in Total Annual-Equivalent Costs (High F&W costs)	Percent Change in Annual-Equivalent Costs (High F&W costs)
MO1	$20,000,000	$0	$0	$1,000,000	$1,000,000	$21,000,000	2.0%	$21,000,000	2.0%
MO2	$52,000,000	$0	-$1,000,000	$2,000,000	$55,000,000	$53,000,000	5.0%	$106,000,000	10.0%
MO3	$46,000,000	-$32,000,000	-$79,000,000	-$94,000,000	$11,000,000	-$159,000,000	-15.1%	-$54,000,000	-5.1%
MO4	$44,000,000	$0	$0	-$99,000,000	$6,000,000	-$55,000,000	-5.2%	$50,000,000	4.7%

CRSO DEIS, p. 3-1481.

The DEIS Is Fatally Flawed because It Contains Disinformation on the Crux of the Issues It Is Supposed to Illuminate—Endangered and Threatened Salmon and Steelhead Survival

Contrary to the federal agencies attempt to spin the truth that juvenile survival from passage through the dams is in the mid to high ninety percentages, real survival rates may be as low as 14%, when latent mortality is included. As stated previously, the district court in Oregon has found that salmon and steelhead must pass a number of dams—eight for the Snake River runs—"and suffer a very high mortality rate in doing so, sometimes as high as 92%." *Id*. at 788-789. The court made this finding after carefully considering the evidence presented in prior court hearings and documents.

Nevertheless, in this DEIS the federal agencies ignore the court's previous finding and re-litigate the issue. In doing so they present the same tired disinformation that they have spread throughout the Pacific Northwest for years, and have introduced in court previously to make their specious argument that juvenile salmonid survival through the hydrosystem is excellent. "These estimates [ ] ***show progress*** towards meeting the individual dam survival goals developed during the 2008 Biological Opinion of 96 percent survival past each dam for yearling Chinook and steelhead, and 93 percent for Snake River sub-yearling fall Chinook." CRSO DEIS, p. 3-301. The DEIS sets forth a map to illustrate the spurious survival rates, terming them "recent estimates of dam survival."

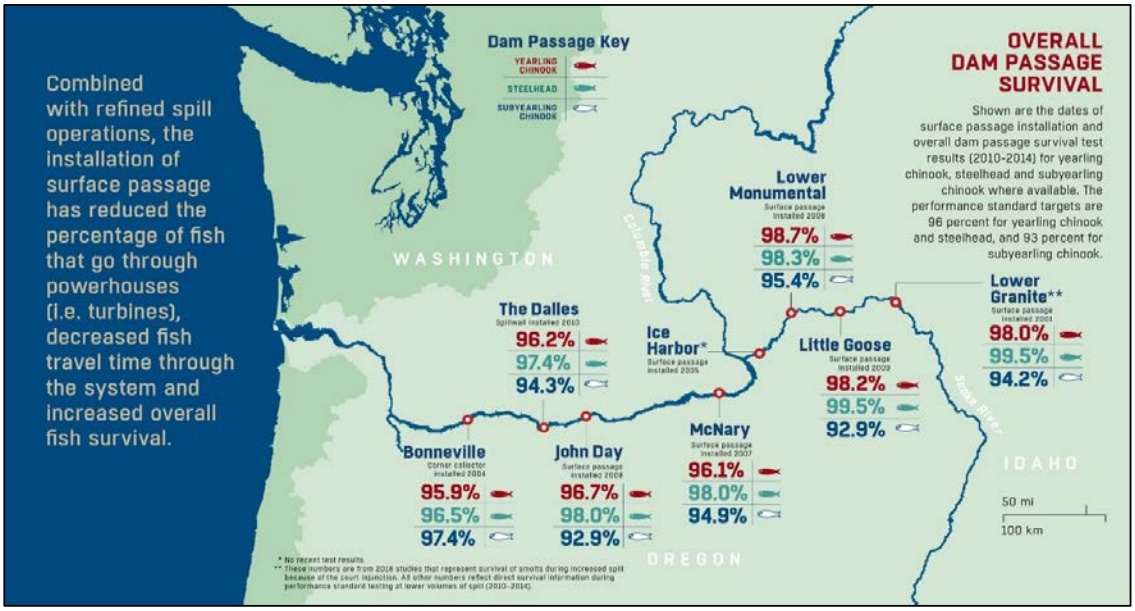

Figure 3-112. Recent Estimates of Dam Survival at Columbia River System Projects

Id. at p. 3-302. The federal agencies include this same map at DEIS *Executive Summary*, p. 19, Figure ES-4. The map disingenuously depicts juvenile salmon survival through the dams. It purports to show a 92% to 98% dam passage survival rate, ***rather than a rate as high as 92% mortality.*** Maps and "facts" such as these and the accompanying text, couched as fact, render the CRSO DEIS useless as an informational document.[6] Moreover, the disinformation-filled graph also shows that the federal agencies believe that the federal court is powerless to curb the federal agencies' long-running lawless activity.

[6] Nuggets of information are buried deep in the DEIS. If the public or decision makers have the time to read and re-read the 8000 page document, they may be able to find valid information to counter the more readily available disinformation that is highlighted in the DEIS. For example, deep in Chapter 3, the federal agencies admit that COMPASS and CSS modeling estimates of juvenile Snake River spring/summer-run Chinook salmon survival range from 50.4 to 57.6 percent, respectively. CRSO DEIS at p. 3-382.

The DEIS Is Fatally Flawed because It Fails to Elucidate an Approach that Will Move the ESA-listed Species Out of Peril

The court ordered the federal defendants to prepare the EIS in the expectation that it would elucidate an approach that would finally move the ESA-listed species out of peril. See *Nat'l Wildlife Fedn v. Nat'l Marine Fisheries Serv*., 184 F.Supp.3d at 948. The DEIS does not elucidate such an approach. For example, fall Chinook, a primary focus of the EIS, were not modeled. *Executive Summary*, p. 12. Had the federal agencies analyzed the data correctly, it is likely that lower Snake River dam breaching would have been included in the Preferred Alternative, particularly since the agencies admit that the current Preferred Alternative has only minor benefit to in-river fish survival.[7] DEIS, Table 7.1, p. 7-17.

The DEIS Is Fatally Flawed because It Ignores the Best Available Science regarding Salmon and Steelhead Productivity in the Snake/Columbia Basin

The best available science demonstrates that with lower Snake River dam breaching, large increases in salmon productivity would result. The Fish Passage Center ("FPC"), in its review of DEIS alternatives, found that for all fish survival metrics, the Preferred Alternative resulted in only slightly better performance than the No Action Alternative and MO1, and had lower performance than both MO3, the dam breaching alternative, and MO4, the high/flexible spill alternative. In addition, the results for the Preferred Alternative are likely overestimates of fish survival, according to the FPC, because the modeled datasets provided by the federal agencies used daily averages.

In fact, the FPC reported in 2017 in its Comparative Survival Study ("CSS") that breaching the four lower Snake River dams and increasing spill on the four mainstem Columbia Dams to 125% Total Dissolved Gas could increase the salmon runs up to four fold. The FPC did not consider the increase to fall Chinook runs that the recovery of 140 miles of mainstem spawning habitat would bring, although the federal agencies did acknowledge this. DEIS *Executive Summary*, p. 25. This could increase the salmon runs up to seven fold, according to fisheries biologists. Further, the FPC's report does not include consideration of increased production from more salmon and steelhead migrating through a free-flowing lower Snake River that would result in greater utilization of the high-altitude spawning habitat in Idaho that is the refuge most capable of withstanding the predicted effects of climate change and global warming. Hence, dam breaching best mitigates even the effects of climate change. In addition, emissions of the potent greenhouse gas methane—that the federal agencies did not analyze in the DEIS, except to say that dam breaching would increase greenhouse gas emissions, without critical analysis — would be reduced both by near natural flows and the elimination of the warm slack water reservoirs. A near free flowing river would also restore habitat and would return the lower Snake River to a more natural temperature regime under which the salmon evolved and flourished.

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[7] Moreover, the federal agencies admit that climate change likely will negate any increase in benefits to migratory salmonids that the Preferred Alternative may confer.

The FPC's analysis of substantially increased salmon abundance that dam breaching would bring agrees with decades of federal agency reports, as shown by the chronology below, which also exposes the federal agencies' unfounded position that the lower Snake River dams need not be breached to recover wild salmon and steelhead.

- In 1999 the National Marine Fisheries Services (NMFS), aka NOAA Fisheries, determined that to recover *Snake River spring/summer Chinook*, the *most risk averse action* would include dam breaching, a harvest moratorium, and vigorous improvements in habitat and hatcheries. (*Emphasis in original*.)[8] For *Snake River fall Chinook and steelhead*, *dam breaching by itself would likely lead to recovery*.[9]
- In 2001 the Plan for Analyzing and Testing Hypotheses (PATH) analyses, commissioned by the federal agencies, suggested that *breaching was more likely than any other change in the hydropower system to meet survival and recovery criteria for the listed species across the widest range of assumptions and scenarios.*[10]
- The Corps' 2002 *Lower Snake River EIS* revealed that *breaching the dams had the highest probability of meeting the government's salmon survival and recovery criteria**. In comparison**, **implementing the other so-called "reasonable" alternatives in the EIS would be slightly worse than doing nothing***.[11] *Further improvements in spill and bypass systems or in transportation were deemed unlikely to be adequate to rebuild the threatened and endangered Snake River salmonid populatio*ns.[12]
- In its 2002 *Record of Decision* the Corps relied on the NMFS 2000 Biological Opinion that concluded, despite the science showing that dam breaching through channel bypass was the best option for salmon recovery, *breaching was not necessary at that time. NMFS reserved breaching as a contingency management alternative depending upon the findings in the 2005 and 2008 check-in.*[13] Check-ins that did occur were cursory at best, or they would have found that fish recovery goals were not being met, and that dam breaching would have to be instituted.
- In making the decision not to breach in 2002, the Corps announced to the taxpaying public that the dams would not have to be breached, if $350 million were spent (at least $1 billion has been spent to date) on massive "system improvement" projects (Alternative 3 in the 2002 EIS) on the four Snake River dams to permit less hazardous

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[8] Budy, P., *Analytical Approaches to Assessing Recovery Options for Snake River Chinook Salmon* (2001), p. 4, UTCFWRU 2001(1): 5-6, http://www.fws.gov/columbiariver/publications/recopt.pdf.

[9] *Id.*, p. 6.

[10] USACE, *Record of Decision, Lower Snake River Juvenile Salmon Migration Feasibility Study* (2002), p. 15, accessed in 2015 athttp://www.nww.usace.army.mil/Portals/28/docs/environmental/lsrstudy/lsr_rod.pdf.

[11] USACE, *Summary, Improving Salmon Passage*, *Lower Snake River Juvenile Salmon Migration Feasibility Report* (2002), p. 25, accessed in 2015 at http://www.nww.usace.army.mil/Portals/28/docs/environmental/lsrstudy/Summary.pdf.

[12] *Id.* Nonetheless, the federal agencies propose these changes once again.

[13] USACE, *Record of Decision, supra***,** p. 21**.** Recovery goals have not been met for any of the ESA-listed runs, yet the Corps has not implemented breaching as a contingency management alternative.

> juvenile fish passage. *This would give the region time to determine if salmon survival and recovery could be effected through the non-breaching alternatives.*[14] ***If these efforts did not succeed, the nine involved federal agencies, including NOAA, agreed that EIS Alternative 4, dam breaching, must be considered***.[15] Ten years was the outside time period allowed for results.[16]

It is 18 years later. None of the ESA-listed runs have recovered. NOAA admits in its 2017 recovery plan for spring/summer Chinook and steelhead that Snake River salmon and steelhead are not likely to recover in the next 50 years without dam breaching:[17]

> *NMFS estimates that recovery of the Snake River spring/summer Chinook salmon ESU and steelhead DPS****, like recovery for most of the ESA-listed Pacific Northwest salmon and steelhead, could take 50 to 100 years***. This recovery plan contains an extensive list of actions ***to move*** the ESU and DPS ***towards viable status***; however, ***"the actions will not get us to recovery***."[18] *Emphasis added*.

The move "*towards viable status*," a much lower standard than the "trending toward recovery" standard the district court in Oregon has rejected, likely will continue unless the dams are breached immediately, particularly since Snake River salmon runs have declined drastically over the last three years.

The DEIS Is Fatally Flawed because It Fails to Consider the Vital Effects of the Decimation of Snake/Columbia Basin Chinook Salmon on the Critically Endangered Southern Resident Killer Whales

These facts are clear regarding the Snake/Columbia Basin, salmon and the salmon-dependent Southern Resident Killer Whales ("SRKWs").

- The Columbia River historically was one of the largest, if not the largest, salmon producing river in the world.

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[14] Federal Caucus, *Conservation of Columbia Basin Fish, Final Basinwide Salmon Recovery Strategy*, Vol. 3, (2000), p. 20, http://permanent.access.gpo.gov/lps57088/d3/Final_Strategy_Vol_3.pdf.

[15] *Id.*

[16] *Lower Snake River Juvenile Salmon Migration Feasibility Report* (2002), *Appendix A, Anadromous Fish Modeling,* p. A ES-8, "It will require anywhere from 2 to 10 years for these studies to provide information about the feasibility of achieving demographic improvements through different management actions." http://www.nww.usace.army.mil/portals/28/docs/environmental/lsrstudy/Appendix_A.pdf.

[17] Dam breaching is not one of the measures included in the recovery plan.

[18] *ESA Recovery Plan for Snake River Spring/Summer Chinook & Snake River Basin Steelhead* 2017, p. 241, https://www.fisheries.noaa.gov/resource/document/recovery-plan-snake-river-spring-summer-chinook-salmon-and-snake-river-basin.

- The Snake River, as the largest tributary to the Columbia River, produced about half of the salmon migrating out to the ocean.
- Based on their historical production, the Snake and Columbia rivers have the most potential for again producing millions of additional salmon.
- The dams in the Columbia and Snake Rivers kill juvenile salmon in their downriver migration. The federal agencies admit this. See *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv*., 839 F. Supp. 2d 1117, 1131 (D. Or. 2011) "[T]here is ample evidence in the record that indicates that the operation of the FCRPS causes substantial harm to listed salmonids. . . . ***NOAA Fisheries acknowledges that the existence and operation of the dams accounts for most of the mortality of juveniles migrating through the FCRPS***." Emphasis added.
- The mortality rate of juveniles passing through the eight dams of the Snake River and Columbia River is as high as 92%. *National Wildlife Federation, et al. v. National Marine Fisheries Service (NMFS), et al.,* 184 F. Supp. 3d 861, 788-789.
- The high juvenile mortality rate decimates adult returns.
- The Southern Resident orcas' foraging patterns show that the whales likely evolved preying on the huge runs of Chinook produced in the Snake/Columbia Basin.

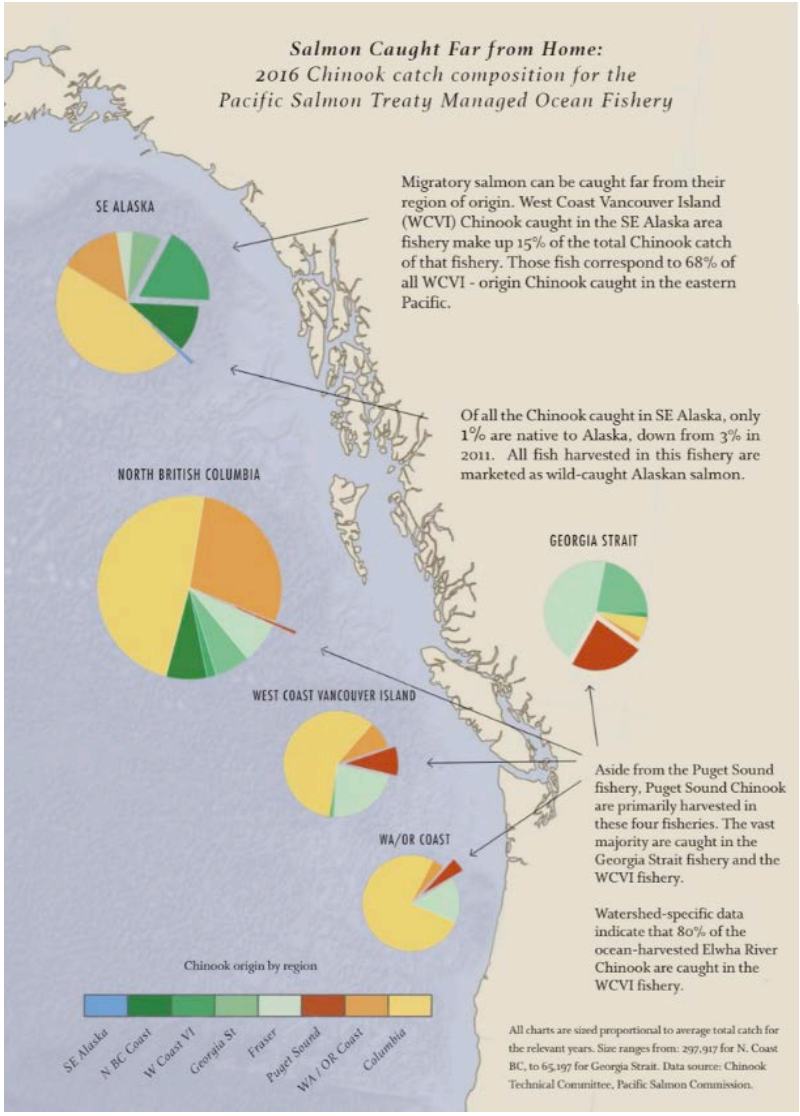
Despite these facts, the federal agencies failed to find the Preferred Alternative that maintains the dams would adversely affect the critically endangered Southern Resident orcas. They were able to do this by ignoring both readily available public documents and the best available science. The federal agencies also failed to consider the fact that from 2016 to the present, which was the operative time for drafting the DEIS, the Southern Resident orcas have significantly increased their time foraging in coastal waters, while significantly reducing the time they spend in the inland Salish Sea. See Bain, David, et al., *Southern Resident Killer Whales & Columbia/Snake River Chinook: A Review of the Available Scientific Evidence* (February 2020), Attachment 3 to these Comments. The *Review* compiles much of the more recent scientific research and findings that establish the vital connection between Southern Resident orcas and Snake/Columbia Basin salmon.

Ignoring the best available science, and without analysis or scientific basis, the federal agencies state that an "increase in food availability would have a negligible effect on killer whales***, given that the Snake River and Columbia Chinook populations constitute a small portion of their overall diet***." CRSO DEIS, at p. 7-151. There would be a "negligible effect on SRKWs' prey availability since ***"[t]he Snake River spring/summer Chinook salmon is a negligible portion of their overall diet.***" CRSO DEIS, at p. 3-779. This is disinformation. It flies in the face of the best available science developed by NOAA and other scientists.

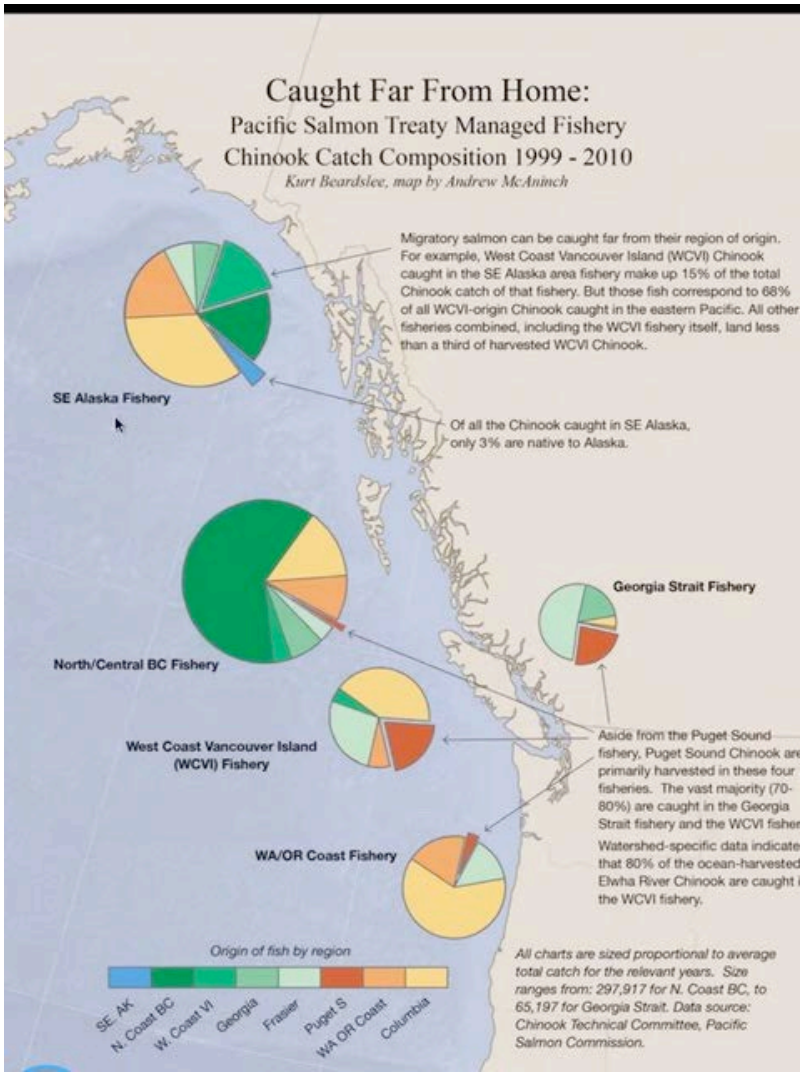
Recently in June 2018 NOAA and the Washington Department of Fish and Wildlife (WDFW) developed a prioritized list of West Coast Chinook salmon stocks that are important to the recovery of Southern Resident Killer Whales. See *Southern Resident Killer Whale Priority*

Chinook Stocks, 2018. The Snake and Columbia Rivers produce seven of the top 15 priority stocks identified in the report. *Id*. at pp. 7-8. A priority stock is defined as a stock that is important to increase critical prey to SRKWs. *Id*. at p. 2. The Snake/Columbia priority stocks are the Lower Columbia fall Chinook stock, the Upper Columbia and Snake fall stock, the Lower Columbia spring stock, the Middle Columbia fall stock, the Snake River spring/summer stock, the Middle and Upper Columbia spring stock, and the Middle and Upper Columbia summer stock. *Id*.

Significantly, it is likely that the importance of Snake/Columbia Chinook to SRKWs is understated in NOAA's priority prey stock report. The majority of NOAA's sampling was done in inland waters in the Salish Sea during the summer months. Relatively little sampling was done in coastal waters in the fall, winter or spring months. The report itself states, "there is currently no spatial correction factor for sample collection." *Id*. p. 2. NOAA also fails to correct for the timing of the sampling. In addition, the report does not consider the historical contribution of the Snake/Columbia runs to SRKWs, or the dams' decimation of the runs over the last 50 years, in determining the current priority stocks. Yet, despite these shortcomings, NOAA determined that the Snake/Columbia Basin produces nearly half the critical prey stocks for the critically endangered Southern Resident orcas.



To reach the "negligible effect finding" for SRKWs in the DEIS, the federal agencies also ignored the coast-wide presence of Snake/Columbia Basin Chinook. The Wild Fish Conservancy compiled data from the Salmon Technical Committee's Chinook catch composition for the Pacific Salmon Treaty Managed ocean fishery for the years 1999 to 2010, and for the year 2016. The yellow slice of the pie represents Chinook from the Snake/ Columbia Basin.



The data shows that Chinook from the Snake/Columbia Basin are by far the largest source of catch from Southeast Alaska to the southern Oregon coast. The charts also demonstrate that since 2010 the Snake/Columbia Basin runs have become a larger part of each depicted Chinook fishery, while Puget Sound stocks have become a smaller part, except in the Georgia Strait fishery. This makes the recovery of the Snake/Columbia runs that much more important and urgent for all predators, including the Southern Resident orcas.

The importance of Snake/ Columbia Basin Chinook is not something that NOAA has just stumbled upon. In June 2008 NOAA stated that ***"[p]erhaps the single greatest change in food availability for resident killer whales since the late 1800s has been the decline of salmon from the Columbia River basin***. . . . ***Returns during the 1990s averaged only 1.1 million salmon, representing a decline of 90 percent or more from historical levels."*** NOAA*, SRKW Recovery Plan Recovery Plan for Southern Resident Killer Whales, (Orcinus orca)*, National Marine Fisheries Service, Northwest Region, Seattle, Washington, January, 2008, p. II-82. The evidence that NOAA fisheries scientists have collected since 2008 on coastal foraging only strengthens this statement.

In 2013 NOAA reported that the Southern Residents could be found in the coastal waters more than half the year.[19] More than half of this time is spent between the mouth of the Columbia River and Westport. In fact, NOAA's monitoring data indicates the Southern Resident orcas have been present off the mouth of the Columbia River thirty-five times more

19 See 134 J. Acoust. Soc. Am. 5, Hanson et al*., Assessing the Coastal Occurrence of Endangered Killer Whales Using Autonomous Passive Acoustic Recorders* (November 2013), 3486, http://oceanwidescience.org/cms/wp-content/uploads/2014/12/Hanson-et-al-2013.pdf (on average the Southern Residents occur in inland waters less than half of the days each year.)

often than would be expected by chance.[20] [21] The Southern Residents' visits to the coastal waters off Westport, Washington and the mouth of the Columbia River have coincided with high concentrations of nutrient rich, fatty spring Chinook salmon. University of Washington research shows that the whales appear to be especially reliant on the Snake River's nutrient rich, high fat content early spring-run Chinook.[22]

NOAA reports that the coastal Washington area and northern Oregon inshore area is a Southern Resident killer whale high-use area, particularly for foraging, with documented consumption of essential prey sources. NMFS, *Proposed Revision of the Critical Habitat Designation for Southern Resident Killer Whales, Draft Biological Report*, September 2019, p. 36. While these areas have salmon originating in many rivers from Canada to California, the largest contributions are from the Columbia Basin (seasonally >50%). *Id*., pp. 37, 41.

NOAA's research indicates the importance of Snake/Columbia salmon to the Southern Resident orcas:

> ***Satellite tag data indicated K and L pods utilized the entire Washington outer coast from January-May, an area that represents only 16.2% of the total area they used, but where the whales spent 53.1% of their time. The area between Grays Harbor and the Columbia River is the area of highest concentrated use*** (Hanson *et al.* 2017). Tagged whales traveled more slowly off the northern and southern portions of the Washington coast (mean of the median speed of all tagged whales 6.0 and 6.1 km/hr [3.7 and 3.8 mi/hr], respectively) compared to when they were off Oregon and California (7.2 km/hr [4.5 mi/hr])

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[20] Hanson, M.B., E.J. Ward, C.K. Emmons, and M.M. Holt. 2018. *Modeling the occurrence of endangered killer whales near a U.S. Navy Training Range in Washington State using satellite- tag locations to improve acoustic detection data*. Prepared for: U.S. Navy, U.S. Pacific Fleet, Pearl Harbor, HI. Prepared by: National Oceanic and Atmospheric Administration, Northwest Fisheries Science Center under MIPR N00070-17-MP-4C419. 8 January 2018. 33 p., Appendix A hereto (Figure from NOAA NWFSC showing concentration of orca presence off Columbia River mouth).

[21] Satellite tagging for 2013 through 2016. https://www.nwfsc.noaa.gov/research/divisions/cb/ecosystem/marinemammal/satellite_tagging/blog.cfm (2013); https://www.nwfsc.noaa.gov/research/divisions/cb/ecosystem/marinemammal/satellite_tagging/blog2014.cfm (2014); https://www.nwfsc.noaa.gov/research/divisions/cb/ecosystem/marinemammal/satellite_tagging/blog2015.cfm (2015); https://www.nwfsc.noaa.gov/research/divisions/cb/ecosystem/marinemammal/satellite_tagging/blog2016.cfm (2016)

22 Ayres KL, et al., *Distinguishing the Impacts of Inadequate Prey and Vessel Traffic on an Endangered Killer Whale (Orcinus orca) Population* (2012) PLoS One 7: e36842, http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0036842; Wasser, S.K., J.I. Lundin, K. Ayres, E. Seely, D. Giles, K. Balcomb, J. Hempelmann, K. Parsons and R. Booth. 2017. Population growth limited by nutritional impacts on pregnancy success in endangered Southern Resident killer whales (*Orcinus orca*). PLoS One 12: e0179824.

(Hanson *et al.* 2017). Slower travel speeds may be associated with foraging activities.

Id., p. 39. The concentration of SRKW visits to the mouth of the Columbia River, illustrated by this NOAA map, demonstrates the importance of Snake/Columbia River Chinook to SRKWs.

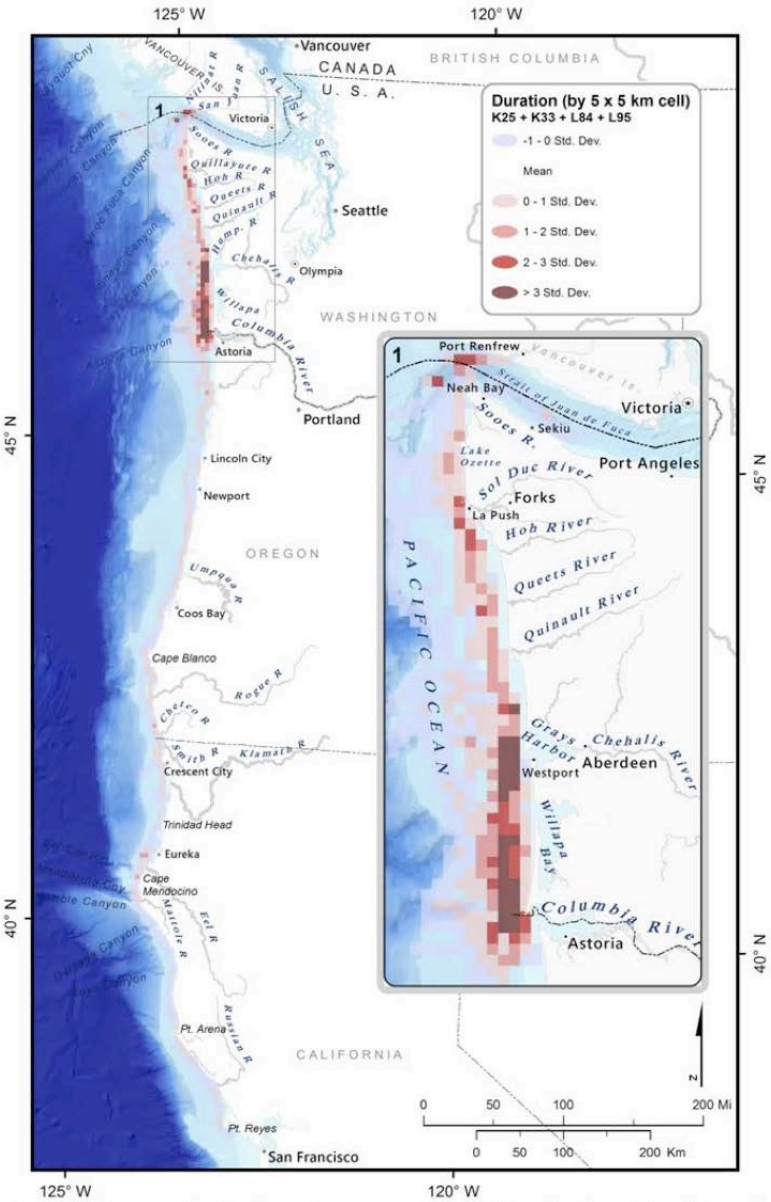

Figure 7. Output of a duration of occurrence model for all unique K and L pod satellite tag deployments (Hanson *et al*. 2017). The location data were summarized using a vector grid of 5x5 km cells covering the range of the tracking locations. The density for each cell was calculated for total visitation duration in each cell, with a late start (to reduce influence of the tagging location). The model output map indicates variation in usage of areas based on the number of standard deviations (SD) away from the mean. Areas of highest use had a density more than three SDs above the mean, and the lowest were 0-1 SDs below the mean.

Id., p. 22. Yet, despite all of this evidence, including the fact that Chinook runs from the Snake/Columbia Basin constitute nearly half of the SRKWs' priority prey, in the CRSO DEIS the federal agencies speciously state as a main finding that Snake and Columbia Chinook are a negligible portion of the SRKWs' overall diet.

Maybe the best evidence of the Snake River's importance to the Southern Resident Killer Whales is the so-called "baby boom." The live births of eight orca calves between December 2014 and January 2016 coincided with larger Snake River hatchery salmon runs that occurred in 2013 through 2015. The larger runs occurred in association with a hatchery transport research project that greatly inflated the Snake River Chinook runs. The research project has ended, with the last large runs taking place in 2015. Nevertheless, it provides good evidence that when there are plentiful Snake River Chinook, the endangered orcas can conceive, reproduce, survive and recover.

Notable also is that since the transport research project adult Chinook salmon last returned to the Snake River in large amounts in 2015, the Chinook runs have been miserable. Also notable is that at least three of the calves from the 2015 baby boom era have died, along with one of their mothers. Each of the surviving calves (now juveniles) is small in relation to other killer whales their age. Only one baby boom survivor is female. This portends poorly for the future survival of the Southern Residents, as NOAA has reported.

Breaching the dams would be the single measure most likely to recover abundant salmon and steelhead for many coastal fisheries from Alaska to Oregon, in time to enable the endangered Southern Resident orcas to survive. The sooner breaching begins, the sooner the orcas and many other salmon-dependent species would have more Chinook to sustain them.

Conclusion

The U.S. District Court in Oregon has termed lower Snake River dam breaching "an action that NOAA Fisheries and the [federal] Action Agencies have done their utmost to avoid considering for decades," although it may be the most reasonable alternative. See *Nat'l Wildlife Fedn v. Nat'l Marine Fisheries Serv.,* 184 F. Supp. 3d at 942. While giving lip service to a Snake River dam breaching alternative, the federal agencies have continued to sidestep any serious consideration of breaching the four Lower Snake River dams. Nothing has changed in this DEIS—the federal agencies have done their utmost to avoid dam breaching, both its objective consideration and its actuality. The litigation games will continue.