April 13, 2020

Sent via Electronic Mail and Online Document Submission

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Pacific Northwest Region
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D. Peter Helmlinger,
Brigadier General, USA
Division Commander
U.S. Army Corps of Engineers

Elliot Mainzer
Administrator
Bonneville Power Administration

Re: DRAFT COLUMBIA RIVER SYSTEM OPERATIONS ENVIRONMENTAL IMPACT STATEMENT

Dear Ms. Gray, Brigadier General Helmlinger, and Mr. Mainzer:

I write on behalf of the Confederated Tribes and Bands of the Yakama Nation (“Yakama Nation”) in response to the Bureau of Reclamation, Army Corps of Engineers, and Bonneville Power Administration (collectively, “Lead Agencies”) invitation to review and provide comments on the draft Columbia River System Operations environmental impact statement (“CRSO DEIS”).

The Yakama Nation is a sovereign, original Native Nation federally recognized under the Treaty with the Yakamas, U.S. – Yakama Nation, June 9, 1855, 12 Stat. 951 (“Treaty of 1855”). Since time immemorial, the original, free, and independent Native Nations that were later confederated as the Yakama Nation have depended on the natural resources of the Columbia River for cultural, spiritual, and economic wellbeing.

The Yakama Nation acts as a steward over the Columbia River, “speaking for the things that cannot speak for themselves” in exchange for the livelihood that the fish and other natural resources provide the Yakama Nation and its People. Accordingly, the Yakama Nation has a significant interest in ensuring that any proposed federal action with the potential to impact either its People or the Columbia River is reviewed with the utmost scrutiny.
The Yakama Nation's comments on the draft CRSO EIS are attached to this letter. The Yakama Nation's opportunity to review and develop comments on the CRSO DEIS was hindered by the Lead Agencies' arbitrary and accelerated deadline for completion of the DEIS. Moreover, the Yakama Nation's governmental operations have been severely limited during the public comment period due to the COVID-19 health emergency. Therefore, the fact that the Yakama Nation does not state its opposition to a particular provision of the draft CRSO EIS should not be interpreted as approval of that section. As noted in our comments, the Yakama Nation recommends a holistic re-write and reissuance of the CRSO DEIS for renewed public feedback.

Consistent with the Yakama Nation's government-to-government relationship with the Lead Agencies, the Yakama Nation reserves the right to provide further input on the CRSO DEIS beyond the public comment period and to request consultation on the CRSO DEIS as the Yakama Tribal Council deems necessary.

Sincerely,

[Signature]

DELANO SABUSKIN, CHAIRMAN
YAKAMA NATION TRIBAL COUNCIL

Enclosure(s): Yakama Nation Comments on the Draft Columbia River System Operations Environmental Impact Statement

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Appendix B – Summary of Proposed “Measure-by-Measure” Analysis of Fish Impacts

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1. Introduction:

The Confederated Tribes and Bands of the Yakama Nation (“Yakama Nation”) submit the following comments on the draft (“DEIS”) Columbia River System Operations (“CRSO”) environmental impact statement (“CRSO EIS”) prepared by the Bonneville Power Administration (“BPA”), the Army Corps of Engineers (“Corps”), and the Bureau of Reclamation (collectively, “Lead Agencies”). The Lead Agencies are developing the DEIS pursuant to the National Environmental Policy Act, 42 U.S.C. § 4321 et seq., (“NEPA”) and in response to an order from the District Court for the District of Oregon (“Order”). That Order recognized the breadth, diversity, and interconnectedness of actions past and present being undertaken in the Columbia River System (“CRS”) in complying with the Endangered Species Act (“ESA”), and the necessity of preparing a single EIS to address those actions.

The Lead Agencies’ operation of the CRS, and thus this DEIS process, has critical impacts to fish, wildlife, and cultural resources in the Columbia River Basin, including resources that the Yakama Nation reserved rights in pursuant to the Treaty with the Yakamas, U.S. – Yakama Nation, June 9, 1855, 12 Stat. 951 (“Treaty of 1855”). The Yakama Nation reviewed the DEIS to assess whether the Lead Agencies have conducted a generally reasonable assessment of the impacts of the operation and configuration of the CRS. In particular, the Yakama Nation seeks assurance that the DEIS’s environmental impacts assessments properly account for the relationship of the CRS to the Yakama Nation and its People, to the Yakama Nation’s Treaty reserved rights, and to the Yakama Nation’s cultural ties to the lands and resources affected by the CRS.

The reasonableness of the DEIS assessment and the proper accounting for Yakama Nation Treaty and cultural interests is crucial to the Lead Agencies’ consideration of a preferred alternative and the development of a Record of Decision (“ROD”) that adequately discharges the Lead Agencies’ Treaty and trust obligations to the Yakama Nation. It will also determine the ultimate efficacy of the Biological Opinion (“BiOp”) issued for the CRS.

Broadly speaking, NEPA requires that the Lead Agencies “take a ‘hard look’ at the potential environmental consequences” of the actions proposed under the CRS. For their assessment to be reasonable, the Lead Agencies’ determinations in the CRSO EIS must conform to Administrative Procedure Act (“APA”) standards. The Lead Agencies must not rely on factors that “Congress did not intend [them] to consider, ‘entirely fail[] to consider an important aspect of the problem,’ or offer an explanation that runs counter to the evidence before [them] or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.”

1 All previous comments and letters provided by the Yakama Nation, in its capacity as a cooperating agency or otherwise, are incorporated into these comments by reference. The Yakama Nation reserves the right to submit additional comments on the DEIS pursuant to its government-to-government and Fish Accord relationships with the Lead Agencies.
3 See Or. Natural Res. Council v. United States BLM, 470 F.3d 818, 820 (9th Cir. 2006) (citing Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt., 387 F.3d 989, 993 (9th Cir. 2004)).
4 Under the APA, a federal agency’s determinations must not be “arbitrary, capricious, an abuse of discretion, or otherwise not in accordanc e with law.” See 5 U.S.C. § 706(2)(A).
The Yakama Nation’s comments are offered with the understanding that the Lead Agencies must “consider the relevant factors and articulate[] a rational connection between the factors found and the choices made” and must “explain the conclusions [they] have drawn from [their] chosen methodology, and the reasons [they] considered the underlying evidence to be reliable.”

2. The Yakama Nation’s Perspective

This section will generally describe the impacts of the Columbia River System’s (“CRS”) and the Lead Agencies’ development of the DEIS from the Yakama Nation’s perspective.

2.1. The Yakama Nation’s Treaty with the federal government serves as the cornerstone of the Lead Agencies’ responsibility to the Yakama Nation with respect to the CRSO EIS.

The Yakama Nation is a sovereign, original Native Nation federally recognized under the Treaty of 1855. Article III of the Treaty of 1855 expressly guarantees the Yakama Nation’s right of “taking fish at all usual and accustomed places.” Article III also reserves the Yakama Nation’s right to hunt game and gather traditional foods on “open and unclaimed land.”

The Yakama Nation’s elders present at the treaty negotiations knew that securing these rights was crucial to guaranteeing the survival of their culture and the livelihood of their people. For the Yakama Nation’s people, the exercise of the right to take fish in particular was “not much less necessary... than the atmosphere they breathed.” The Treaty of 1855 and the rights reserved therein are not, as the Lead Agencies imply, a “legal formality.” They are an expression of the Yakama Nation’s traditional way of life that creates an affirmative legal duty that the federal government must honor as “the supreme law of the land.”

These Treaty rights must be “understood as bearing the meaning that the Yakamas understood [them] to have in 1855.” With respect to taking fish, the Yakamas understood that they “would forever be able to continue the same off-reservation...fishing practices as to time, place, method, species and extent as they had or were exercising.” Rather than securing a mere “equal opportunity” to catch fish, then, the Treaty of 1855 guarantees to

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6 Id. (quoting City of Sausalito v. O’Neil, 386 F.3d 1186, 1206 (9th Cir. 2004)).
7 See Lands Council v. McNair, 537 F.3d 981, 994 (9th Cir. 2008) (applying the APA’s “arbitrary and capricious” standard to the National Forest Management Act). The Lead Agencies have acted arbitrarily and capriciously where “the record plainly demonstrates that [they] made a clear error in judgment in concluding that” the CRSO EIS meets the requirements of NEPA. Id.
9 LEAD AGENCIES, COLUMBIA RIVER SYSTEM OPERATIONS DRAFT ENVIRONMENTAL IMPACT STATEMENT (2020) (“DEIS”) at 3-1415.
10 U.S. CONST. art. VI, cl. 2.
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the Yakama Nation a portion of the harvest.13 This guarantee is “worthless without harvestable fish.”14 Therefore, the destruction of salmon runs and habitats caused by manmade despoliation, such as the building and maintenance of barriers in a river, constitutes a violation of the Treaty of 1855.15 More precisely, an action may violate the Treaty of 1855 if it causes a greater than de minimis impact on access to fish, in which case it interferes with the exercise of the Yakama Nation’s Treaty rights.16

The Lead Agencies must evaluate any impacts to the Yakama Nation’s Treaty rights through the lens of the Yakama Nations’ understanding of those rights in 1855. The environmental conditions that provide for the full exercise of rights reserved under the Treaty of 1855 serve as the proper baseline for the Lead Agencies analyses of impacts from federal actions in the CRSO EIS.17 This would require the Lead Agencies to evaluate impacts against the conditions that existed on the Columbia River in 1855, since this is the context in which the Yakama Nation would have viewed its reserved rights. The Yakama Nation recognizes the difficulty of such an analysis. However, this approach is the only way to accurately assess the CRS EIS’s impacts to the Yakama Nation and its Treaty-reserved rights and is consistent with Supreme Court precedent concerning treaty interpretation.

Under these standards, the Lead Agencies must provide an analysis in the final CRSO EIS (“FEIS”) that assures that the Lead Agencies will not violate the Treaty of 1855 through configuration and operation of the CRS. Specifically, the Lead Agencies must assure that the suite of actions ultimately selected in the ROD, at the very least, do not create greater than de minimis adverse impacts to fish populations or to “time, place, method, species and extent” of taking fish. Any alternative that would risk a total depletion of harvestable fish or otherwise destroy salmon runs and habitats would clearly violate the Treaty of 1855.

The Yakama Nation urges the Lead Agencies to develop and adopt a Preferred Alternative in the FEIS that is clearly consistent with the Treaty of 1855 and promotes its objectives. Key elements of such a Preferred Alternative include measures that provide clear and measurable benefits to fish populations and will also be sufficiently protective of the Yakama Nation’s right to take those fish at “usual and accustomed sites” and to hunt and gather traditional foods on “open and unclaimed land.”

2.2. The Lead Agencies’ development of the CRSO EIS is subject to the federal government’s fiduciary obligation to protect the Yakama Nation’s resources.

13 Washington State Commercial Passenger Fishing Vessel, 443 U.S. at 681-82.
14 See United States v. Washington, 827 F.3d 836, 852 (9th Cir. 2016) (aff’d by an equally divided court, Washington v. United States, 138 S. Ct. 1832 (2018)).
15 See Id. at 865.
17 The Lead Agencies current environmental baseline for the DEIS is 2016. The Yakama Nation’s resources were already imperiled by this point. Therefore, the DEIS does not assess the true scope of impacts to the Yakama Nation’s resources.
The federal government, including the Lead Agencies, has a fiduciary trust obligation to the Yakama Nation. This obligation is based on the Yakama Nation's cession of certain rights to roughly ten million acres of land in reliance on federal promises to protect the Yakama Nation's resources for future generations. The trust responsibility imposes fiduciary duties on the federal government with respect to “any Federal government action” which relates to the Yakama Nation.

The U.S. Supreme Court has stated that the federal trust obligation to the Native Nations should be judged by the “most exacting fiduciary standards.” Where Tribal interests potentially conflict with other interests, the federal government must “resolve the conflicting claims in a precise manner that would indicate the weight given each interest before [it].” The federal government cannot resolve conflicts through a “judgment call.”

The federal government’s trust obligation is distinct from but related to its responsibilities stemming from the Treaty of 1855. Where a Native Nation has reserved treaty rights, the federal government has a duty to protect those rights. Therefore, “in carrying out its fiduciary duty, it is the [federal government’s]...responsibility to ensure that Indian rights are given full effect.”

The Lead Agencies must honor the federal trust responsibility to the Yakama Nation. In the context of the CRSO EIS, this amounts to meaningfully engaging with the Yakama Nation on impacts to Treaty-protected resources and integrating avoidance of those impacts into the Preferred Alternative selection and the ROD. The Yakama Nation expects that the Lead Agencies will fulfill these duties in accordance with the “most exacting fiduciary standards.”

The Lead Agencies cannot make a vague “judgment call” as to whether the Yakama Nation’s interests affected by the CRS operations will be subordinate to other interests; instead, the Lead Agencies must resolve any conflicts between competing interests with clear and thorough analyses. Where these conflicts implicate resources reserved under the Treaty of 1855, the law provides that the Yakama Nation’s Treaty rights prevail and the Lead Agencies must protect those resources and give “full effect” to the associated Treaty rights.

2.3. The operation and management of the CRS has caused significant adverse impacts to the Yakama Nation.
The CRS and its operation have contributed greatly to the decline of fish populations in the Columbia River. In 1987, the Northwest Power Planning Council, which became the Northwest Power and Conservation Council (“Council”), completed an exhaustive study of the historical size and then-current status of salmon and steelhead populations. The study concluded that these populations had declined by seven to fourteen million fish, with salmon runs at less than five percent of historical levels. According to the Council, dams were responsible for five to eleven million of these losses. This decline limits the ability of the Yakama Nation to exercise its fishing rights to the full extent reserved under the Treaty of 1855.

The loss of Treaty-reserved fish also amounts to a loss of the Yakama Nation’s cultural resources. Again, the rights reserved under the Treaty of 1855 are expressions of the Yakama’s traditional way of life. Fishing is a cultural practice that is inextricably tied to the Yakama Nation’s identity. In testifying before the Washington Supreme Court, George Meninock articulated this connection:

> God created this Indian country and it was like He spread out a big blanket. He put the Indians on it…Then God created the fish in this river and put deer in these mountains and made laws through which has come the increase of fish game…When we were given our ground to live on, and from that time these were our rights…My strength is from the fish; my blood is from the fish, from the roots and the berries. The fish and game are the essence of my life…

The Yakama Nation’s agreement with the Creator to act as a steward over the Columbia River predates the Treaty of 1855. As such, the decimation of salmon populations recounted in the Council’s study directly impairs resources essential to the Yakama Nation’s cultural values and traditional way of life. The CRS has also foreclosed access to certain archeological sites and traditional cultural properties through inundation.

Finally, the CRS has intensified the economic hardship faced by the Yakama Nation and its members. Salmon provide a valuable commercial resource for Tribal fisherman and their families. The degradation of this resource can be linked to increased poverty and unemployment in the Yakama Nation’s communities. Furthermore, the loss of traditional foods such as salmon contributes to the poor health and reduced life expectancy that many Yakama members face. These indicators reveal the more “practical” effects of harm to Treaty-reserved rights and cultural practices.

### 2.4. The disproportionate adverse impacts of the CRS on the Yakama Nation create significant environmental injustice issues that the Lead Agencies must address in the CRSO EIS and the ROD.

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25 A summary of the 1987 study, prepared by Yakama Nation technical consultant Tom Iverson, is included as Appendix A to these comments.


27 Id.


29 Id. at 7-10.

30 Id.
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Both previous and subsequent comments note the significant and unique adverse effects of the CRS on the Yakama Nation and its members. The present configuration of the dams and their continued operation perpetuates these adverse effects in the absence of affirmative actions to mitigate those adverse effects. Environmental justice is defined by the Department of Energy as:

[T]he fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no population bears a disproportionate share of negative environmental consequences resulting from industrial, municipal, and commercial operations or from the execution of federal, state, and local laws; regulations; and policies.\footnote{What is Environmental Justice?, DEPARTMENT OF ENERGY, \url{https://www.energy.gov/lm/services/environmental-justice/what-environmental-justice} (last visited March 27, 2020).}

Executive Order 12898 directs that federal agencies consider environmental justice by identifying and addressing “disproportionately high and adverse human health or environmental effects of [federal] programs, policies, and activities” on minority and low-income populations.\footnote{59 Fed. Reg. 7629 (Feb. 16, 1994)} The accompanying Presidential Memorandum further states that, in the context of NEPA, federal agencies “shall analyze the environmental effects, including human health, economic and social effects, of federal actions” on minority and low-income communities.\footnote{Executive Order on Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (Feb. 11, 1994).} Any mitigation measures developed by federal agencies in an EIS “should address significant and adverse environmental effects” on these communities.\footnote{Id. at 19.}

The Council on Environmental Quality (“CEQ”) 1997 guidance on environmental justice affirms these directives as “wholly consistent” with NEPA.\footnote{CEQ, ENVIRONMENTAL JUSTICE: GUIDANCE UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT (1999) at 7.} CEQ recommends that federal agencies should, among other actions, acknowledge that impacts to low-income, minority, and Tribal communities may differ from impacts to the general population.\footnote{Id. at 14. CEQ also notes that “[w]here environments of Indian tribes may be affected, agencies must consider pertinent treaty, statutory, or executive order rights and consult with Tribal governments in a manner consistent with the government-to-government relationship.”} Once a federal agency identifies these distinct impacts, the agencies should clearly state in its EA or EIS whether a disproportionately high and adverse impact to the community is likely to result from its proposed alternatives.\footnote{Id. at 15.} If so, the federal agency should consider “distribution as well as magnitude” of impacts in selecting a preferred alternative.\footnote{Id.} Any mitigation measures that the federal agency adopts as part of its preferred alternative should “reflect the needs and preferences” of low-income, minority, and Tribal communities.\footnote{Id. at 16.}

More recently, the Federal Interagency Working Group on Environmental Justice, which includes the Department of the Interior and the Department of Energy, published a report...
with more specific guidance on for federal consideration of environmental justice. For example, in determining the affected environment for an EIS, federal agencies should, after properly identifying minority and low-income communities,\textsuperscript{40} consider a proposed action’s:

1) exposure pathways (routes by which the minority or low-income population may come into contact with chemical, biological, physical, or radiological effects);
2) ecological, aesthetic, historic, cultural, economic, social, or health consequences to the communities; and
3) distribution of adverse and beneficial impacts.\textsuperscript{41}

Likewise, federal agencies should consider distinctive conditions of potentially affected minority and low-income communities such as:

1) human health vulnerabilities (e.g., heightened disease susceptibility, health disparities);
2) socioeconomic vulnerabilities (e.g., reliance on a particular resource that may be affected by the proposed action, disruptions to community mobility and access as a result of infrastructure development); and
3) cultural vulnerabilities (e.g., traditional cultural properties and ceremonies, fish consumption practices).\textsuperscript{42}

As to alternative development and selection, the report provides that federal agencies should consider whether proposed alternatives would avoid or mitigate impacts to minority or low-income communities.\textsuperscript{43} Federal agencies should clearly identify which alternatives would cause disproportionately high and adverse impacts to minority or low-income communities and consider alternatives “that would minimize or mitigate” such impacts when selecting a preferred alternative.\textsuperscript{44}

Furthermore, federal agencies should be cognizant that minority and low-income communities in the affected environment may be uniquely affected by past, present, or reasonably foreseeable future impacts than the general population.\textsuperscript{45} These impacts may be intensified by factors such as non-chemical stressors, which include health conditions and standard of living, or climate change-related hazards.\textsuperscript{46} As such, a federal agency’s evaluation of an impact to the general population may be inadequate if it does not consider unique and disparate effects to minority and low-income communities.\textsuperscript{47}

\textsuperscript{40} FEDERAL INTERAGENCY WORKING GROUP ON ENVIRONMENTAL JUSTICE, PROMISING PRACTICES FOR EJ METHODOLOGIES IN NEPA REVIEWS (2016) at 12-13.
\textsuperscript{41} Id. at 15.
\textsuperscript{42} Id. at 17.
\textsuperscript{43} Id. at 20.
\textsuperscript{44} Id.
\textsuperscript{45} Id. at 30.
\textsuperscript{46} Id. at 31-32.
\textsuperscript{47} Id. at 33.
With respect to mitigation, additional measures are necessary to avoid or reduce disproportionately high and adverse impacts to minority and low-income communities.48 Such measures may include:

a. Avoiding an impact by not taking a certain action or parts of an action.
b. Minimizing an impact by limiting the degree or magnitude of the action and its implementation.
c. Rectifying an impact by repairing, rehabilitating, or restoring the affected environment.
d. Reducing or eliminating an impact’s frequency over time, such as through preservation and maintenance operations during the life of the action.
e. Compensating for an impact by replacing or providing substitute resources or environments.49

Where federal agencies will not or cannot adopt mitigation measures to avoid or minimize environmental harm to minority and low-income communities, they should explain why.50

The Lead Agencies must abide by these guidelines with respect to the CRSO EIS. The guidelines will facilitate the Lead Agencies’ understanding of the Yakama Nation’s affected resources and vulnerabilities. The guidelines will also assist the Lead Agencies with determining how adverse impacts of the CRS disproportionately fall on the Yakama Nation while other non-Native communities see immense benefits. This information is crucial to a meaningful and objective analysis of the impacts of the CRS. This will in turn lead to development of a purpose and need statement, affected environment evaluation, and range of potential alternatives that appropriately plans for operation and management of the CRS moving forward.

2.5. **For a Preferred Alternative to be adequate, it must fully account for the Yakama Nation’s interest and sufficiently safeguard the Yakama Nation’s resources.**

The Yakama Nation advises the Lead Agencies to adopt a Preferred Alternative that broadly conforms with the following requirements:

- Prioritizes total compliance with the Treaty of 1855 (and any applicable statutes, regulations, and court orders) over the maximization of economic gains;
- Clearly and specifically describes planned hydropower operations over the entire operations period within the scope of the DEIS, with subsequent adaptive management actions being based on accumulated performance data and information;

48 Id. at 49.
49 Id. These are the same types of mitigation measures prescribed in 40 C.F.R. § 1508.20. However, the Federal Interagency Working Group on Environmental Justice’s applies them specifically to impacts to minority and low-income communities.
50 Id.
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- Preferentially avoids rather than mitigates impacts to the Yakama Nation’s resources;

- Where avoidance of impacts to the Yakama Nation’s resources is infeasible, includes mitigation measures consistent with the recommendations in “Promising Practices for EJ Methodologies in NEPA Reviews”;51 and

- Plans for a transition away from dependence on hydropower and toward a restoration of the natural state of the Columbia River, with the goal of restoring the resources necessary for the Yakama Nation’s full exercise of its Treaty rights and associated cultural values.

To meet these general parameters, the Yakama Nation recommends that the Lead Agencies include certain specific measures in the FEIS Preferred Alternative and associated BiOp:

- Set appropriate benchmarks for success by acknowledging the Tribal Wy-Kan-Ush-Mi Wa-Kush-Wit Salmon Recovery Plan52 and the Council’s Fish and Wildlife Program53 goals and objectives and measure the potential benefits of the Preferred Alternative and the BA towards achieving those goals and objectives;

- Memorialize the Lead Agencies’ obligation to help the region meet the established benchmarks;

- Provide for development of a phased plan for investigating and implementing mainstem Columbia River dam removal at the fastest possible pace, evaluating individual dams on a case-by-case basis, including action plans for implementation of dam evaluations and mitigating impacts to affected communities in the interim;

- Adopt a Flex Spill CRS operation with a fifteen-year plan and an adaptive management process that requires consensus from the Yakama Nation to deviate from that fixed operation;

- Restrict excursions on turbine efficiency (1% operation) so as not to detract from fish benefits from Flex Spill operation, particularly at McNary Dam;

- Restrict winter drafting of upriver reservoirs to ensure spring flow augmentation targets are met through the mid-Columbia reach;

- Establish and fund a Regional Predator Management Forum, with additional monitoring, that includes all funding and implementation partners to collaboratively and comprehensively evaluate and address predation (including piscivorous, avian, and pinniped predation) on salmon, steelhead, lamprey, and sturgeon from the river mouth to the spawning grounds;

51 See pg. 11-13, supra.
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- Provide financial support for further lethal removal of predator fishes and dissuasion actions for birds from the river mouth to the spawning grounds based on priorities and recommendations from the proposed Regional Predator Management Forum;

- Fund and support actions to remove non-native fish species such as shad, walleye, smallmouth bass, and catfish from the mainstem Columbia and tributaries;

- Fund and support actions to remove non-native aquatic plant species from the mainstem Columbia and tributaries;

- Fund and support actions to minimize and remove invasive species from the mainstem Columbia and tributaries;

- Fund and support actions to reduce adverse impacts to fish populations caused by excessive sediment levels;

- Fund a Corps Columbia River Fish Management (“CRFM”) program at an adequate level to address new initiatives for the fifteen-year operating period addressed in the Biological Assessment (“BA”) (e.g., add notched gates for steelhead fallback during non-spill season);

- Fully fund Fish and Wildlife Program hatcheries to meet their hydro system mitigation goals according to the recent *U.S. v. Oregon* hatchery assessment;\(^{54}\)

- Support the sovereign role of the Yakama Nation and other Native Nations in identifying and setting tributary habitat priorities and project selection;

- Include the Yakama Nation in its sovereign capacity on the Tributary Habitat Oversight Committee;

- Fund robust reach survival studies for upper Columbia stocks and Snake River steelhead to better ascertain survival gaps and address Adaptive Management Implementation Plan (“AMIP”) triggers;

- Fund additional habitat actions where AMIP population triggers have been met to address survival gaps;

- Fund mainstem habitat actions at tributary river mouths to create transition zones and cold-water refuges for migrating fish;

\(^{54}\) The 2018 BPA Integrated Program Reviewed budgeted $238,000,000 in capital infrastructure at federal hydro system dams in 2020 alone. This amount was set to increase to $340,000,000 in 2029. Hatchery facilities authorized to mitigate for the hydro system, on the other hand, are rapidly aging with zero dollars identified for capital upgrades, repairs, and maintenance. Estimated costs for deferred maintenance of the Lower Snake River Compensation plan facilities is over $100,000,000. The DEIS fails to note the federal government’s obligation to fund the John Day Mitigation, Grand Coulee Mitigation, Dworshak Mitigation, and Lower Snake River Compensation Plan programs.
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- Identify lamprey funding beyond 2022 commensurate with the proposed term of the salmon and steelhead BA;
- Fund outreach and education opportunities across the Columbia River Basin to encourage incorporation of salmon recovery principles into local everyday land and water management decision making; and
- Ensure that the Yakama Nation retains access to usual and accustomed fishing sites and open and unclaimed lands for hunting, gathering, and other traditional practices.

3. Deficiencies in the Lead Agencies’ Development Process:

This section will describe flaws in the process of developing the DEIS.

3.1. The Lead Agencies’ rushed timeline and failure to incorporate comments during the cooperating agency process undercuts transparent and meaningful consideration of important aspects of the CRS alternatives and impacts and obscures the necessary rational connection between those factors and the choices made in developing the DEIS.

The Lead Agencies invited the Yakama Nation to participate as a cooperating agency in the development of the DEIS. The invitation was based on the Yakama Nation’s co-management authority over Treaty-reserved fish in the Columbia River and special expertise concerning resources affected by the CRS. In addition, the invitation was based on the existing partnership between the Lead Agencies and the Yakama Nation pursuant to the Memorandum of Agreement Among the Umatilla, Warm Springs, and Yakama Tribes, Bonneville Power (“Fish Accord”).

55 Memorandum of Understanding Between U.S. Department of the Army, Corps of Engineers, Northwestern Division; U.S. Department of the Interior, Bureau of Reclamation, Pacific Northwest Region; and U.S. Department of Energy, Bonneville Power Administration, as Co-Lead Agencies; and the Confederated Tribes and Bands of the Yakama Nation, as a Cooperating Indian Tribe, in the Columbia River System Operations Environmental Impact Statement Process (2018) (“Memorandum of Understanding”) § 1. Specifically, the Memorandum of Understanding noted that the Yakama Nation has special expertise concerning “Cultural Resources assessment, protection and preservation; Intergovernmental relations and regional management frameworks governing fisheries and wildlife management, including requirements for Indian treaty rights and fulfillment of federal trust obligations to Indians and Indian tribes; Hydrosystem management and operations related to life cycles of anadromous salmonids, lamprey, and sturgeon; Ecosystem functions and habitat, and habitat restoration processes, required to support the life cycles of anadromous salmonids, lamprey and sturgeon; Artificial fish production mitigation requirements and methods applicable to mitigation of fish habitat loss and hydrosystem configuration and operations; Research, monitoring and evaluation expertise concerning fish and fish environmental baseline conditions, impacts from hydrosystem configuration and operations, and methods for mitigating impacts; [Socioeconomic parameters of hydrosystem configuration and operations concerning the Yakama Nation and its tribal members, including environmental justice considerations; Flood risk management and modeling in the Columbia River Basin[,] In Lieu and Treaty Fishing Access sites developed pursuant to P.L. 79-14 and P.L. 100-581 in the Bonneville, The Dalles, and John Day project areas; Tribal members’ uses of the Columbia and Snake Rivers and their environs; [and] Management of invasive and nuisance species present in the Columbia and Snake Rivers.”

56 Id.
The Yakama Nation accepted the invitation in order to assist the Lead Agencies with analyses related to the Yakama Nation’s co-management authority and special expertise, ensure that the CRSO EIS process reflected the Yakama Nation’s perspective, and maintain the existing partnership with the Lead Agencies. The Yakama Nation expected that, in light of the considerable resources necessary to participate as a cooperating agency, the Lead Agencies would meaningfully consider and incorporate its input. This expectation was memorialized in the Yakama Nation’s Memorandum of Understanding with the Lead Agencies.57

The Yakama Nation submitted significant comments on the Lead Agencies’ draft technical products during the cooperating agency process.58 Yakama Nation staff developed these comments despite two significant challenges to the review process. First, the Lead Agencies often released products with incomplete data and analyses. Second, the Lead Agencies’ truncated timeline (discussed above) demanded an extremely short turnaround window for each review and comment opportunity.

It was not at all apparent that the Lead Agencies actually considered and incorporated the Yakama Nation’s comments. No specific provisions in the DEIS correspond substantially with the Yakama Nation’s comments. In one instance, the Lead Agencies outright refused to consider a fish impact analysis by the Yakama Nation and other cooperating agencies for being “outside the limits of the CRSO EIS framework.”59

This failure to consider, much less incorporate, the Yakama Nation’s input does not conform to Yakama Nation’s expectations with respect to the cooperating agency Memorandum of Understanding,60 the Fish Accord partnership, or the federal trust obligation. It also casts uncertainty as to the basis for the choices made in the production of the DEIS.

3.2. The Lead Agencies arbitrarily adopted a condensed timeline that hindered meaningful analysis.

The CRSO EIS process was originally set to conclude, at the earliest, in September 2021. This schedule was proposed by the Lead Agencies and adopted by the District Court for the District of Oregon as necessary to successfully “complete a system-wide comprehensive [EIS]...that includes a full evaluation of reasonable alternatives, addresses potential environmental effects of operating the multiple-use [CRS] projects, and provides for meaningful public participation[.]” The Yakama Nation relied on this schedule as a means of

57 Id. at § 3.D (stating that the Lead Agencies shall, “[c]onsistent with their responsibilities as co-lead agencies, consider and incorporate the data, environmental analyses, technical analyses, and recommended alternatives and mitigation measures of the Yakama Nation to support the decision-making process as appropriate, giving particular weight to those topics on which the Yakama Nation is acknowledged to possess special expertise.”).
58 As noted in n. 1, all previous comments provided by the Yakama Nation in its capacity as a cooperating agency are incorporated into these comments by reference.
59 As described on pg. 24-25, infra, the Lead Agencies formally rejected the Yakama Nation and other cooperating agencies’ offer of to perform a measure-by-measure analysis for impacts to fish.
60 The Yakama Nation’s participation as a cooperating agency did not appear to make an appreciable difference on the development of the DEIS. Accordingly, the Lead Agencies’ reference to the Yakama Nation in the cooperating agency section of the DEIS should not be read as indicating any degree of Yakama Nation authorship on the CRSO EIS.
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“assuring an informed, well-considered, and publicly vetted long-term strategy for the [CRS] that complies with all federal laws, including [the ESA].”

The Trump administration’s 2018 executive memorandum, “Executive Memorandum on Promoting the Reliable Supply and Delivery of Water in the West” (“Executive Memorandum”) imposed a condensed schedule onto the development of the CRSO EIS. The stated policy of the Executive Memorandum directed the Secretary of the Interior “to minimize unnecessary regulatory burdens and foster more efficient decision-making so that water projects are better able to meet the demands of their authorized purposes.”61 To that end, the Executive Memorandum directed the Lead Agencies to complete the CRSO EIS process by September 2020.62 This revision eliminated one-fifth of the previously adopted minimum timeline for an exceedingly complicated scientific and legal undertaking.

Neither the Executive Memorandum nor the Lead Agencies’ associated press release offer any justification as to why a September 2020 completion date was essential or appropriate to minimize unnecessary regulatory burdens or foster more efficient decision-making. Without justification, the Executive Memorandum’s deadline is simply an arbitrary date on a calendar. Moreover, neither of the documents explains how the Lead Agencies would adjust their approach in order to ensure effective decision-making and compliance with the Lead Agencies’ Treaty, trust, and statutory obligations.

The Lead Agencies hurried through each step of the process in order to remain on the arbitrary schedule mandated in the Presidential Memorandum. The Lead Agencies frequently released draft sections of the DEIS to the cooperating agencies that were incomplete or rampant with errors. The cooperating agencies had around five days to review and comment on these documents before the Lead Agencies released another set of draft sections. Again, there was no evidence that the Lead Agencies meaningfully considered or incorporated any of the Yakama Nation’s comments during this process. The Lead Agencies’ hurried pace extended to the public comment period of only forty-five days, the shortest time allowable under NEPA.63

The Executive Memorandum resulted in a “sprint” through the NEPA process that is not indicative of thorough and meaningful evaluation (i.e., a “hard look”) of all available information to reach an informed decision. Likewise, this rushed process is inconsistent with the Lead Agencies trust obligation to engage with the Yakama Nation on impacts to Treaty-protected resources to ensure a Preferred Alternative that does not result in impacts to fish populations or to “time, place, method, species and extent” of taking fish. Instead, it appears that the Lead Agencies simply made a “judgment call” to prioritize “water projects” over the rights reserved under the Treaty of 1855.

3.3. The Lead Agencies refused to adjust the CRSO EIS timeline despite the national emergency caused by the COVID-19 pandemic.

61 Executive Memorandum (Oct. 19, 2018) at § 1.
62 Id. at § 6. The Yakama Nation submitted a letter to the Council on Environmental Quality (“CEQ”) on September 23, 2019, requesting that CEQ advise the Lead Agencies on, among other things, appropriate adjustment or suspension of the scheduling to ensure compliance with the Order and applicable Treaty, trust, and statutory requirements.
63 40 C.F.R. § 1506.10(c).
The forty-five-day public comment period for the DEIS began on February 28, 2020. The next day, officials in Washington state confirmed the first death in the United States attributable to COVID-19.64 On March 11, 2020, the World Health Organization declared the novel coronavirus outbreak a pandemic and Governor Jay Inslee banned gatherings of more than 250 people.65 Two days later, President Trump declared a national emergency.66 Public libraries on the Yakama Reservation and across the state closed around March 17, 2020. By March 20, 2020, the Yakama Nation had formally closed all non-essential facilities and offices.

The beginning of the public comment coincided almost precisely with the explosion of the COVID-19 health crisis in this country. The Yakama Nation spent the majority of March focusing exclusively on its response to this crisis, prioritizing the protection of its members and employees’ health while also ensuring that essential government services continue to function. Consequently, the Yakama Nation’s elected officials have had little time for policy consideration of the DEIS, including its potential impacts to Treaty-reserved resources and implications for the Fish Accord partnership.

The health crisis also affects the Lead Agencies' ability to engage with the Yakama Nation regarding the DEIS. Federally and Tribally-mandated social distancing measures mean that Lead Agencies cannot feasibly engage in government-to-government consultation with the Yakama Nation if requested. This means that, under the current circumstances, the federal government is unable to meet its trust obligation to the Yakama Nation in the solicitation of comments on the DEIS.

Most importantly, the overall disruption to societal function has frustrated the ability of Yakama members and the general public to provide input on the DEIS. Public participation is one of the core purposes of NEPA.67 This purpose is compromised where the public is too preoccupied with adapting to a radically different way of life to provide input on an environmental review document.

NEPA requires federal agencies to “provide public notice of NEPA-related hearings, public meetings, and the availability of environmental documents so as to inform” affected parties, “[h]old or sponsor public hearings or public meetings” regarding the NEPA process, and solicit input from the public.68 The closure of public libraries means that individuals without home computers or internet access, which includes a significant number of the Yakama Nation’s members, are without notice of the public comment teleconferences and availability of the DEIS. These individuals are unable to review and provide comments on the DEIS because the Lead Agencies will only provide hardcopies of the Executive

65 Id.
66 Id.
68 40 C.F.R. § 1506.6.
Summary rather than the entire document. This is a far cry from the level of public involvement required under NEPA.

Despite being fully informed by numerous governmental entities of the impediments to public comment on the DEIS and the adverse implications for NEPA compliance, the Lead Agencies declined to suspend the public comment schedule. Their failure to do so is inconsistent with the Lead Agencies’ trust obligation to the Yakama Nation (and its members) and responsibilities with respect to public participation under NEPA.

4. Deficiencies in the Lead Agencies’ Scope of Analysis that Require Correction in the FEIS:

This section will describe the unduly narrow scope of the DEIS.

4.1. The Purpose and Need statement allows for a balancing of interests that is inconsistent with the Lead Agencies’ Treaty, trust, and statutory obligations.

A purpose and need statement in the DEIS must “briefly specify the underlying purpose and need to which the agency is proposing the alternatives including the proposed action.” The statement may be found to be invalid if it “unreasonably narrows the agency’s consideration of alternatives so that the outcome is preordained.”

The Lead Agencies have appeared to frame the Purpose and Need in a manner that results in narrow consideration of purposes that at best preserves no more than the status quo fisheries benefits from the CRS operations and configuration. That result is inconsistent with the Lead Agencies’ obligations to the Yakama Nation, the Order, and the Northwest Power Act as described above. The Lead Agencies indicate that that need for the EIS is to “review and update the management of the CRS, including measures to avoid, offset, or minimize impacts to resources affected by managing the CRS [in light of new information and changed conditions].” The Lead Agencies also correctly note that they are developing the EIS in response to the Order and, therefore, the EIS will “evaluate how to ensure that the prospective management of the CRS is not likely to jeopardize the continued existence of any endangered or threatened species, or result in the destruction or adverse modification of designated critical habitat.” An implicit purpose of this effort must be the configuration and operation of the CRS in a manner that responds to Yakama Nation treaty reserved rights and cultural resources, consistent with the Lead Agencies legal obligations to the Yakama Nation.

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70 40 C.F.R. § 1502.13.
71 Alaska Survival v. Surface Transp. Bd., 705 F.3d 1073, 1084 (9th Cir. 2013) (citing Nat’l Parks & Conservation Ass’n v. Bureau of Land Mgmt., 606 F.3d 1058, 1070 (9th Cir. 2010)).
72 DEIS at 1-4.
73 Id.
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The list of “Resource Purposes” in this section includes flood risk management (“FRM”), power supply, irrigation, waterway transportation, fish and wildlife conservation, climate change planning, recreational opportunities, and cultural resources protection. There is a disconnect between this broad list of purposes and the stated need for the EIS, which focused on the impacts of the CRS to affected resources; particularly, endangered or threatened fish populations and critical habitat. This disconnect results in a dilution of obligations, wherein fish and wildlife interests are balanced alongside the other purposes. The balancing fostered the Lead Agencies’ development of alternatives (and associated measures) that will result in “business as usual” with respect to the CRS. This outcome is not consistent with the Court’s order, which reiterated a prior federal court’s statement the CRS “cries out for a major overhaul” in order to improve fish survival rates.

The Lead Agencies have no authority to simply balance the resources reserved under Treaty of 1855 on par with other resource and use purposes. Under federal law Treaty-reserved rights cannot lawfully be subordinated to other CRS project purposes – a fact which perhaps explains the Lead Agencies’ failure to provide a legal basis in the DEIS for engaging in such an exercise. Only Congress, not federal agencies, can abrogate Treaty rights under current federal law; and the Yakama Nation submits that even Congress’s source of authority in this respect is founded on an absurd colonialist principle and not reasonably based in modern principles of law.

The Doctrine of Discovery – a colonial legal doctrine on which Congress’s plenary legal authority to abrogate treaty rights was based – provided that the “discovery” of land by a Christian Euro-American government gave rise to that government’s legal control over that land. This concept is also the source of the federal government’s assertion of authority over the Native Nations. Specifically, historic U.S. federal case law provided that the United States, as successor to the European nations, possessed absolute ultimate title “as acquired by discovery” over Native lands. The Supreme Court found “excuse, if not

\[74\] Id.

\[75\] A review of the suite of measures proposed in the Preferred Alternative (DEIS at 7-23) demonstrates that the number and cost of operation and structural measures for power operations, flexibility, and water supply far exceed fish operations and structural improvement measures. Thus, it appears that the other resource purposes ultimately outweighed fish and wildlife conservation in the Lead Agencies’ balancing act.


\[77\] See United States v. State, 641 F.2d 1368, 1371 (9th Cir. 1981) (“The Department of the Interior cannot under any circumstances abrogate an Indian treaty directly or indirectly. Only Congress can abrogate a treaty, and only by making absolutely clear its intention to do so.”) (citing Menominee Tribe v. United States, 391 U.S. 404, 412-13 (1968)).

\[78\] Indeed, the federal government’s assertion of authority over the Columbia River is, at its roots, based on the Doctrine of Discovery. In 1792, the American merchant Robert Gray became the first Euro-American to sail into the Columbia River. Cf., Susan Sleeper-Smith et al., Why You Can’t Teach United States History Without American Indians 96 (2015). Reportedly, Gray claimed the northern river bank on behalf of the United States by raising an American flag and burying American coins under the sand. In the early 1800s, Merriweather Lewis, William Clark, and other used discovery-style rituals to “claim” the Columbia River for the United States. Id. at 92-94. In 1838, Senator Lewis Linn spoke before the United States Senate concerning the United States’ claim to Oregon Country (through which the Columbia River ran). He cited Gray’s voyage up the Columbia River and Lewis and Clark’s expedition as “important circumstance[s] in [United States] title...that was notice to the world of claim,” and that Lewis and Clark’s “solemn act of possession was followed up by a settlement and occupation made by...John Jacob Astor.” Id. at 96-97.

\[79\] See Johnson v. M’Intosh, 21 U.S. 543 (1823).

\[80\] Id. at 592.
justification,” for the Europeans’ assertion of authority based on its characterization of the Native Nations as “fierce savages, whose occupation was war, and whose subsistence was draw from the forest.”

Federal courts later relied on the Doctrine of Discovery to create the “plenary powers” doctrine, which purports to give Congress the power to govern Native Nations and unilaterally abrogate Treaty rights. The federal government has relied on this doctrine, which has no basis in the Constitution, to unilaterally renege on Treaty guarantees for over two hundred years. The Doctrine of Discovery and the jurisprudence that stem from it are irrational, racist, and unjust. Nevertheless, the federal government has never formally renounced the Doctrine of Discovery.

Fish and wildlife conservation is mandated under the Treaty of 1855. Under current federal law, only Congress has authority to subordinate this mandate to other interests (and, as described above, even Congress’s authority here is dubious). The Lead Agencies plainly lack authority to diminish Treaty rights by ‘balancing’ their fulfillment against satisfying other interests in the context of the CRSO EIS.

Conserving Treaty-protected fish and wildlife resources can, in many instances, conflict with the other stated resource purposes. However, consistent with the federal trust obligation and federal Treaty obligations, the Lead Agencies must resolve these conflicting claims “in a precise manner that would indicate the weight given each interest before [them].” Any resolution must ensure that the Yakama Nation’s Treaty rights are given full effect, including the protection of “time, place, method, species and extent” of fishing practices and avoidance of damage to fish runs and habitat.

Furthermore, although the Purpose and Need section references the Northwest Power Act’s directive to give fish and wildlife mitigation “equitable treatment” with other authorized purposes, it is silent as to other relevant language from that statute. Critically, the Lead Agencies must “protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries in a manner consistent with” the Council’s Fish and Wildlife Program. The Council’s Fish and Wildlife Program has a number of objectives, including doubling the salmon runs in the Columbia River. A Purpose and Need that balances the stated purposes despite significant adverse impacts to fish and wildlife fails to make progress to achieve this or any of the Council’s other objectives. The determination to balance the stated purposes despite significant adverse impacts to fish and wildlife does not fulfill the purposes of the Northwest Power Act.

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81 Id. at 589-90.
82 See United States v. Kagama, 118 U.S. 375 (1886)
84 DEIS at 1-5.
85 16 U.S.C. § 339b(h)(10)(A). These directives are consistent with the Lead Agencies’ obligations under the Treaty of 1855 and the federal trust responsibility.
86 While the DEIS references the Council’s Power Plan and power system analyses over fifty times, there is only one reference the Council’s Fish and Wildlife Program and three references to other Council fish and wildlife analyses or reports. There is no evidence that the Lead Agencies considered the Council’s Fish and Wildlife Program in developing alternatives or measures.
Finally, the Lead Agencies’ balancing act of “co-equal” purposes is contrary to their acknowledgment of the Order’s directive. The Order did not charge the Lead Agencies to develop an EIS that balances (or deprioritizes) fish survival against the perceived benefits of FRM and power, but rather sought a system overhaul to ensure fish survival as demanded by the ESA and other applicable federal laws and Treaty obligations.87

The Purpose and Need section of the DEIS must be restructured to give appropriate priority to fish and wildlife conservation consistent with the Yakama Nation’s Treaty rights. In other words, the CRSO EIS must pursue project purposes in a manner that enhances Tribal fisheries and cultural resources rather than merely preserving power generation capabilities. The Lead Agencies may weigh the other resources purposes against one another once fish and wildlife conservation is ensured – but not before. This approach would be more consistent with the stated need for the CRSO EIS and appropriately reflect the Lead Agencies’ obligations to the Yakama Nation under the Treaty of 1855, the federal trust responsibility, the Northwest Power Act, and the Order.

4.2. The range and consideration of alternatives is incomplete.

Federal agencies are required to evaluate “all reasonable alternatives” in an EIS.88 This includes those alternatives “not within the jurisdiction of the lead agency.”89 Whether an alternative is reasonable is “bounded by some notion of feasibility.”90 Alternatives must be “reasonably related to the purposes of the project.”91 More specifically, alternatives must derive from the Purpose and Need section of an EIS, as the stated goal of an EIS dictates the range of alternatives.92

A. The Lead Agencies failed to evaluate all reasonable alternatives.

As described above, there is a disconnect between the “need” and the “purposes” in the Lead Agencies Purpose and Need section. If the Lead Agencies had framed the “purpose” more consistently with the “need” for the CRSO EIS, the Lead Agencies’ reasonable alternatives would include a range of measures aimed at protecting fish (rather than alternatives that maximize hydropower production and FRM at the expense of fish and wildlife).

Various cooperating agencies offered several fish-focused alternatives that would have conformed to such an approach. The Lead Agencies either outright or effectively rejected these recommendations in the framing of the alternatives ultimately included in the DEIS. For example, the Nez Perce Tribe proposed a comprehensive alternative that set a benchmark for possible fish benefits. MO4 may have been intended to capture the Nez Perce recommendation but instead constitutes a drastic modification of the proposal. MO4 strips away the majority of fish benefits by inserting power flexibility and water

87 See n. 85, supra.
89 Id. at (c).
91 Laguna Greenbelt, 42 F.3d at 524 (9th Cir. 1994) (citing City of Angoon v. Hodel, 803 F.2d 1016, 1021-22 (9th Cir. 1986)).
management measures. MO4 also extends the spill season to periods of minimal fish benefit (including March and August).\textsuperscript{93} This extreme particular measure at McNary obscures the reasonableness and viability of other MO4 fish benefits measures. Although the “McNary measure” spill may support fish life, its effect in the analysis of MO4 is to operate as a ‘poison pill’ to overall acceptability and political achievability of the MO4 option by creating significant negative impacts on all other water users.

These changes make the Nez Perce proposal nearly unrecognizable: an alternative that provides minimal benefits to fish (except for the politically untenable McNary measure) while devastating power supply cost and unreliability. As a package of measures that could have been a fish-friendly candidate for a Preferred Alternative, MO4 is made unappealing to nearly all parties and, consequently, easily dismissed. The Lead Agencies missed an opportunity to meaningfully evaluate a fish-focused alternative. Had the Lead Agencies evaluated the Nez Perce alternative as submitted, that analysis would likely have demonstrated significant fish benefits with marginal additional costs to the system.

Cooperating agencies also recommended a more reasonable, graded approach to evaluating dam removal under MO3. However, the Lead Agencies applied strict assumptions that all four Snake River dams would have to be removed within two years (with removal of each dam not to exceed a single year) and outside of the fish migration window. While it is possible that the “full breach” assumption was the basis for maximally capturing potential impacts, the Lead Agencies have never explained why such assumptions were necessary for a dam removal alternative or why a more careful approach would not mitigate the potential maximal impacts. This approach artificially exaggerated the costs and arbitrarily restricted the Lead Agencies’ ultimate analysis of MO3.

In addition, the Lead Agencies evaluated alternatives that largely consisted of similar measures (i.e., several power system and water management measures were included in three or four alternatives) and focused on system purposes other than fish benefits. An appropriate “hard look” requires evaluation of feasible alternatives reasonably related to the broad resource purpose list without an inappropriate balancing of tribal interests with other authorities for the CRS.

B. The Lead Agencies utilized a framework for developing and evaluating alternatives that obscured the impacts and benefits of configuration and operations measures.

The Lead Agencies unilaterally, without input from the Yakama Nation, created four multi-objective (“MO”) alternatives from a pool of approximately fifty individual measures. There was considerable overlap between measures included within the four alternatives making it difficult for the Yakama Nation to determine which measures were driving fish impacts and benefits. Likewise, the approach did not allow the Yakama Nation to identify, quantify, or evaluate individual impacts caused by particular measures because the Lead Agencies included a number of measures in several, but not all, multiple objective alternatives. This obscures rather than discloses the impacts of a Preferred Alternative that draws on the identified pool of measure.

\textsuperscript{93} Moreover, the DEIS exaggerates the costs and impacts of this spill season on power production.
Even so, the Yakama Nation, in consultation with other cooperating agencies, developed a draft “measure-by-measure” analysis for impacts to fish based on cooperating agency expertise; but the Lead Agencies rejected this effort as “outside the limits of the CRSO EIS framework.” Such an analysis is plainly within the scope of the CRSO EIS and is relevant to the Lead Agencies’ development of alternatives that will inevitably impact fish populations. The Lead Agencies failure to even consider the information that the cooperating agencies presented underscores Yakama Nation concerns about whether the Lead Agencies’ impact assessment adequately evaluated “all reasonable alternatives.”

Ultimately, this flawed framework taints the development and evaluation of the alternatives proposed in the DEIS and the reliability of impact assessment overall. The Lead Agencies assembled various measures from each alternative to produce the Preferred Alternative described in Chapter 7, but without disclosure of the reasoning for selection of these measures, how the measures were evaluated given the obscurity of impacts from individual measures, or what impact the measures included in the Preferred Alternative would cumulatively have on a particular resource.

C. The Lead Agencies cannot cite a lack of Congressional authorization to scrutinize MO3 differently than other alternatives.

Consistent with 40 C.F.R. § 1502.14(c), the Lead Agencies chose to include an alternative (MO3) that would require additional Congressional authorization. However, the Lead Agencies appear to conduct a more thorough analysis on the remaining alternatives, citing the lack of congressional authorizations for MO3 as a reason to not give that alternative a “hard look.” In addition, NEPA contemplates that EISs are prepared for legislative proposals as well. The fact that additional authority must be asked for does not in any obvious way warrant truncated evaluation of such measures.

Given that the Lead Agencies appropriately included MO3 as a reasonable alternative with the awareness that additional legislative action would potentially be necessary, the Lead Agencies must evaluate it with the same level of scrutiny and consideration as the other alternatives.

D. The Lead Agencies failed to adequately explain why the “natural rivers” alternative was unreasonable.

The Lead Agencies describe a rejected alternative that would have created “natural rivers” to mimic pre-dam construction conditions by breaching all fourteen dams in the CRS. The Lead Agencies note that the creation of natural rivers “was previously studied and found to be infeasible.”

The Lead Agencies do not provide any details on these studies or the conclusions therein. The Lead Agencies also fail to explain why they consider the studies reliable. Furthermore,

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94 See Letter from Francis E. Coffey, Programs Director, Northwestern Division, Corps (July 11, 2019). A summary of the measure-by-measure analysis, prepared by Yakama Nation technical consultant Tom Iverson, is included as Appendix B to these comments.
95 DEIS at 2-79.
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the reference to previous studies is inconsistent with the Lead Agencies’ subsequent point that they “have no existing data for breaching the remaining dams such that completion of necessary analysis would take years to gather data and develop a model.”

The Lead Agencies should include citations for the studies and describe why the studies are reliable. The Lead Agencies should clarify why the conclusions reached in the studies demonstrate that the alternative is not reasonable, and explain why the studies are reliable. Finally, the Lead Agencies should explain the discrepancy between the reference to the studies and the statement concerning a lack of data.

5. Deficiencies in the Lead Agencies’ Analyses that Require Correction in the FEIS:

This section identifies problems with the Lead Agencies analyses of specific resources and measures with respect to NEPA requirements, the Treaty of 1855, and the federal trust obligation.

5.1. The Lead Agencies cultural resources analyses does not address the full scope of impacts to the Yakama Nation’s cultural resources.

This section describes flaws in the Lead Agencies’ cultural resources analyses.

A. The Lead Agencies use an overly-narrow definition of cultural resources.

The Lead Agencies define cultural resources as “[t]he non-renewable evidence of human occupation or activity as seen in any district, site, building, structure, artifact, ruin, object, work of art, architecture, or natural feature that was part of human history at the national, state, or local level.” This definition may be consistent with the National Historic Preservation Act (“NHPA”), but is too narrow in this context. NEPA requires consideration of impacts to the “human environment.” This includes “the natural and physical environment and the relationship of people with that environment.”

Therefore, the Lead Agencies’ current definition is too narrow for an adequate NEPA analysis. First, the definition should not be narrowly framed to only include “historical” resources. Indeed, the NEPA regulations expressly distinguish between “historic” and “cultural” with respect to analysis of effects.

Second, the definition should not reduce cultural resources to mere places and objects. This reduction causes the Lead Agencies to “entirely fail to consider an important aspect of the problem” with respect to cultural resources analyses: the CRS’s impacts on Yakama members relationship with the natural and physical environment. For example, the Lead

96 Id.
97 As a general note, the FEIS must assure that assertions and conclusions are substantiated with facts or analysis. The time available for review of the DEIS has prevented the compilation of examples of unsubstantiated statements.
98 DEIS at xlvi.
100 40 C.F.R. § 1508.14.
101 40 C.F.R. § 1508.8.
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Agencies’ Preferred Alternative primarily discusses impacts in terms of exposure and erosion of archeological resources.\textsuperscript{102} It does not address impacts to the Yakama Nation’s cultural and religious connection to the Columbia River Basin environment.

The definition must allow for a more comprehensive analysis that should systematically addresses human, social, and cultural aspects of the environment.\textsuperscript{103} The Yakama Nation believes that a more defensible definition is:

The non-renewable evidence of human occupation or activity as seen in any district, site, building, structure, artifact, ruin, object, work of art, architecture, or natural feature that was part of human history at the national, Tribal, state, or local level; culturally significant elements of the biophysical environment including, but not limited to, plants, wildlife, geological features, and waterways; the cultural use of or reliance on the biophysical environment; and social cohesion, social institutions, lifeways, religious practices, and other cultural institutions.

The Lead Agencies acknowledge that various Native Nations made similar recommendations throughout the cooperating agency review process. The Lead Agencies characterize these recommendations as products of “indigenous peoples’ learning systems,” but do not provide a reason for rejecting them.\textsuperscript{104}

This dismissal of information provided by Native Nations by branding it as some mysterious tradition that the federal government is incapable of understanding is arbitrary and willfully ignorant. The Yakama Nation’s definition is entirely consistent with NEPA’s requirement that federal agencies consider impacts to “the natural and physical environment and the relationship of people with that environment.”

The Lead Agencies’ improper use of an unreasonably narrow cultural resources definition in the DEIS compromises the related analysis, which must be corrected in the FEIS. If the Lead Agencies do not adopt the Yakama Nation’s recommendations, they should develop their own definition that is inclusive of natural cultural resources, cultural practices, and cultural institutions, and refine their cultural resource analyses accordingly.

B. The Lead Agencies’ cultural resources analyses fail to consider the larger historical context of the CRS’s impacts on the Yakama Nation’s cultural resources.

In outlining resource concerns for the DEIS, the Lead Agencies note that:

Native Americans, archaeologists, historians, members of the general public, and state and Federal agencies...would like to minimize damage to cultural resources from the effects of reservoir operations, which include but are not limited to water level fluctuations, wave and wind action, inundation, irrigation, transportation, and

\textsuperscript{102} DEIS at 7-190–7-196.
\textsuperscript{103} A revision to the Lead Agencies’ current definition is particularly necessary given the fact that the Lead Agencies have decided to bifurcate the NHPA Section 106 process from the CRSO EIS.
\textsuperscript{104} DEIS at 3-1400.
recreation, among others. In addition, there is a concern about losses caused by vandalism and looting.\textsuperscript{105}

The Yakama Nation certainly wishes to avoid these adverse impacts to archeological sites and other cultural resources. The Lead Agencies have an obligation to protect any such sites that become exposed as a result of their actions from looting or vandalism. However, the Lead Agencies’ decision to frame cultural resources concerns in this fashion ignores the larger context of the CRS’s impacts: entire lifeways, villages, economies, ancestral burials and customs were lost through the federal manipulation of the Columbia River.

Similarly, the Lead Agencies’ Affected Environment sections pertaining to cultural resources generally recount the history of Euro-American industrial development on the Columbia River (from the Euro-American perspective). However, these sections fail to describe the significant disruption to the Native culture that resulted from such development and demonstrate a general lack of knowledge regarding the historic context of Tribal and Euro-American population interactions. Without this context, the Lead Agencies cannot give an adequate “hard look” at the impacts of the CRS on the human environment.

The failure to acknowledge the larger historical context of the CRS’s impacts on the Yakama Nation’s cultural resources permeates into the Lead Agencies’ analyses throughout the DEIS. For example, the Lead Agencies’ Preferred Alternative largely considers adverse effects such as exposure, erosion, and loss of archeological sites;\textsuperscript{106} it does not, however, appear to consider whether any of the alternatives would result in beneficial effects to cultural practices.

The Lead Agencies’ crabbed approach prevents proper analysis of cultural resource impacts. Rather than simply noting concerns associated with vandalism and looting (presumably resulting from increased exposure), the Lead Agencies must meaningfully consider these potential adverse effects on Yakama Nation cultural practices, such as gathering food and medicinal resources, consistent with agency Treaty and trust obligations against potential beneficial effects of measures which enable or facilitate cultural practices, such as gathering food and medicinal resources. The Lead Agencies may find these beneficial effects significant enough to warrant re-evaluation of the alternatives and component measures will enable identification of mitigation actions that enable or facilitate cultural practices.

C. The Lead Agencies do not explain why the Preferred Alternative will not cause additional impacts to Traditional Cultural Properties (“TCP”).

The Lead Agencies note that, “based on available information, and with reference to the assumptions and constraints previously described for TCPs,” the Preferred Alternative is unlikely to result in an “appreciable increase” in effects to TCPs. This type of conclusory statement is simply insufficient under NEPA. In the FEIS, the Lead Agencies must describe the “chosen methodology” used to reach their conclusion regarding effects to TCPs, along with “the reasons [they] considered the underlying evidence to be reliable.”

\textsuperscript{105}DEIS at 1-17.
\textsuperscript{106}DEIS at 7-190–7-196.
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The Lead Agencies offer a broad overview of the Federal Columbia River Power System Cultural Resource Program (“FCRPS Program”) and describe it as a mechanism for compliance with Section 106 of the NHPA.107

For each alternative, the Lead Agencies would use FCRPS Program funding for: “activities such as archeological site and traditional cultural property monitoring (pedestrian and drone use), reservoir and river bank stabilization, data recovery, public education awareness, protective signage, and other alternative mitigation to address impacts to [traditional cultural properties].”108 These activities, in conjunction with the existing FCRPS Program, “would work to continue minimizing any adverse effects to negligible.”109 Likewise, the Preferred Alternative relies entirely on the FCRPS Program for mitigation measures.110

Without more, however, the Yakama Nation is unclear how, for purposes of NEPA, the Lead Agencies can effectively mitigate impacts to cultural resources under any of the alternatives. Mitigation must “be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated.”111 The Lead Agencies cannot simply list possible mitigation measures.”112 Accordingly, the Lead Agencies must explain the mitigation measures proposed for each MO alternative with sufficient detail. The explanations should be clear, specific, and tailored to each alternative. Similarly, the Lead Agencies must describe how the FCRPS will mitigate impacts under the Preferred Alternative.

It is also worth noting that the FCRPS Program’s Systemwide Programmatic Agreement (“SWPA”) (which the Yakama Nation is not a signatory to) is inadequate to ensure mitigation.113 The SWPA, which was not intended to act as a mitigation tool, does not fully consider impacts to the loss of ancestral use (e.g. fishing and gathering) sites, legendary sites, village sites, monumental sites, ceremonial sites, petroglyph/pictograph sites and archaeological site, all of which the Yakama Nation considers sacred. The SWPA lacks of accountability, specific funding obligations, and requirements concerning site treatment and identification. Federal agencies operating under the SWPA attempt to prioritize sites with known impacts and develop strategies to mitigate those impacts on a case-by-case impacts. The federal agencies have not actually implemented any mitigation measures at

107 DEIS at 5-11–12
108 DEIS at § 5.4.
109 DEIS at 5-21.
110 DEIS at 7-45 (“For new effects to archaeological resources, traditional cultural properties, and the built environment at storage projects caused by implementation of the Preferred Alternative relative to the No Action Alternative, the co-lead agencies would use the existing FCRPS Cultural Resources Program and the System-Wide Programmatic Agreement to implement mitigation actions, as warranted and appropriate.”).
111 City of Carmel-by-the-Sea 123 F.3d at 1154 (quoting Methow Valley, 490 U.S. at 351-52.
113 The Yakama Nation has already objected to the Lead Agencies’ reliance on the FCRPS Programmatic Agreement with respect to NHPA compliance through letters dated May 22, 2019 and December 20, 2019.
many of these sites. Moreover, there are a significant number of sites along the Columbia River that the federal agencies have yet to formally analyze.

As such, the Yakama Nation cannot be confident that the Lead Agencies will sufficiently mitigate harm to cultural resources by relying on the FCRPS Program alone.

E. The Yakama Nation objects to the Lead Agencies refusal to consider all federal lands in the cultural resources study area as a sacred site.

The Establishment Clause of the 1st Amendment to the U.S. Constitution, dictates that Federal agencies will not prohibit the free exercise of Native American religions. The American Indian Religious Freedom Act of 1978 (“AIRFA”) directs federal agencies to respect and protect Tribal religions and the practice thereof. AIRFA is not strictly place based but is also inclusive of the act of religion itself.

Consistent with AIRFA, Executive Order 13007 deals directly with sacred sites, their definition and management. Sacred sites are defined as:

...any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe or Indian individual determined to be an appropriately authoritative representative of an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of a site.

This definition is frequently misinterpreted to put a bulk of the responsibility of sacred site identification on the shoulders of Tribes. However, federal agencies must make a reasonable and good faith to identify sacred sites pursuant to the NHPA. A “mere request for information” by a federal agency to a Native Nation is not sufficient to constitute a reasonable effort. Where the federal agency has any indication from a Native Nation that a sacred site exists, it must conduct further investigation. The “good faith” requirement prohibits the federal agency from withholding information on sacred sites from pertinent parties, such as State Historic Preservation Officers that that federal agency seeks concurrence from under the NHPA.

The problem with the Lead Agencies’ existing quantification of only two sacred sites within the Area of Potential Effect (“APE”) of the CRSO EIS is two-fold. First, there is a question about the qualifications of the individuals who made determinations regarding sacred sites for the DEIS. Appendix II of National Register Bulletin 38, Professional Qualifications: Ethnography, outlines in detail the qualifications of individuals who agencies should obtain

115 See Pueblo of Sandia v. United States, 50 F.3d 856, 863 (10th Cir. 1995). In that case, the Pueblo of Sandia (“Pueblo”) notified the United States Forest Service (“USFS”) about TCPs that they asserted were eligible for inclusion in the National Register of Historic Places (“NRHP”) located in a proposed USFS project area in Las Huertas Canyon, New Mexico. The Pueblo was bound by custom to not divulge additional information to the USFS. Consequently, the USFS was unable to get any more information regarding the TCPs from the Pueblo and recommended that there were no NRHP-eligible TCPs in the proposed project area.
116 Id. at 860.
117 Id. at 860-62.
118 Id. at 862.
to gather TCP data.\textsuperscript{119} These qualifications include an expert’s ability to speak Native languages, experience with ethnographic methodologies and oral history interviews, and possession of graduate and post-graduate training in ethnography.\textsuperscript{120}

To the Yakama Nation’s knowledge, none of the archeologists representing the Lead Agencies or the project managers for the FCRPS cooperating groups meet these qualifications or are practitioners in any of the religions significant to the Yakama Nation. Neither the Lead Agencies or the project managers for the FCRPS cooperating groups have employed or contracted an ethnographer to gather necessary information to make a determination that the entirety of the Columbia River is not a sacred site. Therefore, the Lead Agencies must explain substance and reliability of the methodology and evidence that they used regarding sacred sites.

Second, the Lead Agencies have not put forth a reasonable and good faith effort to identify sacred sites. Through the FCRPS Program Cooperating Group meetings, the Yakama Nation has repeatedly requested the Lead Agencies to cohesively investigate the entire Columbia River as a sacred site. Nevertheless, the Lead Agencies have made no effort to do so or to even manage cultural resources as a collective unit. This is not indicative of a reasonable effort. Moreover, the Lead Agencies’ decision to omit these requests from the DEIS (while only referencing “information from one tribal representative” regarding the entire Columbia River as a sacred site)\textsuperscript{121} could be construed as a lack of good faith effort.

The Columbia River and all associated properties relevant to the protection, preservation and perpetuation of the Native way of life are sacred sites. The Yakama Nation’s cultural resources specialists define sacred sites as to include ancestral use, monumental, burial, petroglyph/pictograph, archaeological, and ceremonial sites. Each of these site types are associated with life along the river as provided by the Creator and formed by Speelyi. Speelyi created the fishing sites, the riffles, whirlpools, eddies, swift currents, slow currents, landforms, and gave the people the resources necessary to make a life along the Nch’i wana (the Columbia River) and its many tributaries. Each of these things have a name in the Yakama Nation’s Tribal language, Ichis Skin Sinwit, known to anthropologists as Sahaptin. Those names speak to the historical events that took place and led up to their existence.

The Yakama Nation has written down the history of this creation and shared it with the Lead Agencies through twenty years of cooperative work and contractual relationships. As such, the Lead Agencies have access to reports compiled by the Yakama Nation that are directly at odds with its assertion concerning sacred sites. The Lead Agencies cannot in good faith state that the Columbia River is not a sacred site, arbitrarily ignoring information that evinces otherwise.

The Advisory Council of Historic Preservation’s guidance, Meeting the ‘Reasonable and Good Faith’ Identification Standard in Section 106 Review, states that a good faith investigation by a federal agency requires certain elements:

\textsuperscript{119} DEPT. OF INTERIOR, GUIDELINES FOR EVALUATING AND DOCUMENTING TRADITIONAL CULTURAL PROPERTIES (1998).
\textsuperscript{120} Id. at 28.
\textsuperscript{121} DEIS at 1355.
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- The investigation is carried out in consultation with, as appropriate, the SHPO, Tribal Historic Preservation Officer, and any Indian tribe or Native Hawaiian organization that might attach religious and cultural significance to historic properties within the APE;\(^ {122}\)

- The investigation is initiated in a timely manner that allows for appropriate analysis and reporting, with adequate time for review by the consulting parties;\(^ {123}\)

- The investigation is carried out by a qualified individual or individuals who meet the Secretary of the Interior’s qualification standards and have a demonstrated familiarity with the range of potentially historic properties that may be encountered, and their characteristics;\(^ {124}\)

- The investigation acknowledges the special expertise possessed by Indian tribes and Native Hawaiian organizations in assessing the eligibility of historic properties that may possess religious and cultural significance to them (regardless of whether or not such tribes and organizations meet the Secretary’s qualification standards);\(^ {125}\)

- The investigation is fully supported by adequate funding and other necessary resources;\(^ {126}\) and

- The investigation is not compromised by lack of integrity or omission, such as manipulating or ignoring evidence.\(^ {127}\)

The Lead Agencies have not complied with these guidelines in analyzing sacred sites or TCPs. First, the Lead Agencies have excluded the Yakama Nation from consultation regarding cultural resources in the APE, asserting that the consultation with the Yakama Nation is only necessary for impacts to trust lands because the Yakama Nation is not a signatory to the SWPA. Second, the time provided for analysis and review (due to the condensed schedule) has been completely unacceptable and inadequate. Third, the Lead Agencies’ archeologists are not qualified to identify or evaluate TCPs. Fourth, by completing dismissing the Yakama Nation’s comments regarding sacred sites and TCPs, the Lead Agencies fail to acknowledge the Yakama Nation’s special expertise and knowledge. Fifth, the Lead Agencies’ budgetary restraints under the SWPA are inadequate to properly support analysis of sacred sites and TCPs. Lastly, the Yakama Nation’s experience has been that federal agencies have omitted, manipulated, and ignored available evidence since the inception of the FCRPS Program, including resource reports and monthly meeting minutes.

\(^ {123}\) Id.
\(^ {124}\) Id.
\(^ {125}\) Id.
\(^ {126}\) Id.
\(^ {127}\) Id.
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F. The Lead Agencies’ environmental justice analyses of impacts to cultural resources fail to consider all available information.128

The DEIS states that the population of the Yakama Nation Reservation is over 30,000 people. It also states that there are only 9,000 Native Americans living in Yakima County. Even if those individuals all lived on reservation, which they do not, that leaves 21,000 non-Tribal members living on the Yakama Reservation. According to a 2004 study about populations on-reservation and off-reservation trust lands, approximately 33.4% of the population is “White,” 36.7% is marked as “Other,” and 23.3% are “Native Americans.”129 Taking census data alone from the Yakama Reservation does not provide an adequate snapshot of Tribal people, but merely reflects non-native encroachment resulting from allotment acts.130

The DEIS notes that the median household income for low-income, minority, and Tribal communities in the study area is $39,000.131 This is a very high estimate. From 2012 to 2016, Yakama Nation members had an average income of $5,700, with a poverty rate of 42%.132 These statistics likely do not account for the fact that many Yakama households consist of extended family, where one person’s income is spread across multiple generations. That income is often seasonal and dependent upon fish runs between the spring and fall months.

The Columbia River Indians are a distinct and identifiable population where single-person and seasonal income is especially prevalent. Most of the Columbia River Indians are enrolled in one of the Treaty Tribes but maintain an identity as a River Indian. They make their living on the Columbia River and reside in one or more of the Treaty Fishing Access sites throughout the fishing months. The Lead Agencies do not even reference the Columbia River Indians, much less account for impacts that fall disproportionately on this population.

The lack of critical data regarding the Yakama Reservation, Yakama members, and the Columbia River Indians means that the Lead Agencies have not adequately considered communities in the affected area. This compromises the Lead Agencies’ ability to conduct a proper analysis of disproportionate effects on the Yakama Nation.

It is also unclear how the Lead Agencies gathered information on and from Tribal communities regarding impacts and then how these impacts were prioritized. The Lead Agencies data in the Appendices for the Cultural Resources, Environmental Justice and Socio-economic sections reveals very little about the impacts Tribal communities would experience as a result of any alternative. A simple statement that salmon are a significant resource to Tribal communities does not explain how Tribal people would be affected by the continued reduction of salmon populations and habitats; adverse impacts to water quality; loss of cultural resources, sacred sites, burial sites, and TCPs; or the mental and

128 See pg. 57-60, infra, concerning environmental justice considerations.
129 4.4% is marked as two or more races.
130 This also extends to income data: even on the Yakama Reservation, there is a disproportionate distribution of wealth and Tribal people are the population with the lowest income levels.
131 DEIS at 3-1430.
132 See pg. 58-59, infra.
psychological impacts felt as a result of continued human burial loss, ancestral village loss, and vandalism to sacred sites. The Lead Agencies must address these effects in order to sufficiently evaluate each alternative and the associated disproportionate impacts on the Yakama Nation.

One reason for the Lead Agencies’ failure to assess impacts may be the lack of oral histories and informant interviews with Tribal communities, which have culturally perpetuated through oral tradition for millennia. This is part of a larger failure by the Lead Agencies to collect and consider pertinent information. For example, the Lead Agencies note that “site-specific information is not available” with respect to where plant and medicine gathering occurs. However, the Yakama Nation has shared this type of information with the Lead Agencies for two decades. Therefore, the Lead Agencies should possess the information in meeting minutes, TCP reports, Traditional Use Reports, Cultural Resource Management Plans, and Determinations of Eligibility forms.

These are highly relevant forms of documentation important to determining and assessing significant impacts in the socioeconomic and environmental justice sections of the EIS. By choosing not to utilize them in the DEIS, the Lead Agencies have effectively ignored available evidence that is clearly relevant to their analyses.

5.2. The Lead Agencies’ biological analyses include unsupported assumptions and fail to demonstrate that the Preferred Alternative is consistent with the Lead Agencies Treaty, trust, and statutory obligations.

This section describes both procedural and substantive flaws in the Lead Agencies’ biological analyses. The procedural flaws suggest that the Lead Agencies made arbitrary or capricious decisions with respect to the evaluation of impacts to fish populations. The substantive flaws are related the Lead Agencies failing to adequately protect fish populations and implicate the Yakama Nation’s Treaty-reserved rights and the Lead Agencies’ duty to give “full effect” to those rights.

A. The Lead Agencies’ biological analyses contain structural problems that frustrate meaningful review.

The Lead Agencies adopted an evaluation and reporting framework for the biological analysis that was redundant, overly complicated, and created a false sense of precision. The Lead Agencies developed a life stage specific analysis for each species of salmon and steelhead affected by the CRS. They repeat this analysis thoroughly in Chapter 3, 7, and the BA. However, after all this analysis, the Lead Agencies draw their conclusions based entirely on modelling results for chinook and steelhead. While they describe in detail each stage of the salmon life cycle for each species, they do not incorporate that analysis into development of mitigation measures or proposed actions (e.g., proposed habitat measures are not linked to expected biological benefits). This flawed approach did not result in an

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133 The Lead Agencies note that mitigation for these impacts will be addressed through the SWPA (see pg. 28-30, supra). However, as described above, this document is insufficient to mitigate the entirety of the socio-economic and environmental justice impacts to the Yakama Nation’s cultural resources.

134 DEIS at 4-76.
accurate depiction of the impacts associated with various measures contained in each alternative.

Moreover, the analyses in Appendix E (Fish Technical Appendix), do not always match the results presented in Chapter 3, which in turn do not always match the results presented in the Preferred Alternative and the BA. For example, in Chapter 3, Table 3-68, Table 3-83, and Table 3-97 all illustrate predicted SARs following installation of new surface passage structures under the assumption that these structures would increase passage efficiency by 30%. However, in an April 29, 2019 memorandum, the Fish Passage Center (“Center”) considered 0%, 10%, 20% and 30% increases in passage efficiencies. The Center concluded that increasing surface passage structures would not have a significant effect on avoiding powerhouse passage. Subsequently, the Lead Agencies removed new passage structures measures in the alternatives.

Thus, the Lead Agencies reported SARs in Chapter 7 that were based on an assumption that the Center concluded to be false and measures that the Lead Agencies themselves omitted. Indeed, the Preferred Alternative does not even include new surface passage structures. The Lead Agencies have not described the evidence relied on to reach predicted SARs conclusion is valid without the any surface passage structures or, alternatively, how surface passage structures will result in the predicted SARs.

As a second example, the Lead Agencies present National Oceanic and Atmospheric Administration (“NOAA”) LCM results in the Preferred Alternative for Snake River spring and summer Chinook salmon. However, in the BA, the Lead Agencies only present the results for MO1 and MO4 relative to the No Action Alternative. The Lead Agencies do not provide a reference to the Preferred Alternative analysis, which is the basis of the BA. The Lead Agencies must correct this in the FEIS to facilitate meaningful review of the BA.

In a final example, the Lead Agencies’ do not consistently include confidence intervals throughout the DEIS and appendices. Confidence intervals (standard deviation) are provided in Appendix E but not in Chapter 3, the Preferred Alternative, or the BA. This omission means that it is impossible to evaluate the statistical significance of the data and, by extension, and the benefit asserted by the Lead Agencies.

B. The Lead Agencies’ biological analyses include conclusions that run counter to the evidence.

The Lead Agencies provide data on upper Columbia steelhead survival for the No Action Alternative in Appendix E (Mean survival 0.6575 (MCN to BON), SD 0.03473). In Chapter 7, the COMPASS model results for the Preferred Alternative for mean survival is 0.657 (MCN to BON), showing a -0.1% change in juvenile survival from the NAA. Consistent with the analysis, in the BA the Lead Agencies state that “[t]he COMPASS

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135 The Preferred Alternative does not even include new surface passage structures. If the Preferred Alternative did include such structures, a 30% increase in spill passage efficiency is extremely optimistic based on available data.
136 DEIS at 7-102.
137 BA at 3-204.
138 App. E, Table 3-5.
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model estimates that survival could increase juvenile survival from McNary Dam to Bonneville Dam by less than one percent higher than the 2016 operation.” However, Table 3-34 in the BA represents a positive change from current condition for Juvenile Steelhead Downstream Migration from natal stream through the CRS (Bonneville Dam).

The Lead Agencies’ assertion that a positive change will result is counter to data included elsewhere in the DEIS. In other instances, the relative change may be positive but falls within the standard deviation of the model estimates, yet the Lead Agencies determine that there is a positive improvement juvenile survival (despite a lack of statistical significance).

C. The Preferred Alternative will not adequately protect upper Columbia salmon and steelhead populations.

Under the No Action Alternative, projections for threatened upper Columbia steelhead and endangered spring Chinook salmon survival rates are grim. Both of these species have triggered the AMIP Early Warning Abundance/Trend Indicator.139 This indicator is triggered when the four-year average abundance of naturally produced adult fish falls into the lowest twentieth percentile of returns during the base period.

The need for action to protect these fish is urgent. However, the Preferred Alternative does not significantly improve juvenile fish rearing, passage, or survival for Upper Columbia salmon and steelhead relative to the No Action Alternative. The Preferred Alternative provides less habitat, predation, and spring flow augmentation than the No Action Alternative. There is no change for adult salmon migration from the No Action Alternative.

All NOAA life cycle modeling for the Preferred Alternative in the upper Columbia is based on results for the Wenatchee population of spring Chinook salmon.140 The Wenatchee watershed is the only watershed where both the Chinook salmon and steelhead populations are not at a high risk.141 These results are then extrapolated to all upper Columbia species and stocks.142 The risk to these fisheries in every other upper Columbia watershed is high. Accordingly, the use of data specific to each watershed is more reliable, rather than arbitrarily applying the data from the Wenatchee population wholesale.

Furthermore, the NOAA COMPASS model demonstrates no significant juvenile benefits under the Preferred Alternative.143 This is exacerbated by the fact that the NOAA COMPASS model is not sensitive to flow, so it would not detect the negative consequences of reduced spring flow augmentation in the Preferred Alternative.144
The 2019 CSS Annual Report estimates juvenile survival rates for upper Columbia spring Chinook to be less than 50%. However, the DEIS and BA have artificially partitioned survival for upper Columbia stocks and limited their analysis to between McNary Dam and Bonneville Dam. This partition fails to recognize the impact of upriver storage project management as a factor in downstream migration. The Lead Agencies cite flow augmentation as a major action to improve juvenile survival, but several measures proposed in the Preferred Alternative would reduce flow during the spring migration.

The Preferred Alternative relies on Flex Spill to provide any benefits for upper Columbia fish. In order to ensure that BPA financial requirements are met, the Lead Agencies would not implement the Preferred Alternative Flex Spill operation (125% gas cap spill) in the lower Columbia except at McNary dam. Spill would be limited to 120% or less and 40% performance levels at the John Day and Dalles dams respectively. Spill would be limited to 150 kcfs at the Bonneville Dam due to erosion concerns. Flex spill only benefits upper Columbia stocks at Bonneville dam, yet that measure is expected to provide the only improvements for those stocks. Consequently, benefits resulting from Flex Spill for upper Columbia stocks will be minimal. However, the Lead Agencies do not propose any additional mitigation measures to address declining abundance trends.

Finally, as described above, the Preferred Alternative Flex Spill operation is only planned for one year. An undefined adaptive management process will direct spill operations for the remaining fourteen years of the BA. The FEIS will need to address how near and long term operations that involve Flex Spill will provide sufficient and stable assurance of continuing fish benefits and the appropriate role of adaptive management in that context.

D. The Preferred Alternative will not adequately protect Snake River salmon and steelhead populations.

The situation for Snake River salmon and steelhead populations is comparably dire to those in the upper Columbia. Based on the 2016 status review, NMFS concluded that most of the threatened natural Snake River spring and summer Chinook populations remain at high overall risk of extinction. The current status of threatened wild Snake River steelhead is that the abundance trend has achieved the AMIP Significant Decline Trigger. This

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145 McCann, J. et al., Comparative Survival Study of PIT-tagged Spring/Summer/Fall Chinook, Summer Steelhead, and Sockeye 2019 Annual Report (BPA Project #19960200) (2019), Figure 3.7 at 3-41.
146 DEIS at 7-94.
147 In the BA at 3-274, the Lead Agencies state that “the actions that have benefitted UCR spring-run Chinook salmon include the following: Minimize winter drafts of the large upper basin storage reservoirs (for flood risk management and power generation) to save water for augmenting spring flows during the peak juvenile passage period (water quantity).” However, several of the measures in the Preferred Alternative reverse this strategy (see DEIS, 7-30).
148 DEIS at 7-34.
149 Id.
150 DEIS at 7-33.
151 Id.
152 NMFS, AMIP ABUNDANCE AND TREND INDICATORS (Presentation to the Regional Implementation and Oversight Group (RIOG)) (Feb. 4, 2020).
153 Id.
trigger is reached if the four-year average abundance of naturally produced adult fish falls into the lowest tenth percentile of returns during the Base Period.\textsuperscript{154}

The draft Preferred Alternative does not significantly improve juvenile fish rearing, passage, and survival for Snake River salmon and steelhead.\textsuperscript{155} COMPASS modeling predicts that, under the Preferred Alternative, juvenile Chinook survival will increase from 50.4\% to 51\%; CSS predicts juvenile survival will increase from 57.6\% to 58.3\%.\textsuperscript{156} This is not a significant improvement.\textsuperscript{157} Likewise, COMPASS modeling alarmingly predicts a lower juvenile survival for Snake River steelhead for the Preferred Alternative than the No Action Alternative.\textsuperscript{158} Finally, the Lead Agencies’ assert in the BA that the Preferred Alternative is expected to maintain or slightly improve survival of endangered Snake River sockeye and threatened Snake River fall Chinook salmon migrating through the hydropower system (depending on the latent mortality hypothesis).\textsuperscript{159}

NMFS lifecycle models from 2016 predicted a decrease in Chinook SARs and abundance if latent mortality remained the same as the 2016 operation.\textsuperscript{160} Therefore, according to NOAA modeling, all the Preferred Alternative’s benefits are based on an assumption that fewer powerhouse encounters due to increased spill will reduce latent mortality. If the latent mortality hypothesis does not provide the benefit anticipated by the models, the Lead Agencies propose no other mitigation to protect these stocks. The Lead Agencies’ Preferred Alternative relies entirely on the potential improvements from decreased latent mortality.

The Lead Agencies provide a discussion about latent mortality and conclude that “[g]iven the overall weight of evidence, it is uncertain to what extent CRS operations, as opposed to baseline or cumulative conditions, cause delayed mortality.”\textsuperscript{161} They also include a NOAA study that states that “results suggest that after fish leave the hydropower system, bypass passage history has little effect on mortality.”\textsuperscript{162} Accordingly, the Yakama Nation is very concerned that the Lead Agencies do not provide additional mitigation measures to insure against their own assumptions about latent mortality.

E. The Preferred Alternative will not adequately protect middle Columbia salmon and steelhead populations.

\textsuperscript{154} Id.
\textsuperscript{155} If the later mortality hypothesis proves to be true, then the Preferred Alternative may improve SARs and increase adult returns. However, the Lead Agencies have put no protections in place if the benefits of spill operation aren’t as significant as expected.
\textsuperscript{156} DEIS at 7-100, Table 7-24.
\textsuperscript{157} It is important to note that COMPASS and CSS model results in the Preferred Alternative are exaggerated due to modeling limitations regarding flow and spill inputs. With respect to CSS model outputs, the Lead Agencies note that “[t]his dataset for the Preferred Alternative scenario contains only daily average values for spill percent. The Preferred Alternative scenario contains a measure for sub-daily ‘flex spill’ variations in spill percent; however, since those sub-daily spill operations are not contained in the dataset, the results of our modeling will not predict the potential effects of sub-daily variations in spill.” CSS memorandum, (January 24, 2020) CRSO-78.
\textsuperscript{158} DEIS at 1-104, Table 7-26.
\textsuperscript{159} BA at 3-68, 3-95. However, the Lead Agencies note that “[i]t is also possible that increased spill levels, and associated adverse effects, will be offset by an increase in adult returns due to less powerhouse encounters as hypothesized by the CSS.” Id. at 3-67.
\textsuperscript{160} DEIS at 7-102.
\textsuperscript{161} BA at 3-13.
\textsuperscript{162} DEIS at 3-13.
The Preferred Alternatives does not anticipate any changes for middle Columbia salmon and steelhead stocks relative to the No Action Alternative.\textsuperscript{163} The analyses rely entirely on upper Columbia spring Chinook results.\textsuperscript{164} In addition, the Lead Agencies have effectively ignored middle Columbia salmon and steelhead in their Tributary Habitat Program.\textsuperscript{165}

**F. The Preferred Alternative will not adequately protect lower Columbia salmon and steelhead populations.**

The Lead Agencies’ Preferred Alternatives does not anticipate any changes for lower Columbia salmon and steelhead stocks relative to the No Action Alternative.\textsuperscript{166} As with middle Columbia populations, the Lead Agencies have effectively ignored lower Columbia salmon and steelhead in their Tributary Habitat Program.\textsuperscript{167}

**G. The Lead Agencies have not demonstrated that the Preferred Alternative will ensure improvement in the status of listed stocks relative to the No Action Alternative.**

The Preferred Alternative relies on unproven spill levels that may not provide benefits beyond the No Action Alternative, and spill levels that may not be achieved at three of the four dams in the lower river due to power considerations and implementation limitations.

The NOAA COMPASS and LCM analyses do not demonstrate a benefit under the Preferred Action relative to the No Action Alternative unless the latent mortality hypothesis proves to be correct.\textsuperscript{168} The Lead Agencies do not propose any new or additional mitigation actions to address uncertainty associated with latent mortality. The mitigation package, in addition to the new spill regime, is based on existing programs that have funding levels that are currently below levels assumed in the No Action Alternative.

**H. The Lead Agencies’ failure to adequately protect fish populations under the Preferred Alternative is inconsistent with their Treaty, trust, and statutory obligations.**

The Treaty of 1855 requires the Lead Agencies to ensure that the operation and management of the CRS under the Preferred Alternative will not result in adverse impacts to fish populations. Specifically, the Preferred Alternative cannot impair the Yakama Nation’s “time, place, method, species and extent” of taking fish. The Treaty of 1855’s guarantee to a portion of the harvest means that the Columbia River must contain viable fish stocks and sustainable habitat. Moreover, The Lead Agencies have a duty to protect and give “full effect” to the rights reserved under the Treaty of 1855 pursuant to the federal trust responsibility.

\textsuperscript{163} DEIS at 7-98, 7-99.
\textsuperscript{164} DEIS at 7-98, 7-99.
\textsuperscript{165} This means that the Lead Agencies have effectively ignored an “important aspect of the problem.” BA at D-13, Table D.2.
\textsuperscript{166} DEIS at 7-108.
\textsuperscript{167} Again, this means that the Lead Agencies have effectively ignored an “important aspect of the problem.” BA at D-13, Table D.2.
\textsuperscript{168} DEIS at 7-94, 7-95, 7-100, 7-102.
The Northwest Power Act requires the Lead Agencies to provide fish and wildlife with “equitable treatment” relative to the other authorized purposes of the CRS.\(^{169}\) Furthermore, the Northwest Power Act demands that the Lead Agencies “take into account at every stage of decision-making processes to the fullest extent practicable, the program adopted by the Council.”\(^{170}\) The ESA likewise provides rigid and specific protections to many of the stocks discussed above.\(^{171}\)

The Lead Agencies’ biological analyses indicate that the Preferred Alternative will result in negative, neutral, or negligibly positive effects on salmon and steelhead stocks in the Columbia and Snake Rivers. As described above, these species are already imperiled across the Columbia River Basin. Consequently, the Lead Agencies failure to provide for significant positive benefits may result in irreparable harm to these populations. The draft Preferred Alternative will not benefit (and could potentially harm) most ESA-listed salmon and steelhead populations relative to the No Action Alternative. The NOAA COMPASS modeling for the Preferred Alternative did not show significant improvement, which the Yakama Nation considers to be greater than 10%, for any population. The NOAA LCM modeling only detected a significant improvement in abundance and smolt-to-adult return ratio (“SAR”) for Snake River populations when an arbitrary adjustment is made for assumed improvements in latent mortality.

The Lead Agencies’ intent seems to be that the proposed Flex Spill operation will provide significant improvements in latent mortality that will compensate for deficiencies in fish survival. However, the additional hydro system flexibility and water management measures included in the Preferred Alternative negate the potential benefits of the Flex spill operation and potentially result in conditions for fish that are worse than the status quo.

In the BA, the Lead Agencies provide an extensive description of the latent mortality theory. That description concludes that “[g]iven the overall weight of evidence, it is uncertain to what extent CRS operations, as opposed to baseline or cumulative conditions, cause delayed morality.”\(^{172}\) The Lead Agencies therefore recognize that any significant improvements to salmon and steelhead populations under the Preferred Alternative are fraught with uncertainty. Nevertheless, the Lead Agencies do not propose any significant additional actions or mitigation measures in the Preferred Alternative or BA to compensate for the identified risk of the proposed Flex Spill operation.

The Preferred Alternative lacks clear benefits to fish populations, cultural resources protections, or an accurate picture of the Yakama Nation’s perspective. Consequently, the Yakama Nation is not confident that such an alternative will eliminate or reduce any of the adverse impacts of the CRS described in Section 2.3 of these comments.

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\(^{169}\) See 16 U.S.C. § 839b(h)(11)(A)(i). Moreover, the array of measures proposed under the Preferred Alternative indicate that power operations, flexibility, and water supply measures far outweigh fish operations (see n. 84, supra).


\(^{171}\) See 16 U.S.C. § 1531, et seq.

\(^{172}\) BA at 3-16.
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This outcome would be unacceptable under the Treaty of 1855, the federal trust obligation, and applicable statutes. If any of salmon and steelhead populations are wiped out or reduced to numbers that inhibit sustainable fishing practices, then the Lead Agencies have impaired the Yakama Nation’s “time, place, method, species and extent” of taking fish and violated the Treaty of 1855’s harvest guarantee. This would be wholly inconsistent with the Lead Agencies’ fiduciary obligation the Yakama Nation.

Furthermore, the data described above does not represent “equitable treatment” of fish and wildlife under the Northwest Power Act. A further decline in fish populations is the antithesis of the Council’s goals for five million fish and 2% to 6% SARs. The Yakama Nation is also concerned that, in light of the biological analyses results, the Lead Agencies will be unable to meet their ESA obligations.

The Lead Agencies must correct these issues in the FEIS. Any alternative that does not lead to significant and measurable positive benefits for salmon and steelhead populations in the Columbia and Snake Rivers is inconsistent with the Lead Agencies obligations under the Treaty of 1855, the federal trust responsibility, the Northwest Power Act, and the ESA.

5.3. The Lead Agencies power analyses do not adequately describe the realities of the regional electricity market.

This section describes flaws in the Lead Agencies analyses regarding on the power generation and transmission in Sections 3.7 and 7.7 of the DEIS.

A. The Lead Agencies’ process for developing the power analyses relies on incomplete information to the extent it did not involve all interested parties.

In 1999, the Corps convened the Drawdown Regional Economic Workgroup (“DREW”) as part of its EIS evaluating of the potential impacts from removing the Snake River Dams. The DREW comprised representatives from multiple federal agencies (including the Fish and Wildlife Service, National Marine Fisheries Service, and Environmental Protection Agency), Native Nations, states, and conservation groups. This collective worked cooperatively and transparently to design and review the power studies that would go into the Corps’ evaluation. The process resulted in studies that reflected a multitude of interests, thereby allowing for a more effective and balanced evaluation of Snake River dam removal.

A similarly collaborative model for identifying measures related to power analysis would have, in this instance, produced a more robust information base to inform alternative development and impact assessment. The cooperating agency process did not achieve results similar to the DREW process. The Yakama Nation’s staff and consultants were only able to participate in a handful of cooperative agency conference calls with regard to power issues. These calls were structured as presentations rather than collaborative discussions. As discussed above, the truncated timeline resulted in inadequate opportunity to provide the Lead Agencies with comments on power issues. As result, information relevant to power analysis was limited or foregone.
B. The Lead Agencies fail to clarify that concerns of competitive pressures on BPA are unfounded.

In Section 3.7 of the DEIS, the Lead Agencies describe the concerns of BPA’s public utility customers that BPA’s rates are above the spot market prices. The Lead Agencies note that:

\[ \text{the spot market price is not directly comparable to [BPA’s] rates because [BPA] provides a high-quality power product that is backed by Federal Base System resources, which includes the federal dams and the Columbia Generating Station. [BPA’s] firm power customers, thus, receive a power product that provides a reliable and stable supply of power at predictable prices set by Bonneville’s statutory process. Spot market purchases, in contrast, are volatile, with supply not assured and pricing subject to market spikes.}^{173} \]

This language seems to push back against perceived concerns from customers. However, the Lead Agencies’ analysis in Section 3.7.3.1, which focuses extensively on the rate impacts of the alternatives, appears to ignore the important distinctions between the value of BPA firm power and the spot market:

\[ \text{the MOs’ long-term cost impacts on [BPA]’s wholesale power rates is an important qualitative consideration because of the competitive nature of the industry [BPA] operates in...[r]etaining [BPA’s] preference customer base will be critical to assuring [BPA] is able to meet its public purposes and financial obligations for the long term.}^{174} \]

The DEIS does not contain any factual information to support the salience of customer concerns as justification for the selection of one alternative or measure over another. A 2018 analysis by Yakama Nation consultants compared BPA power costs to market power.\(^{175}\) The study concluded that:

- The day-ahead power market is volatile. It was more expensive than BPA power during parts of 2018 and long-term prices are uncertain.
- The day-ahead power market is relatively small, accounting for only about 10% of the region’s energy needs. This will limit the number of utilities that could rely on this market and market prices would go up if there is more demand.
- BPA power contracts provide reliability and load-shaping services that are much more valuable than purchasing electricity in the day-ahead power market.
- BPA power is less expensive than constructing new power generating resources.
- For these reasons, it is likely that BPA will continue to be competitive and most utilities will renew their long-term contracts with BPA in 2028.

\(^{173}\) DEIS at 3-801.
\(^{174}\) DEIS at 3-842.
\(^{175}\) A copy of the analysis is included as Appendix C to these comments.
The day-ahead market is volatile. For example, BPA power has generally been more expensive than day-ahead market power during the past few years. This changed dramatically, however, in July and August 2018. During those months, Mid-Columbia market prices spiked from $17 per megawatt hour to $70 per megawatt hour. These numbers were twice as high as BPA’s prices. Day-ahead prices also exceeded BPA between 2012 and 2015 due to a 75% increase in market prices. Future prices for the day-ahead market are uncertain and could exceed BPA prices if natural gas prices go up or utilities increase demand on this market. Therefore, the day-ahead market price is not as stable as BPA power.

BPA power, on the other hand, is more valuable and has less risk than day-ahead market power. Utilities can purchase electricity from BPA that is delivered to match a utility’s exact loads throughout each day; day-ahead market power must be combined with other services to precisely meet utility loads. BPA power is sold through long-term stable contracts, whereas market power is only available under short-term contracts subject to significant supply and cost risks. Consequently, the day-ahead market power is not as reliable and does not have the same quality as BPA power.

The 2018 study analyzed the issue of BPA’s competitiveness. The analysis describes how public utility customers must continue to purchase power from BPA through 2028 and considered the alternatives available to these utilities once their current BPA contracts expire. The study indicated that BPA power is of a higher quality and lower risk relative to market power. Furthermore, there is a significant range in the forecast for future market prices. Purchasing power from BPA is likely to cost half as much as purchasing power from new generating resources. A utility considering foregoing a long-term BPA contract would also need to weigh the risk that, if circumstances changed and the utility sought to return to BPA, it would only have access to BPA’s Tier 2 power, which will be similar to market rates in the near term and the cost of new resources in the long term.

It is also apparent that BPA’s customers recognize that BPA will not lose utility loads through 2028. In its brief for a 2007 BPA rate case, the Washington Public Agencies Group (“WPAG”) stated “fortunately for BPA, the current take-or-pay Regional Dialogue Contracts largely shelter it from price-induced reductions in load through FY 2028.” These “take-or-pay” contracts require utilities to pay for electricity from BPA whether or not they actually take power. In the brief, WPAG goes on to note that “[u]nfortunately, for BPA’s preference customers, it appears that due to [low natural gas prices, the rise of renewable energy, multiplying carbon-free initiatives, and reduced demand], including diminishing net secondary revenue and increasing fish and wildlife costs, this rate case will result in another substantial power rate increase, and yet another hit on BPA’s perceived competitiveness.”

A key question here is what alternatives the utilities have opposed to purchasing power from BPA after 2028. The Yakama Nation’s study compared two potential alternatives for future utility purchases: day-ahead market power and purchasing a new generating resource.

176 BPA, ROD, 28.
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- **BPA Power versus Day-Ahead Market Power:**

Utilities could purchase electricity from “the market” rather than from BPA. This type of power generally consists of surplus energy from existing generating resources and non-firm hydroelectric power. Approximately 10% of the region’s power (i.e., about 2,000 average megawatts in 2018) is sold in this market.

The filings by the public utilities in the rate case referenced above assumed that purchasing priority firm power from BPA through long-term contracts is comparable to purchasing electricity from the day-ahead market. This is a fundamental flaw in the “perceived competitiveness debate.”

Utilities have an obligation to meet their exact loads every millisecond of every day of every year. Electricity demand varies significant during the day, with typical peaks in the morning and late afternoon. Demand also varies by season and location. For example, demand to heat homes and other buildings is higher during the winter in cooler climates. Demand to cool homes and other buildings is higher during the summer in warmer climates. Utilities also must maintain the correct frequency (sixty cycles per second) to ensure that clocks and machinery run properly and power is available in emergency situations where a generating plant is disabled. Utilities can purchase all of these services from BPA. Utilities would pay additional costs for these load-shaping and reliability services (which are not reflected in the day-ahead market price) by purchasing from the day-ahead market.

There are other important differences between purchasing power from BPA and the day-ahead market. BPA offers twenty-year sales contracts that provide long-term supply certainty. BPA power comes from dependable resources because it serves its firm loads based on critical-water assumptions from reliable hydroelectric dams. BPA power is delivered through a region-wide transmission network. This reliability is valuable for the existing customers of public utilities and an important consideration for companies considering where to locate new operations. The day-ahead market, on the other hand, is short-term. The loss of a resource, other electricity supply disruptions, or an increase in economic growth which increases electricity demand can reduce how much electricity is available in the day-ahead market thereby increasing market costs.

The cost of BPA priority firm power is generally stable during a two-year rate period.\textsuperscript{177} Utilities can evaluate the long-term risks of price increases from future maintenance of the federal dams, fish and wildlife costs, and other BPA programs with relative certainty. The chart included below as Figure 1 illustrates that BPA rates are projected to increase by about 3.5% per year between 2010 and 2020.\textsuperscript{178}

\textsuperscript{177} There are some circumstances where limited rate adjustments occur to address higher costs.

\textsuperscript{178} See BPA, STRATEGIC PLAN 2018-2023 (2018) at 35.
Utilities cannot expect the same level of stability from the day-ahead market. As noted above, the day-ahead market can be extremely volatile. Changes in the price of natural gas, output from the region’s dams which vary by water year, the amount of surplus fossil-fired power (i.e., power available above what is necessary to meet long-term contracts), and economic growth can significantly affect supply and demand, impacting the day-ahead market price. If a large number of utilities chose to rely on the day-ahead market for future electricity supplies, it is likely that the increased demand would correspondingly increase market prices.

As an indication of price volatility, the chart in Figure 1 shows that the day-ahead market has fluctuated between $20 and $35 per megawatt hour with a 75% increase between 2012 and 2015. This chart also illustrates that, during between 2010 and 2014, day-ahead market costs were higher than BPA priority firm power in 2010, 2013, and 2014. Not shown on this BPA chart are the average Mid-Columbia prices for 2008, which (according to a Council report) were 240% higher than prices in early 2018.

2018 provided a dramatic example of the of the volatility of Mid-Columbia prices. BPA reports that these prices were $16.65 per megawatt hour in June, $71.88 per megawatt hour in July, and $69.96 per megawatt hour in August. A utility that relied on the spot market in 2018 would have experienced an increase of more than 330% for those two months and paid twice the BPA rate.

The 2018 price spike had a number of causes: a heat wave that affected the Pacific Cost, Nevada, and Arizona increased the demand for electricity to meet air conditioning loads; constraints in natural gas supplies for electricity generating plants in southern California.
increased prices; and wildfires reportedly threatened transmission lines. These types of events may increase in the coming years due to climate change, intensifying the risk of more price spikes.

The Pacific Northwest also learned an expensive lesson in market price volatility in 2000. BPA had committed to serve additional electricity loads on the assumption that it could supply them with wholesale market power and that market prices would remain stable. When the wholesale market price of electricity on the West Coast jumped from approximately $30 to over $300 per megawatt hour, BPA’s reliance on the wholesale market increased costs to utilities throughout the region by more than $1,000,000,000.

Future market prices are also uncertain. In 2016, the Council prepared an analysis of future market prices which noted that “the Council’s Seventh Power Plan forecast for spot market prices range from an average of $25 per megawatt hour to an average of $68 per megawatt hour over the next twenty years.”\(^\text{180}\) A chart from that analysis, included below as Figure 2, illustrates this projection.\(^\text{181}\)

![Figure 2](image)

**BPA Power versus New Resources:**

The other alternative available to utilities that do not want to renew contracts with BPA is to purchase new generating resources. The Council’s Seventh Power Plan evaluated a range of potential new resources. A chart from that analysis, included below as Figure 3, shows that the levelized costs of energy from new primary resources in dollars per megawatt hour are significantly more expensive than purchasing from BPA.\(^\text{182}\)

\(^\text{180}\) COUNCIL, SEVENTH POWER PLAN (2016) at 2-12.

\(^\text{181}\) Id. at Figure 8-1.

\(^\text{182}\) Id. at 13-3.
This chart considers commercially proven technologies that have the potential to be developed within a twenty-year planning horizon and play a major role in the regional power system. It shows that electricity from BPA costs less than half as much as the lowest-cost new generative alternative.

Importantly, these generation alternative costs do not include all the services included in power from BPA. For example, a utility or consortium of utilities that purchased a generating resource would also need other services to meet peak loads and load shaping requirements during each day (and variations each year, respond to emergencies, and provide other ancillary services. Therefore, generating resources do not appear to provide a competitive alternative to BPA power.

- **Tier 1 Power Considerations:**

A utility considering leaving BPA would also need to consider the risk that, if circumstances change and it wanted to return to BPA, the utility will not likely have access to low cost BPA electricity from existing resources. This low-cost power is referred to as Tier 1 power.

Ten years ago, BPA went through an extensive Regional Dialogue process. This resulted in BPA deciding to allocate existing federal low-cost power to existing public utility customers.
by establishing a “high-water mark” for each utility: the maximum amount of the low-cost Tier 1 power that each utility can purchase from BPA. Additional electricity purchased above the high-water mark is sold from Tier 2, which is power from new resources that BPA would purchase to serve utility load growth. If a utility gave up its contract with BPA in 2028, it is likely that the utility would also give up the right to its respective high-water mark allocation for Tier 1 power; BPA would allocate this power to other customers; and any future purchases by the utility from BPA would be subject to the Tier 2 rate.

- **Loss of Large Load Customers by Utilities under BPA Contract:**

Public utilities have expressed concern that some of their large customers might seek electricity service from less expensive supplies. There is anecdotal information that some regional manufacturing plants have closed because of market conditions. However, the actual total loads for BPA’s preference customers have increased.

A utility has several options if large customers threaten to move to a different supplier. First, the utility can charge for stranded costs associated with power supply contractual obligations or infrastructure that was built specifically to serve the load. These stranded costs can be significant, thereby altering the economics of changing suppliers. Second, the utility can adopt policies to address any added costs to serve loads which leave and then return to the utility. Third, the utility can make clear to the customer that the customer faces the same cost uncertainties and risks described above.

- **Changes in BPA’s Total Load:**

BPA has raised concerns that it faces “flat-to-declining firm power sales.” Information from BPA’s quarterly business review shows that its gross sales declined by $32,000,000 (or 1.3%) in fiscal year 2017 compared to fiscal year 2014. The table included as Figure 4 below illustrates this change.

| BPA Gross Sales (millions of dollars) |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| FY14  | FY15  | FY16  | FY17  | Change | Percent |
| $2,572 | $2,399 | $2,402 | $2,540 | $32    | -1.3%   |

However, by using a range of 2015 to 2017, the same data shows that BPA’s gross sales have actually increased by $140,000,000 (or 5.9%). The table included as Figure 5 below illustrates this change.

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183 [STRATEGIC PLAN 2018-2023, supra, at 34.]
184 [BPA, QUARTERLY BUSINESS REVIEW (2018) at 14. (98 percent of 2017 gross sales were for load following, block, slice, and Tier 2 sales). In an email dated June 14, 2018, Kevin Owen at BPA stated that the heavy majority of gross sales are firm power.]
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### BPA Gross Sales (millions of dollars)

<table>
<thead>
<tr>
<th></th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
<th>Change</th>
<th>Percent</th>
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<tbody>
<tr>
<td></td>
<td>$2,399</td>
<td>$2,402</td>
<td>$2,540</td>
<td>$140</td>
<td>5.9%</td>
</tr>
</tbody>
</table>

Figure 5

The official Pacific Northwest Loads and Resources Study, referred to as “the White Book,” shows that total loads for BPA’s preference customers have increased by 253 average megawatt hours (or 3%) over the past three years. The White Book lists loads for the upcoming operation year. Table 3-1 in each of the previous three White Books, which shows cooperatives, municipal utility, and public utility district loads. This table, included below as Figure 6, illustrates that total loads increased between 2015 and 2017.

### BPA Public Utility Average Megawatt Loads

<table>
<thead>
<tr>
<th>White Book</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>Change</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperatives</td>
<td>1,968</td>
<td>1,974</td>
<td>2,057</td>
<td>89</td>
<td>5%</td>
</tr>
<tr>
<td>Municipality</td>
<td>2,731</td>
<td>2,668</td>
<td>2,627</td>
<td>(104)</td>
<td>-4%</td>
</tr>
<tr>
<td>Public Utility Districts</td>
<td>4,546</td>
<td>4,768</td>
<td>4,814</td>
<td>268</td>
<td>6%</td>
</tr>
<tr>
<td>Total</td>
<td>9,245</td>
<td>9,410</td>
<td>9,498</td>
<td>253</td>
<td>3%</td>
</tr>
</tbody>
</table>

Figure 6

BPA’s operating revenues also increased between 2015 and 2017. Revenue from the sale of electricity and transmission increased by $185,000,000 (or 6%). A table from BPA’s 2017 Annual Report, included below as Figure 7, illustrates this increase.

### BPA Operating Revenues (millions of dollars)

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>Change</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>$3,256</td>
<td>$3,284</td>
<td>$3,441</td>
<td>$185</td>
<td>6%</td>
</tr>
<tr>
<td>U.S. Treasury Credits</td>
<td>$82</td>
<td>$77</td>
<td>$58</td>
<td>(24)</td>
<td>-29%</td>
</tr>
<tr>
<td>Misc. revenues</td>
<td>$65</td>
<td>$72</td>
<td>$71</td>
<td>$6</td>
<td>9%</td>
</tr>
<tr>
<td>Total</td>
<td>$3,403</td>
<td>$3,433</td>
<td>$3,570</td>
<td>$167</td>
<td>5%</td>
</tr>
</tbody>
</table>

Figure 7

The 2017 Annual Report also shows a reduction in U.S. Treasury Credits of $24,000,000 over the same period. BPA receives these federal credits from its fish and wildlife program expenditures pursuant to the Northwest Power Act. The reduction in these credits appears to be the result of lower fish and wildlife spending.

The Lead Agencies failed to adequately consider these competitiveness issues in the DEIS. The Yakama Nation contends that a complete analysis would have addressed the

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186 The 2014 White Book did not include this data.
187 BPA, 2017 ANNUAL REPORT (2017) at 52. The 2017 Annual Report does not provide a breakdown of firm power revenues.
188 Id.
misconceptions driving utility concerns with respect to competitiveness. In turn, this would remove any impetus for BPA to cut costs on items such as its fish and wildlife program. The Lead Agencies should revise the power analysis in the FEIS to include the aforementioned points, updating the information as needed.

C. The Lead Agencies’ power analyses fail to adequately consider electric power generation issues.

The Yakama Nation is unable to independently verify the Lead Agencies analysis with respect to changes in electricity generation in DEIS Section 3.7. The Lead Agencies should have employed a more collaborative and transparent process, compared to the DREW, that involved the Yakama Nation in developing the analysis. This would have better positioned the Yakama Nation to evaluate this section and allowed for the meaningful public comment required by NEPA.

It appears that the Lead Agencies’ analysis relies on the resource portfolios from the Council’s Pacific Northwest Electric Power and Conservation Plan. The Lead Agencies should update the analysis based on the most current information being used for the upcoming 2021 Power Plan. Once the Lead Agencies update the analysis using this information, the Lead Agencies should use this analysis as a high-cost case.

For a low-cost case, the Lead Agencies should incorporate, with any necessary updates, the analyses and recommendations from Energy Vision for the Columbia River. This draft document identifies actions that can save regional ratepayers more than $1,300,000,000 per year, reduce adverse impacts to salmon and other fish and wildlife, reduce climate change-causing emissions, and make BPA more resilient to changes that could affect its financial health. It emphasizes a diverse and reliable energy resource mix that would lower energy costs while helping to recover salmon and resident fish populations.

Section 3.2 of Energy Vision for the Columbia River describes recommendations to improve energy efficiency and identifies low-cost energy savings of 1,000 average megawatts per hour above the conservation targets in the Council’s Pacific Northwest Electric Power and Conservation Plan. Section 3.3 describes recommendations to increase the development of renewable resources. These analyses and recommendations are essential to a cogent power analysis in the FEIS and to the appropriate set of measures in a Preferred Alternative.

D. The Lead Agencies’ power analyses fail to adequately consider the impact of electricity production on fish and wildlife resources.

As described in the Energy Vision for the Columbia River the day-to-day and seasonal operations of the hydroelectric system to meet peak and seasonal electricity load requirements cause fluctuations in river levels. These fluctuations have the potential to destroy populations of salmon and other important fish species. Although changes in operation levels can lessen the frequency and severity of these occurrences, their effects are still significant.

Hydropower is used to serve peak loads because dams are capable of reacting to demand by quickly putting more or less water through the turbines that generate electricity. However, this practice kills millions of juvenile salmon each year. During certain times of the year, so much water may be drawn down to generate electricity that salmon redds (i.e., gravel nests where salmon lay eggs) are uncovered or dewatered. This destroys the salmon eggs.

Daily fluctuations change river water levels and, where water levels are reduced, juvenile fish that feed and live near shore may become stranded and perish. Decreased nighttime flows caused by lower electricity demand interrupts fish migration. Fluctuations in reservoir levels injure resident fish by reducing nutrients and dewatering habitat and food supplies. The water held behind storage dams for power generation would, under natural conditions, be flowing in the river and therefore aid the swift and timely downstream migration of young salmon.

The recommendations in *Energy Vision for the Columbia River* are meant to reduce these impacts while at the same time decreasing costs for ratepayers. The Northwest electricity system has historically relied on the CRS to serve peak loads; the underlying assumption has been that running more water through the generators was a low-cost means of meeting peak requirements. This assumption ignored the other costs of serving peak loads.

*Energy Vision for the Columbia River* found that BPA charged between $0.028 and $0.037 per kilowatt hour for wholesale power during high-load hours. This analysis showed that the costs of delivering (i.e., transmitting and distributing) peak electricity are more than twenty-five times higher than the actual generation cost of such energy. As described in detail in *Energy Vision for the Columbia River*, the cost of delivering for the highest 15% of peak energy to consumers ranged from $0.79 to $1.19 per kilowatt hour in 2013. The average retail consumer paid about $0.08 per kilowatt hour for delivered electricity. Thus, these peak delivery costs were more than ten times the total-average electricity costs. The cost of serving the very highest peak load ranged from $80 to $120 per kilowatt hour: one thousand times higher than average consumer costs.

All of these costs become melded together in ratemaking, meaning that consumers are not able to easily discern the costs from different patterns of use. CRITFC estimated that reducing peak energy use could save consumers approximately $800,000,00 per year in planned expansions of the delivery system.

An update of the analyses in *Energy Vision for the Columbia River* and implementation of its recommended actions is pertinent and important to the development of operations that reduce adverse impacts to fish populations consistent with obligations to the Native Nations while reducing costs for ratepayers.

**E. The Lead Agencies’ power analyses fail to address actions to increase energy efficiency and reduce costs.**
Based on the analyses in *Energy Vision for the Columbia River*, the Council determined that efficiency programs cost utilities approximately $18 per megawatt hour. This is less than half of the cost of new generating resources. These programs would minimize the region’s costs of meeting additional electric energy demands. According to the Council, the region had saved five thousand megawatts since 1978 through energy efficiency programs, codes, and standards. These actions amounted to $3,100,000,000 in savings for the region’s consumers in 2011.

The implementation of appropriate conservations measures as part of an appropriate Preferred Alternative would surpass the conservation targets in the Northwest Conservation and Electric Power Plan and lead to an overall reduction in operating costs, there is a considerable amount of business incentive and public interest in energy efficiency today that did not previously exist. Customers are requesting green certifications and businesses are routinely marketing products with zero carbon footprints. The reduction in costs and demand would shift the relationship between the costs of fish and wildlife conservation and overall power rates.

The regional 2011 conservation savings amounted to 277 average megawatts, 57 megawatts ahead of the goal for that year and about equal to the 2014 target. Oregon and Washington were poised to upgrade energy efficiency codes. Conservation budgets were increasing at private utilities. Significant portions of American Recovery and Reinvestment Act funding was geared toward energy efficiency. BPA adopted tiered rates were new loads were served at market costs rather than a melded rate. Finally, BPA issued a request for proposal to develop industrial conservation potential.

*Energy Vision for the Columbia River* cited other analyses indicating that past studies by the Council had significantly underestimated energy efficiency and conservation potential. The study reviewed two papers to address this issue. The first paper, *Beyond Supply Curves* by two Energy Trust of Oregon staff and two Council staff, suggested that new technologies can significantly increase the amount and reduce the cost of energy efficiency measures. For example, the high efficiency windows referenced in the Council’s 2005 plan are 12% more efficient than what was assumed in the Council’s 1983 plan. Also, costs for energy efficiency technology become more competitive as that technology is more commonly used: the costs of compact fluorescent lamps dropped from the $12 per bulb estimates in the Council’s 1991 plan to $3 per build estimates in the Council’s 2005 plan.

The second paper, *Extreme Efficiency: How Far Can We Go If We Really Need To?*, by David Goldstein for the American Council for an Energy Efficient Economy, noted that many current methodologies are “excessively conservative if the goal of policymakers is to meet aggressive climate change emission reduction goals.” Goldstein documented systematic biases that result in low potentials for energy efficiency:

195 Id. at 15.
196 Id.
197 Id.
199 DAVID GOLDSTEIN, EXTREME EFFICIENCY: HOW FAR CAN WE GO IF WE REALLY NEED TO? at 10-44.
1) subjecting efficiency measures to a criterion of proof beyond a serious doubt;
2) assuming arbitrary realization factors less than 100% due to questions regarding social acceptance of energy efficiency;
3) implicit assumptions that a lack of research on the cost or feasibility of a measure means that it should be excluded from a study;
4) failure to consider system integration;
5) assumptions that technological process ceases and further improvements are not possible once known efficiency measures are implemented; and
6) reliance on projected costs of efficiency without look at realized costs, which are ultimately are always lower where data has been available.\textsuperscript{200}

These considerations signal that conservation estimates are frequently too conservative. Unfortunately, there are significant costs to these conservative estimates.

\textit{Energy Vision for the Columbia River} offered the following example, which focused on only one conservative assumption by the Council. In the Sixth Power Plan, the Council de-rated the available conservation by 15%, assuming “that no more than 85% of the technically feasible and cost-effective savings can be achieved.”\textsuperscript{201} De-rating the amount of achievable energy efficiency by 15% represents approximately 1,000 average megawatts of low-cost power that are not included in conservation targets. A simple calculation of the 2013 value (marginal resource costs minus cost of conservation multiplied by 1000 average megawatts\textsuperscript{202}) shows that the value of this additional conservation is approximately $500,000,000 per year. If one assumes that these savings are phased in over the life of a twenty-year power plan, the additional savings could total $5,000,000,000 by 2030.

Given the significant value of additional energy efficiency, the Lead Agencies should work with the Council to analyze these savings for the FEIS. Such an analysis would likely further reduce the costs of the alternatives included in the EIS and allow appropriate focus on fish and wildlife conservation and restoration.

\textbf{F. The Lead Agencies’ power analyses do not account for the role of low-income weatherization programs in the affected environment and benefits of increased energy efficiency in framing alternatives and assessing impacts.}

Tribal communities include many low-income families and individuals. For example, on the Yakama Reservation in 2013, the percentage of families living below the poverty level was 42% (four times higher than the average for non-Tribal families in the State of Washington); the winter unemployment rate was over 70%; and the per capita income was $5,700 per year (less than half the average for non-Tribal communities).\textsuperscript{203}

As a result, much of the housing in these communities is substandard. Often, Tribal elders and other individuals who require safe homes are those who live in substandard housing. Weatherization programs can provide basic repairs needed for energy savings to be effective.

\textsuperscript{200} Id. at 10-46–10-51.
\textsuperscript{201} COUNCIL, SIXTH POWER PLAN (2010) at 4-15
\textsuperscript{202} Id. at 10-4.
\textsuperscript{203} See pg. 59, infra.
For completeness of the analysis, Lead Agencies need to account for the effects of low-income weatherization programs on the cost analyses in the FEIS. Such programs would increase energy efficiency potential and further the Lead Agencies’ environmental justice responsibilities consistent with E.O. 12898 and related federal guidance.

G. The Lead Agencies’ analyses do not account for the role of energy efficiency programs for commercial buildings in the affected environment and the comparability of impacts from reasonable alternatives.

Energy efficient commercial buildings offer enormous potential savings. Lighting, appliances, and, most critically, heating, ventilation, and air-conditioning (“HVAC”) systems, appliances designed for energy efficiency can significantly reduce power costs.

The complexity of HVAC systems means that they need continuing attention to remain efficient and tuned to the tasks for which they’re designed. All new buildings should require certification processes to assure that HVAC systems are operating properly and efficiently.

Most commercial buildings rely on programmable but unmaintained thermostats. Many of these buildings HVAC systems are operated as if they were constantly occupied. Better scheduling can result in energy cost savings of 30% to 40%. Smart Grid technologies and strategies that enable a utility to essentially dispatch loads behind customers’ meters will more easily capture such savings.

The Lead Agencies should adequately consider potential savings from energy efficient commercial buildings when considering energy costs in the FEIS. Furthermore, a regional concerted effort to facilitate these savings is potentially a mitigation action.

H. The Lead Agencies’ power analyses fail to adequately consider loss of load probability issues.

Energy Vision for the Columbia River identifies strategies to reduce peak loads and improve system reliability. This includes recommendations to site strategically located resources, address emergencies and dry year strategies, and decrease peak demands. In addition, the Council is evaluating demand response as part of its preparation of the 2021 Power Plan. A recent Council staff paper identifies 3,335 megawatt hours of potential demand response by 2041.

The Lead Agencies should update the loss of load probability analysis in the FEIS based on information from Energy Vision for the Columbia River and the 2021 Power Plan.

I. The Lead Agencies’ power analyses fail to adequately consider cost issues.

The Lead Agencies’ replacement scenario associated with the dam breaching analysis is almost exclusively reliant on a single renewable energy resource: solar power backed up by

204 Energy Vision for the Columbia River, supra, at 19.
205 Id. at § 3.4, § 3.5, Appendix A.
batter storage. This narrow-focused reliance means that the Lead Agencies failed to consider alternative replacement resources such as wind power and other low-cost alternatives addressed in these comments. A broader and more complete analysis in the FEIS is necessary to ensure a comprehensive evaluation of the alternatives and the impacts associated with those alternatives.

**J. The Lead Agencies’ power analyses fail to adequately contextualize rate issues.**

Reducing costs will reduce rate impacts. This will promote equitable treatment of fish and power interests. Once the Lead Agencies revise the power generation analysis, as described above, the rate impact analysis must be adjusted accordingly.

The Lead Agencies should also add context to the rate impact analysis. The Lead Agencies state that current retail rates are 22% below the national average. The FEIS should analyze retail rates for each alternative, including the Preferred Alternative, relative to the national average.

Moreover, an effective rate analysis will consider the effect of rate changes within the context of the dams’ role in the impairment of Tribal communities. For example, average retail rates will increase by 1.6% to 3.6% under MO3. With regard to MO4, the Lead Agencies describe the upward pressure on retail electricity rates and conclude that “[t]hese expenditures…would, on average, account for 1.737 to 1.742 percent of household income. This represents a .018 to 0.31 increase in the percent of income spent on electricity relative to the No Action Alternative.” The Lead Agencies need to evaluate these impacts relative to the economic effects on Tribal communities. These effects as discussed in depth in the Economics section of these comments. This evaluation would bolster the Tribal Interest discussion in DEIS Section 3.74, which ignores such effects.

**K. The Lead Agencies’ power analyses fail to adequately consider transmission line issues.**

*Energy Vision for the Columbia River* identifies strategies to reduce transmission needs and save costs. The savings identified are larger than the added costs identified by the Lead Agencies in the DEIS. An adequate analysis will integrate cost reduction cost reduction measures with regard to transmission line issues into the alternative development, impact assessment and mitigation provisions of the FEIS.

**5.4. The Lead Agencies’ economic analyses fail to accurately describe economic impacts and benefits under the Preferred Alternative.**

This section describes flaws in the Lead Agencies’ economic analyses.

207 DEIS at 3-812.
208 DEIS at 3-927.
209 DEIS at 3-955.
210 Section 3.7.5 of the DEIS only addresses potential reductions in payments to the Confederated Tribes of the Colville Reservation and the Spokane Tribe of Indians. This is inadequate to capture the Tribal perspective on these issues.
A. The Lead Agencies’ economic analyses fail to consider the best available information.

The 1999 and 2019 ECONorthwest studies provided detailed and comprehensive analyses of the new costs, reduced costs, and economic benefits of Snake River dam removal, including consideration of increases and decreases in employment. These studies also identify measures to mitigate any adverse economic impacts. The 2019 study summarized other recent research that showed significant benefits from actions comparable to MO3. While the Lead Agencies reference some of these additional studies in the DEIS, the Lead Agencies dismiss, ignore, or omit them from further analysis without clear justification.

The Lead Agencies did not appear to put forth the requisite effort to properly update their analyses in light of these studies or subject their analyses to peer review or a collaborative and transparent process. As noted in the 2019 ECONorthwest study, the federal General Accountability Office (“GAO”) reviewed a 2002 EIS from the Corps and found that the economic studies therein were “fraught with errors, mistakes, and miscalculations, and used invalid assumptions and outdated data.” GAO concluded that “the errors caused several [Corps] studies to understate costs, overstate benefits, and not allow for a ‘reasonable basis for decision making.’”

As described in these comments, the Lead Agencies’ approach in the DEIS appears similarly flawed. To the extent that the DEIS understates costs and overstates benefits, it provided an uninformed analysis. Furthermore, the Lead Agencies fail to consider pertinent studies and data in their analyses.

But for the truncated review schedule for the DEIS, the requisite professional economic analyses could have been assured through review by a wholly independent scientific body such as the Council’s Independent Economic Analysis Board. The deficiencies can be corrected accordingly and will produce a more defensible FEIS.

B. The Lead Agencies’ process for developing the economic analyses failed to adequately involve all interested parties.

The DREW, described above, also developed collaborative economic studies for the Corps’ evaluation of potential impacts from removing the Snake River Dams. These studies were more comprehensive than those included in the DEIS. For the same reasons discussed above, the Lead Agencies should have organized a workgroup comparable to the DREW to produce an economic analysis for the DEIS rather than relying on the flawed cooperating agency process.

The remainder of this section describes flaws in the Lead Agencies’ economic analyses and provides recommendations for additional analyses in the FEIS. As above, the Yakama Nation recommends that the Lead Agencies convene a collaborative workgroup to address these flaws and develop the necessary economic analyses.

211 These studies are described in pg. 61 to 64, infra.
Yakama Nation Comments on the Draft Columbia River System Operations Environment Impact Statement

C. The Lead Agencies should have analyzed the unique economic impacts of the CRS on the Yakama Nation and its members.

The CRS transformed major portions of the Columbia and Snake Rivers and severely damaged the ability to provide sustainable populations of fish and wildlife. The construction and operation of the dams took substantial Treaty-protected wealth away from the Yakama Nation and other Native Nations.

As part of the DREW, CRITFC developed a detailed analysis, titled “Tribal Circumstances and Impacts of the Lower Snake River Project on the Nez Perce, Yakama, Umatilla, Warm Springs and Shoshone Bannock Tribes” (“1999 Tribal Circumstances Report”), on how the construction and operation of federal dams on the Snake River affected Native Nations.212

Per the CRITFC report, the construction and operation of the CRS has devastated salmon runs. Those salmon runs were essential to the economy, culture, and religion of the Yakama Nation. The 1999 Tribal Circumstances Report delivers a candid and data-driven perspective on the less than apparent economic and social impacts of the CRS on Tribal communities. It tied multiple expressions of Tribal values to an understanding of Tribal well-being measured by several different economic indicators.

These economic indicators were framed in terms of a hierarchy of needs.213 The 1999 Tribal Circumstances Report also observed linkages between the availability of traditional foods, particularly salmon, and Tribal health as measured by mortality rates associated with a loss of nutritional foods. It described the importance of salmon to Tribal members’ cultural and traditional well-being, sense of belonging, and self-esteem.214 It also used Tribal poverty, Tribal unemployment, Tribal per capita income, Tribal health and Tribal assets as more traditional indicators of Tribal well-being, providing relevant data for each indicator. Ultimately, the 1999 Tribal Circumstances Report concluded that the effect of the Snake River dams on the productivity of the Snake River Basin’s salmon and steelhead had caused significant and adverse impacts to Tribal well-being, both economically and otherwise.

The 1999 Tribal Circumstances Report provides a useful framework for considering Tribal concerns and perspectives with respect to unique economic impacts of the CRS. For that reason, the Yakama Nation called for the incorporation the 1999 Tribal Circumstances Report analysis into the DEIS economic and environmental justice analyses, updated as appropriate based on new information.215 The Lead Agencies failed to do so, or the manner in which the analysis has been incorporated or considered is not transparent.

212 This analysis is included as Appendix D to these comments.
213 These needs underlie human kind’s goal for “an increasing trend toward unity, integration, or synergy, within the person.” For instance, someone who is absorbed totally in fulfilling ongoing hunger needs will attend less to safety needs; and, a person whose security is constantly threatened will be less able to develop intimacy with others. See CRITFC, TRIBAL CIRCUMSTANCES AND IMPACTS OF THE LOWER SNAKE RIVER PROJECT ON THE NEZ PERCE, YAKAMA, UMATILLA, WARM SPRINGS AND SHOSHONE BANNOCK TRIBES (1999) (“1999 Tribal Circumstances Report”) at 46.
214 Id. at 45.
215 The Yakama Nation made this request during the cooperating agency process.
The “Tribal Perspectives Report,” prepared by the Treaty Tribes and included in Appendix P of the DEIS, draws heavily from the 1999 Tribal Circumstances Report while also supplementing it with new information and analyses. For example, the Tribal Perspectives Report compares the Tribal poverty levels and income information from the 1999 Tribal Circumstances Report with current data. The current data aligns with that of the 1999 Tribal Circumstances Report: poverty rates for members of the Treaty Tribes are still two to three times the national average, while their per capita income is less than half the national average. The tables included as Figures 8 and 9 below illustrates these statistics.

![Poverty Rate Chart](image)

**Figure 8**

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217 *Id.*
The Treaty Tribes did not have the resources available to perform a contemporary analysis of its members’ unemployment and death rates for the Tribal Perspectives Report. However, the 1999 Tribal Circumstances Report found that unemployment for the Native Nations studied was between three and thirteen times higher than for the region’s non-Indian populations. The rate of death for the Yakama Nation was twice the non-Tribal rate in Washington. The chart below, included as Figure 10, illustrates these numbers.

If the Treaty Tribes had been able to conduct these studies today, it is likely that they would have reached similar conclusions. The reasons for the irregularly high levels of poverty, unemployment, and death rates and low levels of income are the same today as in 1999: the absence of salmon, steelhead, and other traditional foods. Tribal members often prefer fishing-related means of economic support that preserve and perpetuate cultural values. As the 1999 Tribal Circumstances Report and the Tribal Perspectives Report concluded, negative economic measurements in Tribal communities rise steeply where Tribal members are unable to harvest salmon and steelhead due to depleted runs and degraded habitats.

218 1999 Tribal Circumstances Report, supra, at 1.
219 Id.
It is impossible to ascertain the true economic effect of the CRS or the Preferred Alternative without considering these impacts. Accordingly, the data and analysis included in both the 1999 Tribal Circumstances Report and the Tribal Perspectives Report (updated as necessary) are critical to an adequate economic analysis of the FEIS.

D. The Lead Agencies’ economic analyses fail to consider the disparity in wealth benefits and drawbacks from the CRS.

The CRS transformed the production functions of the impounded portions of the Columbia and Snake Rivers, taking substantial Treaty-protected wealth away from the Yakama Nation and other Native Nations. As described above, this has indirectly led to extreme poverty, low-income, unemployment, and death rates in Tribal communities.

At the same time, the CRS substantially increased the wealth of non-Indians through enhanced production of electricity, agricultural products, transportation services, flood control, and other associated economic benefits. Yakama Nation members have not shared in this increased wealth on a commensurate basis. Therefore, the negative economic impacts of the CRS fell disproportionately on the Yakama Nation.

Furthermore, the potential negative economic effects on non-Tribal electricity customers contemplated in the DEIS alternatives are insignificant compared to the effects on Tribal communities described in the 1999 Tribal Circumstances Report and the Tribal Perspectives Report. For example, average retail rates will increase by 1.6% to 3.6% under MO3.\textsuperscript{220} MO4 would create upward pressure on retail electricity rates that would “on average, account for 1.737% to 1.742% of household income.” However, “[t]his represents only a 0.18% to 0.31% increase in the percent of income spent on electricity relative to the No Action Alternative.”\textsuperscript{221} These slight increases in cost do not compare with the significant economic impact caused by the loss of fishing opportunity described in the previous section.

The disparity in wealth benefits, coupled with the disproportionate negative impacts, delineates a significant environmental injustice which the Lead Agencies have not adequately addressed in the impact analyses. Consistent with Executive Order 12898 and related federal guidance, the Lead Agencies must clearly identify and address this disparity in the FEIS. Specifically, the Lead Agencies must identify which alternatives would perpetuate the wealth inequality by failing to adequately protect fish populations (or otherwise not diminishing the economic burden on Tribal communities). The Preferred Alternative does not provide any significant benefits to salmon runs (see above) and will therefore continue these disparities. In addition to other corrections, the FEIS must identify mitigation measures adequate to minimize or rectify the disparity.

E. The Lead Agencies regional economic analyses overstate the likely economic impacts of MO3 and MO4.

These comments previously describe why the Lead Agencies’ analysis of MO3 and MO4 represents a high-end estimate of power costs and rate impacts. Likewise, the Lead Agencies exaggerate the overall economic impacts of MO3 and MO4 by failing to provide

\textsuperscript{220} DEIS at 3-927.
\textsuperscript{221} DEIS at 3-955.
appropriate context for these impacts. This exaggeration undermines the reliability of the impact analysis that informs the selection of a Preferred Alternative.

The Lead Agencies conclude that MO3 and MO4 will respectively result in the loss of 4,900 and 4,000 jobs. The 2018 total employment in Washington, Idaho, Montana, and Oregon was 6,314,600 jobs. Therefore, the project job losses reported for MO3 and MO4 respectively represent 0.08% and 0.06% of the total employment. The projected job loss for the Preferred Alternative represents 0.002% of the total employment.

The Lead Agencies also fail to put the economic output effects in the context of the total regional economy. The 2018 regional output for Washington, Idaho, Montana, and Oregon totaled $932,992,000,000. The projected loss of economic output for MO3 and MO4 respectively constitute only 0.08% and 0.07% of the total regional output. The projected loss of economic output for the Preferred Alternative constitutes 0.0021% of the total regional output.

The impacts on regional jobs and economic output noted by the Lead Agencies for MO3 and MO4 amount to less than eight one-hundredths of a percent. This is insignificant compared to the damages to Tribal economies resulting from the CRS, as discussed above. The Lead Agencies should include a more detailed analysis of the regional economy in the FEIS that considers the effects of each alternative in the broader regional context.

Relatedly, the Lead Agencies calculate a net present value ("NPV") impact for each alternative without any context of the total regional NPV. Without this context, the Lead Agencies' calculations are meaningless in terms of the comparisons of impacts from various alternatives or measures included in them. The Lead Agencies should provide the total regional NPV in the FEIS to clarify the impact of each alternative's NPV.

F. The Lead Agencies' employment analyses fail to consider the jobs and economic benefits that each alternative would create.

In the power analysis, the Lead Agencies describe in some detail the number of resources that would need to be constructed to replace the power reductions associated with MO3 and MO4. However, the Lead Agencies' analysis of employment impacts does not appear to include the jobs that would be created by constructing these resources and mitigating effects.

A 1999 study by ECONorthwest developed for the DREW found that removal of the Snake River dams would create 23,280 to 25,088 construction jobs. The table below, included as Figure 11, lists the specific types of potential jobs.

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223 BUREAU OF ECONOMIC ANALYSIS (https://apps.bea.gov/itable/iTable.cfm?ReqID=70&step=1#reqid=70&step=1&isuri=1) (last accessed April 13, 2020). The 2018 information was readily accessible; the Action Agencies should be able to develop more recent data.
224 DEIS at 3-904, 3-940.
225 ECONORTHWEST, Presentation to CRITFC (1999).
In the same study, ECONorthwest also concluded that Snake River dam removal would create 473 long-term jobs, primarily in recreation. The table below, included as Figure 12, lists the specific types of potential long-term jobs.

<table>
<thead>
<tr>
<th>Long-term jobs</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>New recreation</td>
<td>3,126</td>
<td></td>
</tr>
<tr>
<td>Power plan ops</td>
<td>1,100</td>
<td></td>
</tr>
<tr>
<td>grain transport</td>
<td>475</td>
<td></td>
</tr>
<tr>
<td>agriculture (part time)</td>
<td>(2,256)</td>
<td></td>
</tr>
<tr>
<td>dam ops</td>
<td>(1,193)</td>
<td></td>
</tr>
<tr>
<td>exist rec</td>
<td>(779)</td>
<td></td>
</tr>
<tr>
<td><strong>Net</strong></td>
<td><strong>473</strong></td>
<td></td>
</tr>
</tbody>
</table>

An analysis of the potential jobs created by an alternative is essential to understanding the potential impact of jobs lost. Based on the 1999 ECONorthwest study, it is likely that the projected job loss numbers discussed above will be even more insignificant once considered alongside the potential number of jobs created.

The Lead Agencies also failed to consider the overall economic benefits that each alternative would create. A 2019 ECONorthwest study analyzed the full range of benefits and costs associated with the removal of the Snake River dam and found, for example, that recreational values alone could generate between $557,000,000 and $1,600,000,000.226 The net economic increase was $505,000,000 in output, with $492,000,000 of value added in labor income and an increase of 317 average annual job years.227

*Energy Vision for the Columbia River* identifies actions that could help protect salmon populations while also saving electricity customers $1,300,000,000 per year. This benefit is approximately double the Lead Agencies’ estimations for the economic costs of MO3 and MO4.
The FEIS must reconcile the Lead Agencies economic analysis with should the kind of analysis of the jobs and economic benefits that each alternate could create similar to those done by ECONorthwest. At a minimum, this analysis should include a range forecast of the net costs and economic impacts.

G. The Lead Agencies’ NPV analyses fail to include federal discount rates.

The Lead Agencies’ economic analysis calculated the NPV of each alternative using a 7.9% discount rate over a thirty-year time period. However, the 2018 federal water resources planning rate provides for a 2.75% discount rate. This rate, which should at least apply to the Bureau of Reclamation (if not all of the Lead Agencies), would significantly reduce the NPV impacts described in the DEIS.

The Lead Agencies must explain why they did not use federal water resources planning rate in the DEIS. If this rate applies, then the Lead Agencies should adjust the NPV impacts calculations in the DEIS accordingly.

H. The Lead Agencies’ economic analyses do not incorporate non-use values.

The total economic value that an individual derives from a natural resource, such as a resource basin, can be conceptually divided into use and non-use values. Use values represent tangible features of a commodity that satisfy an individual’s want or need. Non-use values, on the other hand, capture an individual’s preferences for public goods or resources that are not derived directed from use.

For example, non-use values might include the value of improvements to a river basin for an individual who never visits the river basin, consumes fish from the river basin, or otherwise uses resources from the river basin. Factors that may give rise to non-use values include a desire to preserve the functioning of specific ecosystems; a desire to preserve ecosystems to maintain the option for future use; and a feeling of environmental responsibility or altruism towards plants and wildlife.

The 1999 Corps EIS evaluating the removal of the Snake River dams discussed throughout these comments included an extensive analysis on non-use values. That analysis concluded that the non-use values of Snake River dam removal ranged from $220,000,000 to $1,000,000,000. The table below, included as Figure 13, lists values for all the use and non-use values from the 1999 evaluation EIS and illustrates the potential significance of non-use values.

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228 JOHN LOOMIS, RECREATION AND PASSIVE USE VALUES FROM REMOVING THE DAMS ON THE LOWER SNAKE RIVER TO INCREASE SALMON (March 1999).
229 Id.
Factoring in non-use values, the net impacts of Snake River dam removal were a cost of $59,000,000 dollars in the low case to a benefit of $664,000,000 in the high case.\textsuperscript{230}

A 2019 ECONorthwest study concluded that the NPV for Snake River dam removal totaled $10,970,000,000.\textsuperscript{231} By analyzing new costs, reduced costs, and public benefits that include non-use values, the study found an NPV benefit of $8,650,000,000.\textsuperscript{232}

The Department of the Interior commissioned a study of non-use values for removing four dams on the Klamath River in 2012. That analysis used a conservative methodology for determining the non-use value associated with Klamath dam removal and restoration of Klamath Basin resources.\textsuperscript{233} Despite the conservative approach, the study identified $2,158,000,000 in potential non-use benefits for Oregon and California and $15,645,000,000 in potential non-use benefits nationwide.\textsuperscript{234}

Clearly, non-use values have been recognized by economists as potentially amounting to serious economic benefits. Indeed, the non-use values described in the 2019 ECONorthwest study are greater than many of the costs that the Lead Agencies have identified for MO3 and MO4. Nevertheless, the Lead Agencies’ economic analysis does not contemplate new costs, reduced costs, and public benefits that include non-use values. This is inadequate. The Lead Agencies have authority to conduct non-use value studies for the CRSO EIS.

\textsuperscript{230} This calculation represents the numbers included in the Corps’ public EIS for the evaluation. The analysis conducted by the private consultant showed a range of benefits from $386,000,000 to $3,000,000,000.
\textsuperscript{231} \textit{LOWER SNAKE RIVER DAMS ECONOMIC TRADEOFFS OF REMOVAL, supra}, at iv.
\textsuperscript{232} Id. The 2019 ECONorthwest report also details new costs and reduced costs for grid services, dam removal, irrigation, transportation, and recreation. Id. The Lead Agencies should include a similar analysis in the FEIS.
\textsuperscript{233} DEPT. OF INTERIOR, SECRETARIAL DETERMINATION FINDINGS OF TECHNICAL STUDIES (2017) at 156.
\textsuperscript{234} Id.
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Therefore, the Lead Agencies should include such a study in the FEIS. This will provide a more accurate picture of the economic impact of MO3 and MO4.

5.5. The Lead Agencies’ climate change analyses fail to consider important effects and driving factors of climate change.

This section describes flaws in the Lead Agencies’ climate change analyses.235

As a general comment, the Yakama Nation reiterates its recommendation that the Lead Agencies incorporate Energy Vision for the Columbia River and the other power analysis studies described above. These studies include a number of proposals on energy and renewable resource actions that are pertinent to the Lead Agencies’ climate change analysis.

A. The Lead Agencies’ climate change analyses fail to properly analyze the impacts of sediment changes.

In Chapter 4.2.2 of the DEIS, the Lead Agencies discuss the influence of climate change on river mechanics, including sediment transportation and deposition.236 Section 4.2.2.4 describes sediment changes in Region D – McNary, John Day, The Dalles, and Bonneville Dams under MO3.237

However, the Lead Agencies fail to evaluate what impact these changes would have on affected resources. Therefore, it is unclear whether the “[i]ncreased sediment transport” and “localized suspended sediment concentrations” that the Lead Agencies project would result from MO3 will result in beneficial or adverse impacts.

Restoring key riverine ecological functions and processes, such as natural sediment flow, to natural levels can improve habitat for fish and wildlife is desirable for salmonid production.238 On the other hand, excessive sediment levels can have “damaging impacts of all life stages of fish, particularly salmonids.”239 The Lead Agencies must include an impact analysis here to properly evaluate the influence of climate change on river mechanics. Where impacts are found, the Lead Agencies must develop measures to mitigation impacts caused by excessive sediment levels.

B. The Lead Agencies’ climate change analyses fail to properly analyze the long-term effects of changes in water quality and temperature.

In the introduction of Section 4.2.3 of the DEIS, the Lead Agencies acknowledge the likelihood of long-term water temperature increases in the Columbia River Basin.240

235 The Lead Agencies appear to have mislabeled several subsections here (anadromous fish, FRM, navigation and transportation, recreation, visual, noise, etc.). For clarity, the Lead Agencies should correct these errors in the FEIS.
236 DEIS at 4-24.
237 DEIS at 4-27.
238 COUNCIL, RETURN TO THE RIVER (2000) at 34.
240 DEIS at 4-27.
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However, in several analyses of each region and alternative, the Lead Agencies fail to even mention water temperature changes at all.241 Where the Lead Agencies do discuss water temperature, the analyses frequently focus more on the immediate temperature impacts of each alternative and do not include any long-term projections. For example, in considering MO3 for Region C, the Lead Agencies only discuss temperature changes caused by seasonal and daily variability.242

The Lead Agencies should comprehensively analyze the long-term projections for water temperature under MO3’s return to more normative river conditions. This analysis must include an evaluation of impacts to resources caused by these temperature changes.

C. The Lead Agencies’ climate change analyses fail to analyze the effects on anadromous fish.

The Lead Agencies have not adequately described potential effects of climate change on anadromous fish, despite the availability of extensive studies on the impact of climate change driven temperature and water quality changes on these species.

For example, meaningful analyses of climate change impacts require a presentation of the relationship between riverine and reservoir water temperatures over time and the thresholds for sublethal and lethal effects on anadromous fish. Water temperatures within the CRS already can reach levels lethal to anadromous fish during some summer months. More robust analyses on the effects of temperature changes is a critical component of identifying measures to be included in a Preferred Alternative.

Throughout the climate change analysis of effects on anadromous fish, the Lead Agencies make vague and conclusory statements about what “could” or “may” occur with respect to climate change impacts, but do not offer any further information or data regarding the likelihood of these occurrences. For example, “[i]ncreased transportation of juveniles may benefit some adult returns to Bonneville Dam, but could also increase the incidence of fallback and straying of adult salmonids;”243 “[a]dult migration under MO2 may be improved by lower spill, but the overall warming of the river water could offset this effect and result in poorer upstream migration and adult survival;”244 [s]ummer foraging for green sturgeon could be decreased further with climate change;”245 and “[f]orage habitat for green sturgeon could be decreased or disrupted by lower summer flows and flow fluctuations in July and August, and this could be enhanced by climate change effects.”246 The Lead Agencies should explain with more specificity the likelihood that these impacts and effects will occur. Furthermore, the Lead Agencies how, they reached the “the conclusions [they] have drawn from [their] chosen methodology [with regard to climate change impacts on anadromous fish,] and the reasons [they] considered the underlying evidence to be reliable.”

241 DEIS at 4-29 (analysis of MO4 effects on Region A); 4-30 (analysis of MO1 effects on Region B); 4-31–2 (analyses of MO2 and MO4 effects on Region C).
242 DEIS at 4-31.
243 DEIS at 4-37 (emphasis added).
244 Id.
245 DEIS at 4-38 (emphasis added).
246 DEIS at 4-39 (emphasis added).
The Lead Agencies rightfully state that, with respect to MO3, “Fall Chinook salmon habitat increases” and “increases in juvenile salmon and steelhead survival, decreases in travel time, and reductions in powerhouse encounters in MO3 could be reduced or offset by the effects of climate change.” However, the Lead Agencies’ analysis for the No Action Alternative, MO1, and MO2 (along with the Preferred Alternative) do not clearly indicate that climate change will further exacerbate these alternatives’ adverse impacts to salmon because those alternatives do not increase survival rates and habitat or decrease travel times and powerhouse encounters. In light of climate change effects, these alternatives will result in even worse outcomes for anadromous fish.

D. The Lead Agencies’ climate change analyses do not adequately consider impacts to power generation.

The Lead Agencies assert that “climate change is not likely to change the general conclusions from the power analysis of the relative effect of one MO versus another” but do not substantiate this claim with any facts or analyses. Moreover, as noted above, the Lead Agencies’ power analysis contains a number of flaws. Without correcting these flaws, the Lead Agencies cannot properly conclude that climate change will not impact the power analysis. The Lead Agencies should correct the power analysis consistent with the recommendations discussed above and then disclose how climate change effects will change under each alternative.

For example, these comments previously describe problems caused for the Northwest power system caused by climate change when a 2018 heat wave affected the Pacific Coast, Nevada, and Arizona. The heat wave increased the demand for electricity to meet air conditioning loads; constraints in natural gas supplies for electricity generating plants in southern California increased prices; wildfires reportedly threatened transmission lines. The results increased market prices from $16.65 per megawatt hour in June, to $71.88 per megawatt hour in July, and $69.96 per megawatt hour in August. These events are likely to increase in the coming years due to climate change, intensifying the risk of more price spikes. These issues should be addressed in the FEIS.

E. The Lead Agencies’ climate change analyses fail to clarify the alternatives’ impacts to recreational fishing.

The Lead Agencies’ analysis of climate change impacts on recreation does not make clear that the No Action Alternative, MO1, or MO2 would not increase recreational salmon fishing in any region. Likewise, it does not make clear that MO3 would increase recreational salmon fishing.

The Lead Agencies must clarify these points and account for them in the analysis of climate change impacts on recreation.

F. The Lead Agencies climate change analyses fail to provide an individualized assessment of the impacts to fisheries under each alternative.

247 DEIS at 4-38.
248 Information from the week ending September 29, 2018.
The Lead Agencies do not provide an analysis for climate change impacts on fisheries specific to each alternative. Instead, the Lead Agencies arbitrarily lump all of the alternatives together and conclude that climate change will result in adverse impacts to fisheries under every alternative. An individualized assessment of the likely climate change impacts under each alternative is necessary for “hard look” purposes. Notably, this conclusion does not appear to affect the Lead Agencies’ the biological analysis, which shows no measurable benefits for upper Columbia or Mid-Columbia anadromous fish for any alternatives and no measurable benefits on Snake River anadromous fish for the No Action Alternative, MO1, MO2, or the Preferred Alternative.

5.6. The Lead Agencies’ have not adequately explained the benefits of measures proposed under the Preferred Alternative.

This section describes flaws in the Lead Agencies’ proposed measures.

A. The Lead Agencies analyses of the Preferred Alternative’s Flex Spill operation measure include biases and unproven assumptions.

The Preferred Alternative Flex Spill operation relies on hourly changes in operations.\textsuperscript{249} However, all of the Lead Agencies’ analytical models reflect daily average operations. Therefore, the benefits of the fish analyses are biased toward showing benefits to fish populations, since a daily average of sixteen hours of high spill and eight hours of performance spill will tilt the analysis towards the higher spill. The Lead Agencies must update their analytical models in the FEIS to align with the planned Flex Spill measures so that the relevant analyses are accurate.

Moreover, the Preferred Alternative Flex Spill operation relies on the theoretical assumption that reducing the number of powerhouse encounters for fish will reduce latent mortality experienced through ocean migration as has been noted earlier. The majority of fish benefits in the Preferred Alternative depend on this unproven theory. The Lead Agencies must explain why they consider the latent mortality theory to be reliable. The Preferred Alternative does not provide adequate mitigation if the Lead Agencies’ assumption regarding latent mortality turns out to be false.

B. The Lead Agencies’ Preferred Alternative’s Flex Spill operation measure does not offer a long-term plan for protection of fish populations.

The Preferred Alternative Flex Spill operation is only planned for the first year.\textsuperscript{250} After that, the Lead Agencies will employ an undefined adaptive management process for determining flex spill operations.\textsuperscript{251} The rational basis for this approach has not been set out. A more protective and stable approach would be to adopt a Preferred Alternative Flex Spill operation with a fifteen-year plan (consistent with the BA). This plan should feature an adaptive management process that actively engages the Yakama Nation to assure consistency of changes with treaty rights and tribal cultural resources values before

\textsuperscript{249} Memorandum from Brandon Chockley and Jerry McCann to Michele DeHart (FPC), Subject: Preferred Alternative Modeling (January 13, 2020).
\textsuperscript{250} DEIS at 7-33; BA at 2-58.
\textsuperscript{251} Id.
deviations from the fixed operation occur. This type of meaningful engagement would conform to the Lead Agencies’ trust responsibility to the Yakama Nation.

5.7. **The Lead Agencies’ analyses of proposed mitigation measures do not clearly explain the extent or benefits of the measures.**

This section describes flaws in the Lead Agencies’ approach to mitigation measures.

A. **The Lead Agencies’ fail to transparently describe the extent of existing mitigation programs.**

The Lead Agencies’ descriptions of mitigation programs in the Preferred Alternative do not acknowledge that many of the programs relied on for mitigation have been diminished or have not actually been carried forward since the initiation of the EIS development process. Similarly, the Lead Agencies do not state the anticipated level of funding for existing mitigation programs under the Preferred Alternative relative to the No Action Alternative.

The BPA-funded fish and wildlife program has been reduced by $20,000,000 in 2018 relative to 2016. The Corps’ has operated its Columbia River Fish Mitigation program at very low levels for several years. To some extent, the Corps has asserted that no additional major actions are necessary. In addition, the Corps has also shifted its predator management programs to routine operation and maintenance funding. Therefore, the Preferred Alternative relies on mitigation programs that are currently reduced or funded at lower levels than described in the fully funded No Action Alternative.

The Lead Agencies should be aware of changes to their own mitigation problems. If these changes are not accounted for in the mitigation analyses, then the analyses are not based on the “evidence before” the Lead Agencies and are effectively meaningless. The Preferred Alternative included in the FEIS must accurately account for the cost of mitigation program implementation and the means of assuring the necessary funding.

Similarly, the Lead Agencies do not state the anticipated level of funding for existing mitigation programs under the draft Preferred Alternative relative to the No Action Alternative. Accordingly, it is impossible to evaluate the potential biological benefit of proposed mitigation programs. A reader must infer the size and scale of mitigation programs based on the measures presented in the BA and assume that current fiscal year 2020 funding levels will persist to support these measures. The necessity for such inference and assumption are contrary to NEPA’s purpose of environmental impact identification and disclosure.

B. **The Lead Agencies fail to justify the benefits expected from significant proposed mitigation measures.**

The Yakama Nation is unclear how the Lead Agencies determined expected benefits from proposed mitigation measures, given the lack of specificity in the list of those measures.

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Furthermore, it appears that the Lead Agencies exaggerated the benefits of the proposed measures.

The Lead Agencies provide summary tables in the BA that compare proposed mitigation measures to current conditions for each species by life history stage. “Factors” are color coded to represent anticipated effects: green for positive effects, gray for no changes, and yellow for negative effects. The summary tables also include plus, minus, and equal signs to denote whether there are anticipated benefits at each life stage.

These tables appear skewed to illustrate anticipated benefits where, in reality, benefits are immeasurable or unsubstantiated. The statements supporting positive ratings are all qualified as “slightly,” “likely,” and “potential.” This suggests that there is very little certainty that this suite of measures will add up to measurable change in the trajectory for Chinook and steelhead populations in the Columbia River. Furthermore, the Lead Agencies do not describe the analyses or standards used to determine why a positive, neutral, or negative effect is anticipated.

The Lead Agencies could characterize a very small (less than 1%) change in a metric as a positive effect, despite not having performed a statistical analysis or even indicated a standard to justify that finding. As such, the summary tables are effectively a list of conclusory statements. The Lead Agencies must explain how they reached these conclusions and their rationale for characterizing minimal changes as positive effects.

The Lead Agencies apparently assume that a dozen slight and minor improvements at various life stages for Chinook and steelhead will cumulatively constitute sufficient evidence of improvement to justify the suite of measures to be included in Preferred Alternative. The Lead Agencies do not provide a rational connection between the incremental improvements and measurable benefits to justify this assumption.

The remainder of this section considers quotes from the summary tables that serve as specific examples of the Lead Agencies’ unsubstantiated claims with respect to positive effects.

253 List of summary tables from Appendix V – BA:

- Table 3-6 SR Fall Chinook;
- Table 3-10 SR Sockeye;
- Table 3-18 SR Steelhead;
- Table 3-26 SR Spr/Sum Chinook;
- Table 3-34 UCR Steelhead;
- Table 3-41 UCR spring Chinook;
- Table 3-49 UCR Steelhead;
- Table 3-52 LCR Coho;
- Table 3-55 LCR Chinook;
- Table 3-58 LCR Steelhead;
- Table 3-62 LCR Chum (cut and pasted from chinook section);
- Table 3-65 UWR Chinook (cut and pasted from Columbia stocks); and
- Table 3-68 UWR Steelhead.

254 Confidence intervals (standard deviation) were provided to the Lead Agencies for the NOAA COMPASS model results for juvenile survival, but the Lead Agencies do not include that data in the BA summary of model results.
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- “Potential positive effect from continued tributary habitat restoration.

The Lead Agencies identify a set of implementation metrics to be accomplished in the first five years and total fifteen years of the BA. The metrics are identified for Chinook and steelhead species separately; however, in many cases these species overlap. The Lead Agencies’ proposed habitat program metrics are identified in Tables D.2 and D.3 in Appendix D to the BA. However, there is no analysis in the summary tables or elsewhere to demonstrate the how the Lead Agencies intend to achieve these metrics or what positive biological effects are expected. It is not clear if the metrics will be captured specifically for each species or whether individual actions that benefit both species will be double counted. Also, there is no connection between the proposed habitat metrics and potential benefits to salmon and steelhead. No response metrics are provided to demonstrate expected biological benefits.

For the upper Columbia/East Slope Cascades Major Population Group (“MPG”), the Lead Agencies provide no information on where the actions will take place to achieve the proposed metrics from Table D.2. The Yakama Nation is the primary implementor of BPA mitigation funding in this region. Nevertheless, the Yakama Nation’s staff struggled to understand how these metrics were set and where they would be achieved. The current level of funding does appear not suitable to achieve the metrics proposed. In addition, habitat funding in the upper Columbia region has been reduced by over 10% since 2016. Therefore, less habitat work will be implemented than could have been implemented under the No Action Alternative if 2016 levels of funding were maintained.

Moreover, with regard to the metrics set forth for upper Columbia/East Slope Cascades MPG in Table D.2, a Yakama Nation consultant reviewed the metrics with the following responses:

- Flow Protected – 29CFS: In the mainstem Lower Wenatchee, this action would have almost no measurable biological benefit. If it were conserved in smaller streams currently flow limited and used by spring Chinook, then it could definitely have an impact. Most streams that would benefit from more water and have spring chinook in them are not flow limited or don’t have significant irrigation activity the main exceptions being the Twisp River, upper Methow, and upper Wenatchee. There may not be a lot of meaningful opportunities for this metric. In addition, water purchases have had a cost of $185,000 to $249,142 per cfs, which calculates to $5,300,000 to $7,200,000 for 29 cfs. Water acquisitions are almost always multiyear and are extremely detailed negotiations, which take time away from pursuing other restoration actions. From a cost point of view, buying 29 cfs would burn at least two years of Upper Columbia Habitat Restoration Project (“UCHRP”) construction budget. For those reasons, the current level of funding is not suitable for achieving that metric.

- Flow Enhanced – 5,309 acre/feet: Late season water releases do not seem to work very well. Specifically, enforcement of the turn-off has been a big problem. Also,

255 DEIS at Appendix D, Tables D.2 and D.3.
most of the damage to fish gets done during the summer and keeping a small amount of water in the stream during the fall is mostly window dressing. There may be a water lease scenario that is beneficial for fish and is also enforceable, but those scenarios are difficult to find in the upper Columbia.

- **Entrainment Screening – 5 screens:** Most irrigation intakes within anadromy are currently screened (with the exception of the Okanogan Subbasin) and therefore five screens seem like a reasonable number.

- **Habitat Access – 5 miles:** The UCHRP is currently working to restore access to thirteen miles of good/excellent potential steelhead and spring chinook habitat. There is another ongoing project which will likely provide access to over ten miles of excellent steelhead habitat. Restoring five miles is shortchanging the potential benefit. Restoring habitat access is one of the easiest ways to alleviate the density dependence issues seen throughout the Columbia Basin; the BA shouldn’t be setting the bar this low. As we move past the five-year mark, we’ll need significantly more funding to start working on passage in small streams where there are multiple barriers per mile and the cost will be significantly higher.

- **Stream Complexity – 8 miles:** The UCHRP’s ten-year implementation plan identifies individual projects totaling sixty-five miles in the upper Columbia. From 2009 to 2019, the UCHRP restored twenty-one and a half miles of stream and side channel habitat and it’s difficult to say that work moved the needle very much. Spring chinook are currently at the AMIP trigger, as are steelhead. Under current conditions and priorities, the UCHRP could construct eight miles of habitat complexity in five years.

- **Riparian Habitat Improved – 68 acres:** Riparian restoration is a long-term investment, which may not show benefit for ten years or more. Although the UCHRP does significant riparian restoration with every habitat complexity project, we only have one acre designated for specific riparian improvement in our ten-year implementation plan. Restoring sixty-eight acres seems like a reasonable amount of standalone riparian restoration. Riparian condition tops out at being the third highest ranking limiting factor in most of the upper Columbia, and in many AUs its much lower. Perhaps on small streams where the riparian can provide shade within five years. On larger streams (and most spring Chinook Critical Habitat are that) the benefit of riparian won’t be seen for generations. Riparian restoration is relatively expensive and if the UCHRP were going to try to achieve sixty-eight acres in five years, we’d need additional funding or would have to scale back passage and complexity work.

For all the MPGs, the Lead Agencies have not coordinated with the primary implementers of mitigation to determine whether these metrics are needed to address the highest limiting factors and whether they are even feasible to achieve. In biological assessments associated with other federal actions, the Lead Agencies coordinated with the local implementers to ascertain what actions were needed and what biological benefits may be achieved through those proposed actions.
In addition, habitat funding in the Snake River region has been reduced by over 10% since 2016, so less habitat work will be implemented than could have been implemented under the No Action Alternative. Accordingly, with regard to the Table D.2 metric, a Yakama Nation consultant reviewed the metric with the following response:

- **Stream Complexity – 8 miles:** In the Grande Ronde, restoring eight miles of stream complexity in the next five years or twenty-four miles in the next fifteen years across the entire Grande Ronde/Imnaha basin will not be adequate to recover Snake River Chinook.

The Lead Agencies must explain how, based on these metrics, they concluded that tributary habitat will result in positive effects.

- **“Existing and future habitat improvements will likely improve tributary water temperatures and turbidity levels.”**

Tributary water temperatures and turbidity levels are not included as metrics evaluated in the Lead Agency’s commitments in Tables D.2 and D.3. The Yakama Nation is therefore unclear as to why the Lead Agencies included these metrics in the summary tables and how the metrics are relevant to the conclusions therein. At any rate, Lead Agencies must explain how and to what degree improvements to tributary water temperatures and turbidity levels will result in a biological benefit to salmon and steelhead.

In addition, the Lead Agencies fail to provide a rationale that connects the proposed habitat metrics in Tables D.2 and D.3 to the anticipated biological benefit for the species identified. It is unclear if proposed efforts will achieve the proposed metrics or whether achieving these metrics will benefit the target populations. The Lead Agencies must provide a biological explanation to demonstrate that the proposed metrics will address the primary limiting factors for the target species and how much response would be expected in life state survival.

- **“Flexible spill plan is expected to slightly increase non-turbine passage, and therefore survival.”**

The COMPASS model estimates change in survival, but the Lead Agencies choose to infer benefits to survival based on powerhouse passage. The only metric that consistently shows significantly positive results from all COMPASS modeling for Flex Spill is powerhouse passage. Otherwise, most of the COMPASS model outputs for all species do not demonstrate more than 1% to 3% improvements in juvenile survival. Survival rates for upper Columbia steelhead juveniles is negative. Therefore, it appears that the Lead

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257 The Columbia Basin Fish & Wildlife Program, supra.
258 DEIS at 7-94, 7-95, 7-100, 7-102.
259 Id.
260 Id.
261 DEIS at 7-95.
Agencies expectations regarding Flex Spill’s effect on survival runs counter to the evidence before them. The Lead Agencies must explain this discrepancy.

- “Travel time will slightly decrease with the flexible spill plan.”

The majority of model outputs for all species demonstrate no more than a 1% to 3% improvement. This is not a statistically significant improvement (as implied by the Lead Agencies’ use of qualifying language). Nevertheless, the Lead Agencies mark these actions with green highlight and a plus sign. The Lead Agencies must provide a rationale for concluding that a minor improvement in travel time will result in positive effects for fish.

- “Continuation of predator management programs should decrease predation, slightly increase survival, and slightly reduce predation rates.”

It is true that predation may not worsen under status quo funding levels. However, pinniped and avian predation will not likely improve relative to the status quo without further investment and action. The Lead Agencies must explain how they concluded that continuation of these programs will increase survival and reduce predation rates.

With significant investment, predator management may provide one of the best opportunities to provide incremental survival benefits at key life states. The Lead Agencies should provide additional measures to ensure improvements, including the creation of a basin wide coordination forum to ensure that all predator management agencies are coordinating their efforts to maximize results and to prioritize additional actions.

- “Monitoring adult migration may assist in development of actions to reduce overshoot.”

The Lead Agencies must provide funding in the CRFM budget for additional actions to respond to information gathered in the monitoring of adult migration, such as installation of modified spill gates. Overshoot is already well-known concern.

Without funding, it seems that the Lead Agencies simply propose to further monitor a known problem. The Lead Agencies must explain how they concluded that monitoring will result in practical development of overshoot reduction actions.

C. The Lead Agencies fail to consider the role of local watershed groups in prioritizing and implementing mitigation actions with respect to habitat.

The Lead Agencies provide a detailed description of their proposed Tributary Habitat Improvement Program in Appendix D to the BA. This description fails to recognize the importance and reliance on local watershed groups to help prioritize and implement habitat actions. The Lead Agencies should properly recognize the Yakama Nation and other co-

262 It is also worth noting that tables associated with this statement appear to be cut and pasted without verification. The benefits of Flex Spill are identified for lower Columbia Coho, steelhead, and chum even though these species don’t pass through more than one dam and Flex Spill may be constrained at Bonneville Dam due to erosion concerns.
managers as active participants on the Tributary Habitat Steering Committee in order to fully evaluate the effectiveness of habitat mitigation proposals.

6. Conclusion:

In light of the numerous deficiencies identified in these comments, the Lead Agencies must, at a minimum, implement significant revisions to the DEIS in preparing an FEIS. The Lead Agencies have not provided the Yakama Nation with assurance that the operation, management, and maintenance of the CRS will adequately comply with the Lead Agencies obligations regarding the Treaty of 1855, the federal trust responsibility, or applicable statutes. Rather, the DEIS, as currently drafted, suggests that the adverse impacts of the CRS will continue to fall disproportionately on the Yakama Nation and its members.

The Lead Agencies must reasonably consider a holistic re-write and reissuance of a draft for public comment based on both the procedural and substantive issues presented by the current draft. Yakama Nation staff are prepared to work with the Lead Agencies on a document that meets federal agency obligations under NEPA and the Treaty of 1855.

The Lead Agencies should revise the CRSO EIS schedule as necessary to allow for meaningful engagement with the Yakama Nation on these issues. Such engagement is consistent with the Lead Agencies’ government-to-government relationship and fiduciary responsibility to the Yakama Nation. Moreover, it is consistent with the partnership that exists between the Yakama Nation and the Lead Agencies pursuant to the Fish Accord.

These concerns are of greatest import to the Yakama Nation. If you have any questions regarding these comments, please contact Mr. Ethan Jones, Lead Attorney for the Yakama Nation Office of Legal Counsel, at (509) 865-7269, ext. 6014.

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263 In submitting this comment, Yakama Nation does not waive its sovereign immunity from suit, nor does it waive, alter, or otherwise diminish its sovereign rights, privileges, or remedies guaranteed by the Treaty with the Yakama of 1855 (12 Stat. 951). Furthermore, submission of this comment does not substitute for formal government-to-government consultation on this matter.