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Federal Co-Lead Agencies

US Army Corps of Engineers, Attn: CRSO EIS
1201 NE Lloyd Blvd
Portland, OR 97232

**Comments of the Public Power Council on the Columbia River System Operations
Draft Environmental Impact Statement**

Introduction and Overview

The Public Power Council (PPC) appreciates this opportunity to provide comments on the Columbia River System Operations (CRSO) Draft Environmental Impact Statement (D-EIS). PPC is a trade association representing the interests of the non-profit, consumer owned utilities of the Pacific Northwest. PPC's broad and diverse utility membership purchases much or all of their wholesale power and transmission from the Bonneville Power Administration (BPA). Serving as an economic engine of the Northwest, BPA and its rates visibly affect pocketbooks of residents and the vitality of businesses and job creation in the region and its environmental mitigation efforts help protect and enhance our region's natural resources.

Changes in the operations and cost of the federal hydropower system have profound impacts on Northwest public power utilities and the communities they serve. These utilities, and their ultimate customers, pay the vast majority of the costs of operating and maintaining the system. Costs related to fish and wildlife mitigation typically comprise a quarter or more of BPA's power rates. Northwest public power utilities will have other supply options when their BPA contracts expire in 2028. Today, these utilities fund nearly 70 percent of the agency's overall costs and 80 percent of its power costs. Without stable funding from Northwest consumer-owned utilities, there will be uncertainty for essential Northwest programs, including the world's largest environmental mitigation program.

The federal hydro system provides substantial value to public power and the entire Northwest region through its flexible and clean power generation. Any degradation of the hydro system will result in a combination of increased costs for utility customers, lower grid reliability, and increased greenhouse gas emissions. At the same time, public power is committed to mitigating the impacts of operating the system on fish and wildlife. Mitigation must be scientific, cost effective, and have a clear nexus with hydro system operations.

PPC appreciates the effort that the federal agencies have put into creating a comprehensive analysis of alternatives for management and operation of the Columbia River System. Overall, the D-EIS represents, in thousands of pages of material, a comprehensive and robust analysis regarding the potential impacts of the alternatives. As further described in these comments, this analysis fulfills its statutory and policy purposes under the National Environmental Policy Act.

While the co-lead federal agencies present a well-defined preferred alternative, PPC remains concerned about the additional costs and biological uncertainty that this preferred alternative may engender. Going forward, close monitoring and adaptive management will be required. We will need certainty and clarity about co-lead agency mileposts and transparency regarding actual performance of the preferred alternative against co-lead agency stated objectives. Solutions will have to be found to ensure that preference customers do not solely bear incremental costs that provide broader social and environmental benefits.

With the completion of the Final EIS, a follow-on public process should be established by BPA or the co-lead agencies, as appropriate, to periodically share specific performance outcomes of the preferred alternative. If necessary, from that process, BPA or the co-lead agencies should create engagement opportunities for any significant adaptive management steps that are needed to better align system performance to the preferred alternative objectives.

Overall Principles

In evaluating the D-EIS, PPC is guided by the following set of principles.

The primary focus of Northwest public power is assuring that any new costs resulting from the government's process are equitably allocated and not borne exclusively by BPA's public power customers. To the extent the preferred alternative results in additional costs allocated entirely to public power, it is time to find ways to build on existing federal law to more broadly share these regional costs. Not only is it

appropriate to equitably align cost responsibility with public benefits but doing so also recognizes the region's shared stake in both fish recovery and the financial health of BPA.

The economic, environmental, and operational benefits of the Federal Columbia River Power System (FCRPS) as it exists today should be properly considered and accounted for. Hydropower is a 24/7 clean renewable source that is vital to meeting the region's carbon goals, which continue to strengthen as society's concerns about carbon intensify. A recent study published in the Proceedings of the National Academy of Sciences (PNAS) concluded that among the country's 20 largest electric regions, the BPA hydropower-based system resulted in the Pacific Northwest region producing and using the cleanest energy in the nation.

FCRPS hydropower is also a flexible resource that enables the region to meet future sustainability goals by integrating intermittent renewable resources like wind and solar onto the grid. The flexible capacity that the FCRPS provides will only increase in demand and value as state legislation, policies and economic or other factors drive the retirement of fossil-fueled base load resources and replace them with intermittent renewable generation.

The FCRPS projects are a key part of reliable and affordable grid operations and cannot be replaced at low cost by intermittent renewable resources. The value of capacity and reliability of the power produced by these projects has to be properly accounted for.

As community-owned, non-profit entities, public power utilities are particularly mindful of their public service mission and obligations to all people they serve. Public power utilities serve many individuals and communities that are struggling. In both urban and rural locations, public power utilities fund substantial low-income assistance programs.

In our modern economy, electricity has become an essential public service. We need to be mindful that policy changes that adversely impact the hydro system will result in higher costs for the region's ratepayers, which puts some urban and rural ratepayers at a higher risk that they won't have access to this essential public service.

Northwest public power is aligned on the goal of ensuring all fish mitigation costs are properly allocated and do not unduly burden BPA customers, and we also have a number of other community perspectives beyond the cost component. In addition to the costs concerns, individual community perspectives of public power utilities include electricity supply and grid reliability, local jobs and community commerce, river commerce and navigation, recreation, municipal water supplies and water quality, irrigation water for agriculture, flood control, environmental impacts, and many more.

Many interest groups that are focused on single issues have mobilized their members to submit form letters and comments to influence the CRSO process – even if their members do not live in or have never visited the Pacific Northwest. Meanwhile, Northwest public power communities must live with the eventual consequences of a CRSO decision. The Northwest public power community remains hopeful that federal decisionmakers will be mindful of these nationally organized efforts to influence certain outcomes that are single-issue focused.

Legal and Statutory Framework

It is important to evaluate the D-EIS in the proper legal framework because, if the final EIS is challenged, the court will use that framework to adjudicate any claims made against the study.

The National Environmental Policy Act (NEPA) “is a purely procedural statute.”¹ It is now well settled that NEPA does not dictate any particular policy outcomes and does not mandate any particular results.² Instead, it regulates the manner in which federal agencies arrive at their outcomes by “simply provid[ing] the necessary process to ensure that federal agencies take a hard look at the environmental consequences of their actions.”³

The statutory requirement that a federal agency contemplating a major action prepare an environmental impact statement serves NEPA’s purpose in two important respects.⁴ First, it ensures that in reaching its decision, the agency will have available and will carefully consider detailed information concerning significant environmental impacts. By focusing the agencies on the environmental consequences of the proposed action, NEPA ensures that important effects will not be overlooked or underestimated only to be discovered after resources have been committed. Second, it guarantees that the relevant information will be made broadly available to the public that may also play a role in both the agency’s decision-making process and the implementation of that decision. An environmental impact statement provides a springboard for public comment and offers interested parties notice of the expected consequences.

Although NEPA’s procedural requirements are likely to produce the kind of information that will affect the agency’s substantive decision, NEPA merely prohibits uninformed agency action.⁵ In contrast with other statutes that are driven by environmental policy

¹ *Neighbors of Cuddy Mountain v. Alexander*, 303 F.3d 1059, 1070 (9th Cir. 2002).

² *Id.*, *Idaho Conservation League v. Bonneville Power Administration*, 826 F.3d 1173, 1175 (9th Cir. 2016).

³ *Neighbors of Cuddy Mountain*, 303 F.3d at 1070-71 (internal citations and quotations omitted).

⁴ *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348-49 (1989).

⁵ *Id.* at 351.

goals and obligate federal agencies to develop comprehensive recovery and mitigation plans for the affected endangered species,⁶ this D-EIS is not designed to be such a plan for any endangered species. So long as the D-EIS adequately identifies and evaluates the adverse environmental effects of the proposed action, the agencies are not constrained by NEPA from deciding that other values outweigh the environmental considerations.⁷

Implicit in NEPA's demand that an agency takes a "hard look" at the environmental consequences of proposed federal action is an understanding that an environmental impact statement will include a reasonably complete discussion of mitigation measures for any adverse environmental consequences.⁸ "There is a fundamental distinction, however, between a requirement that mitigation be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated, on the one hand, and a substantive requirement that a complete mitigation plan be actually formulated and adopted, on the other."⁹ It would be inconsistent with NEPA's reliance on procedural mechanisms—as opposed to substantive, result-based standards—to demand an environmental impact statement to include a fully-developed plan that will mitigate environmental harm before an agency can act.¹⁰

If an environmental impact statement is challenged, the court will gauge the adequacy of the study under a "rule of reason" that does not materially differ from an "arbitrary and capricious" review.¹¹ In assessing whether the agency has taken the requisite "hard look" at the environmental consequences of its action, a court will evaluate whether the environmental impact statement contains a reasonably thorough discussion of the significant aspects of probable environmental consequences. If there are conflicting expert views, the "agency must have discretion to rely on the reasonable opinions of its own qualified experts even if, as an original matter, a court might find contrary views more persuasive."¹² Once the court is satisfied that an agency's exercise of discretion is truly informed, the court must defer to that informed discretion.¹³

⁶ See, e.g., the Endangered Species Act of 1973, 16 U.S.C. § 1536(a)(2) (requiring that every federal agency "insure that any action authorized, funded, or carried out by such agency ... is not likely to jeopardize the continued existence of any endangered species or threatened species").

⁷ *Robertson*, 490 U.S. at 350.

⁸ *Id.* at 351-52.

⁹ *Id.* at 352.

¹⁰ *Id.* at 353.

¹¹ *Neighbors of Cuddy Mountain*, 303 F.3d 1071.

¹² *Greenpeace Action v. Franklin*, 14 F.3d 1324, 1332 (9th Cir. 1992) (internal quotations and citations omitted).

¹³ *Neighbors of Cuddy Mountain*, 303 F.3d at 1071.

Opportunity for Comment and Public Engagement

The co-lead agencies have invested substantial resources to produce a comprehensive analysis in combination with understandable narrative at different levels of expertise and subject matter knowledge. This includes an accessible Executive Summary providing an overview as well as much more in depth analytical chapters and appendices.

The initial scoping process was robust and resulted in a reasonable range of alternatives. This includes a comprehensive analysis of dam breaching, higher spill levels, and operations that increase hydropower generation. It would be infeasible to examine the infinite possible changes to CRS operations and structures, and the D-EIS provides sufficient analysis for decision-makers to understand the relative trade-offs of different alternatives and to make informed decisions.

It is important to balance the need to make the D-EIS broadly available to the public and take public comment with the need to keep the NEPA process moving and prepare a final EIS that considers public comment. It is also crucial that the system operates pursuant to legally valid NEPA and Endangered Species Act (ESA) coverage.

In balancing these obligations, the 45-day comment period that was noticed well in advance is adequate to provide meaningful feedback on the D-EIS analysis, especially when combined with other methods of participation.

The plan for six public comment meetings was robust and provided opportunity for broad public participation. The move to teleconference in response to the COVID-19 crisis was prudent and actually increased accessibility. This was evidenced by the hundreds of verbal comments received from a wide range of organizations, demographics and interests. Additionally, there was adequate time available during the teleconferences for participants to provide multiple comments if desired.

Power Generation and Transmission Analysis

Accurate and comprehensive analysis of the power generation and transmission impacts of the alternatives is essential for public power customers and the region as a whole. The FCRPS is the backbone of the regional power system and provides its largest source of carbon free energy, capacity and flexibility. A reliable, affordable, and clean power supply is fundamental to the Northwest economy as well as to the health and safety of its residents.

Meaningful analysis of operational alternatives requires understanding the differences in the energy, capacity, and flexibility that the FCRPS can provide. Reductions in capability must either be met with the redispatch of existing resources in the region or

addressed through imports outside the region. The analytical choice of studying both thermal and new “renewable” resource portfolios provides meaningful information on the range of choices and costs of replacement resources. Further, the renewable resource portfolios based on the optimization of the Northwest Power Planning and Conservation Council’s (NWPPCC) 7th Power Plan represents a reasonable approach, including a diversified mix of wind, solar, and battery storage. There is no compelling reason to believe that a different mix or re-optimization would have a meaningful impact on outputs.

The framework for Power Generation and Transmission analysis is robust and utilizes broadly accepted tools and inputs that have been thoroughly vetted in the region. Key tools include Hydsim for hydro generation, GENESYS for reliability, AURORAxmp for regional production costs, Gridview for transmission reliability, and the BPA Rates Analysis Model for wholesale power rate impacts. Inputs for demand and resource costs are reasonable.

PPC also supports the range of metrics used to evaluate the economic and financial impacts of alternative operations. These outputs provide meaningful information on electricity rate impacts and a variety of views on the social, financial, and economic effects of changes to power and transmission resulting from alternative operations.

The energy landscape and outlook in the West has evolved rapidly since 2017. Recent work by the Northwest Power Pool (NWPP) and NWPPCC has highlighted growing resource adequacy issues in the region due in large part to the accelerated retirement of numerous coal resources. By the metrics of the NWPPCC’s most recent Power Supply Adequacy Assessment, the region’s power supply may start to become inadequate by 2021. Without action, the chances of reliability events or blackouts increases alarmingly over the following five years.

This concern about future resource adequacy is a consensus among regional utilities and experts. Utilities of all types have begun serious efforts through the NWPP to invest in new analytical capabilities and to find tangible and reliable solutions.

Given these factors, the financial and rate impacts from the “Base Case” scenarios in the D-EIS are extremely conservative. Specifically, based on known regional resource retirements, any significant lost hydro capability from alternative FCRPS operations would need to be replaced in its entirety with new resources. At the same time, Oregon and Washington are advancing environmental policies that may make construction of new thermal generating resources difficult or impossible. These operational and policy realities need to be carefully considered, as they impact overall regional electric grid reliability and resource adequacy beyond that served by the FCRPS.

As such, for the final EIS it is essential that cost impacts including expected coal retirements and replacement of lost hydro capability with new carbon free resources are the primary basis for comparison of the alternatives. The analysis in the D-EIS shows conclusively that degradation of the hydro system as contemplated in MO3 and MO4 would realistically cost the region up to \$1 billion per year or result in substantial increases in GHG emissions. Highlighting this information in the final EIS is crucial for policymakers and the public in adequately understanding the substantial tradeoffs.

PPC strongly supports carrying forward the analytical framework from the D-EIS to the final with further emphasis on the costs of fully replacing lost hydro capability. In addition, PPC would support additional information or analysis that can be provided to address erroneous and unsupported statements by certain stakeholders that the output of the Lower Snake River projects is surplus to BPA or regional needs, or is somehow being sold at a loss.

PPC also requests that the final EIS include more information on the availability of incremental energy efficiency. We have observed that certain stakeholders mistakenly assert that the lost hydropower generation could easily or inexpensively be replaced with energy efficiency when, in fact, BPA and regional utilities are already pursuing all cost-effective measures. PPC requests that the final EIS include additional output from GENESYS describing expected unserved energy from modeled reliability impacts. Finally, any additional information or analysis regarding the secondary environmental impacts of the renewable portfolios would be helpful. This could include factors such as land use, avian impacts, service life of equipment, and required input resources such as minerals or metal.

Fish and Wildlife Impacts

Among the multiple objectives included in the D-EIS, PPC is supportive of goals to improve juvenile and adult salmon populations as well as resident fish. Improving the survival, habitats, and conditions for these fish is important to the Northwest ecosystem, economy, and tribal way of life. Salmon play a central role in the lives of many in the region, whether they serve as a source of income, food, or as a cultural touchpoint. PPC supports actions and improvements that measurably and cost-effectively improve survival for these fish. Public power customers are committed to their share of costs to mitigate for the impacts of FCRPS operations. Over the past decades, PPC members have contributed significantly to fish and wildlife mitigation efforts, which account for 25% or more of BPA power costs.

Over time, these investments have improved fish survival through the Federal Columbia River Power System. However, not all changes or investments have been proven to provide benefits to fish. Among these, several operational changes, such as increased

levels of spill, have significantly reduced carbon-free hydropower generation without clearly demonstrating that they provide benefits to resident fish populations, or adult and juvenile salmonids.

Preferred Alternative Spill Levels are Untested and Need to be Monitored

Despite the lack of evidence showing benefits to fish from increased spill, the Preferred Alternative continues to incorporate higher spill levels to improve SARs. Increasing spill to 125% of the Total Dissolved Gas (TDG) standard, as the Preferred Alternative suggests doing, may in fact harm the species it is meant to help. This level of TDG represents uncharted territory in the CRS, and it exceeds the recommendations set by the EPA. In trying to help juvenile salmon, spill may result in compromising resident fish, other river organisms, and salmon through Gas Bubble Trauma (GBT). In addition to GBT, spill operations can delay adult migration back upstream, harming the very fish the operations are most intended to assist.

This outcome must be prevented. For these reasons, the D-EIS includes provisions to monitor for unintended consequences of the preferred alternative and adapt operations as needed. The D-EIS Monitoring and Adaptive Management Plan (MAMP) outlines an approach to accomplish this. PPC is supportive of the MAMP and believes that it is a central pillar to the EIS and future operations. The MAMP's inclusion of specific metrics, as well as a commitment by the federal agencies to a transparent and scientifically robust management process that incorporates new information as it becomes available will help to avoid the worst unintended consequences of spill. These metrics, as with other aspects of the MAMP, should continue to be updated as the action agencies gain more information about the effects of spill and other changes to system operations that are selected as part of the preferred alternative. It is essential that monitoring for GBT include adequate sample sizes that accurately represent the typical TDG exposure of juvenile fish populations.

The commitment expressed by the federal agencies in the quote below, excerpted from the MAMP, is critical. From the D-EIS, Appendix R-6-1 lines 336-341:

In coordination with sovereign parties with interests in CRS spill operations, the FSWG will design a long-term study plan to assess the impacts of high spill on latent mortality on Columbia and Snake River salmon and steelhead. The study will need to address the following criteria:

- *Statistically meaningful results*
- *Within a reasonable timeframe*
- *While providing safe fish passage*

These principles can result in robust management and analysis that benefit salmon and other species. However, there is some ambiguity to them by design, as each criterion is open to discussion and interpretation as part of the *adaptive* management plan. Reasonable timeframe, statistically meaningful, and safe fish passage are not commonly agreed upon metrics, as stakeholders with different perspectives have different goals for these elements. PPC expects that discussions and decisions around these matters will be transparent, and that there will be clear logic behind the choices that are made and opportunities for stakeholder input through a structured process.

For these reasons, while the MAMP and principles above are a good starting point, they will only be useful if they can be successfully executed. This requires that the co-lead agencies have the flexibility under the final EIS to adaptively implement the management plan and to regularly and broadly share progress against stated objectives. Governance processes must also include clear records of the benefits or outcomes that are prioritized and explanations of why.

CSS and LCM Models Must be Calibrated and Validated

PPC has significant concerns not only with the unintended consequences of increased spill, but also with the scientific and analytical approach used to arrive at those spill recommendations. The D-EIS Preferred Alternative and flex spill operations are primarily supported on the outcome of the Fish Passage Center's (FPC) Comparative Survival Study (CSS) model. While the D-EIS includes both the CSS model and NOAA's Life Cycle Assessment (LCM) model, the operations it proposes reflect benefits to anadromous fish predicted by the CSS model and not by the LCM model.

Despite showing relatively similar results for in-river survival, powerhouse encounters, and other juvenile metrics for Snake River Spring Chinook, the two models diverge on expected smolt to adult returns (SARs). For MO4 and the Preferred Alternative, the CSS model predicts higher SARs than the No-Action Alternative, whereas the LCM model predicts *lower* returns than the No-Action Alternative. This is not just a matter of degree, but a directional contradiction. The models also do not agree on a starting point. They predict different returns from each other for the No-Action Alternative, which is the baseline against which all other results are compared. The models need to reflect reality before they can be trusted to estimate future conditions.

The CSS and LCM models should be validated and calibrated to historical data to show that they can be relied upon to serve as inputs for the Final EIS. If the models cannot be shown to reflect historical SARs given historical conditions and hydro operations, they may not be useful in predicting future outcomes. This validation process should be inclusive of the co-lead agencies and provide for rigorous peer review and public distribution of results.

CSS Model Hypothesis May be Flawed

In addition to calibrating the models, PPC believes that the CSS model may be based upon a flawed premise (the “damage hypothesis”), and that its results must be interpreted with caution. The CSS model is based on the observation that fish which pass through bypass systems have historically had lower adult return rates than fish which pass over dam spillways. The CSS model then hypothesizes that this is due to some unexplained harm to juvenile fish by dam turbines or bypass systems that results in latent mortality. It then concludes that in order to increase adults returns, fish must be passed over spillways, rather than through alternate routes, to increase SARs rates.

The damage hypothesis ignores other potential explanations for the difference in SARs for fish that pass over the spillway versus through bypass systems. In fact, recent studies by National Marine Fisheries Services scientists have shown that the differences in SARs for different dam passage routes are better explained by how fish select those passage routes, rather than on any harm the routes cause. Faulkner, Bellerud, Widener and Zabel (2019)¹⁴ demonstrated that larger fish tend to follow spillways and smaller fish tend to pass through turbines or bypass systems. This result points to a new hypothesis for differential rates of juvenile fish survival and SARs.

In comparing the potential hypotheses, the study found that fish size, rather than dam passage route, resulted in a better prediction of adult returns. Larger fish, regardless of passage, tended to have higher SARs than smaller fish. Adding fish size to the model resulted in improvements to several key indicators of statistical significance and model performance, whereas including passage routes did not provide the same improvements to the model. By including juvenile salmonid passage routes in its modeling and not fish size, the CSS model mistakes correlation with causation and provides information that is misleading and results in suboptimal operations for both fish and power. The Northwest Power and Conservation Council has recommended annually since 2007 that the FPS add fish size to the CSS model. Until fish size is incorporated into the CSS, the model should be interpreted with extreme caution and recognized as not reflective of the best available science.

CSS and LCM Model Analysis

As discussed above, the D-EIS MAMP includes metrics and processes to determine whether spill and other operational changes are having unintended consequences. However, the MAMP does not thoroughly outline how to address the disparities between

¹⁴ Faulkner, J., B. Bellerud, D. Widener, and R. Zabel, 2019. Associations among fish length, dam passage history and survival to adulthood in two at-risk species of Pacific salmon. *Transactions of the American Fisheries Society*. 148:6, 1069-1087.

the two competing salmonid life cycle models. Due to their prominence in determining CRS operations and structural changes, the CSS and LCM models both need to be included for assessment as part of the MAMP.

This model-vetting process should include best available science, any new information or data, and be subject to peer review and open to public disclosure. Examples of criteria that could be included in this vetting are: 1) Does the model incorporate any variables or inputs that are not proven to be statistically significant? 2) Does the model exclude any variables or inputs that are shown to be statistically significant? 3) Does the model accurately reflect and predict (within an agreed-upon range) SARs given historical data?

As the action agencies carry out the Preferred Alternative and MAMP, they will need to continually assess whether the operations and structural changes that have been enacted are having the desired effect. Further, assessment is required to determine if the models and other decision-informing documents support and lead to actions that improve outcomes for fish. Without a clear methodology to critically assess the CSS and LCM models, changes in juvenile and adult survival rates may be conflated with incorrect assumptions and result in the use of a model that does not accurately reflect impacts of changes in the CRS. This could lead to poor decisions regarding CRS operations well into the future.

If the CSS or LCM models are shown to contain assumptions or inputs that do not hold up to scientific or statistical review, or if new information comes to light that calls into question their validity, the operational or structural changes made due to that model's results should be brought before the Regional Implementation Oversight Group for review. PPC expects that this information would be made publicly available, and that the federal action agencies would make corrections to their operations, such as halting practices that were recommended by a model that has been found to have material flaws.

Predation Management

Avian, piscine and pinniped predation are among the largest individual contributors to salmon and steelhead mortality in the CRS. However, there is substantial public misperception of this, with many citizens attributing the majority of juvenile salmonid mortality directly to the FCRPS. PPC requests that the federal agencies quantify major sources of juvenile production and major sources of mortality as an important underpinning to the regional discussion and in recognition that the D-EIS has invested substantial time to discussing juvenile salmon impacts. This information will help to inform the regional dialogue on the impacts of the federal hydro system and potentially direct resources to priority areas of impact, such as predation management.

Measures to reduce predation have had positive impacts on juvenile and adult fish survival in the past and will in the future, as well. These measures often represent some

of the more cost-effective steps that the federal agencies can take. In the case of pinnipeds, reducing predation of adult salmonids produces a significant benefit, as these returning fish represent a small fraction of the outgoing juvenile population. For juvenile predation, the proposed John Day reservoir level modifications represent an action that has limited risk or downside and can significantly reduce Caspian tern nesting habitat. This is a good example of a measure that could provide cost-effective, measurable and a positive overall impact to fish populations. PPC supports further investigation of potential predation management techniques, and views these as an essential piece of any successful salmonid mitigation program.

Other Socioeconomic Impacts

Although PPC is organizationally focused on impacts to hydropower, fish and wildlife, we clearly recognize there are other socioeconomic impacts of potential changes to the configuration and operation of the CRS. The D-EIS has appropriately included analysis of a range of impacts to air quality, flood risk, navigation and transportation, recreation, and water supply. These impacts are essential to consider for multi-purpose projects. PPC encourages the federal agencies to carefully consider the comments of our PPC member public power utilities, as well as those provided by the Pacific Northwest Waterways Association and Northwest RiverPartners, for ways in which these areas of analysis can be enhanced in the final EIS.

PPC appreciates the work of the federal co-lead agencies in producing a comprehensive and robust D-EIS. Thank you for your consideration of these comments.

Sincerely,



Scott Simms

Executive Director
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