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Steve Crow, Executive Director
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Dear Mr. Crow:

On behalf and at the direction of its member tribes, the Commission is pleased to offer the following comments on the Council's draft Energy Plan (2004-12). We encourage the Council to consider the "Tribal Energy Vision" published by the Commission in May 2003, which is available at www.critfc.org/legal/tev.pdf. The energy vision speaks to a number of the issues identified by the Council, including risks associated with insufficient regional power supply and economic and environmental advantages of resources such as load management (demand response).[1]

The draft Energy Plan notes the risk that BPA and the region face if BPA continues over-commitment of Federal Base System power resources, particularly in low flow years and market rates higher than BPA's rates. We urge the Council to assure that its final plan is consistent with the July 2004 Government Accounting Office Report, *Bonneville Power Administration- Better Management of BPA's Obligation to Provide Power is Needed to Control Future Costs.* The GAO report recommends that to reduce the risk that BPA will be over-committed in the future and to help BPA control the costs of future power purchases, the rights to purchase firm power output should be defined tare as follows:

- The amount of power that BPA sells at its cost-base rate should be limited to the equivalent of the firm output of the FCRPS (as defined by critical water years)
- Customers that demand additional power from BPA should be charged incremental rates that fully incorporate the additional costs that BPA incurs in obtaining or otherwise providing the additional power

[1] Please note that the Tribal Energy Vision did not attempt to quantitatively estimate future regional loads or the amount of energy resources needed to satisfy these future demands.

- To reinforce BPA's actions, evaluate the feasibility of issuing a rule under the Administrative Procedure Act to define the rights to purchase the firm output of the FCRPS and set the terms of incremental rates for any power sold beyond firm output.

These points should be explicit in the final power plan. While the draft plan calls for a continuation of the Council's informal oversight as to BPA's plans and operations, the 2001 experience calls for the Council to formalize its review oversight authority under Sections 4(i) and 4(j) of the Power Act. We suggest that the Council should request and fully consider the input from tribes in the basin with respect to such review.

The experience of 2001 demonstrated that the Council is willing to subordinate fish and wildlife protection and restoration for power needs, even if these needs are artificially created by market conditions. Unfortunately, 2001 reflected a failure in regional power planning and implementation. The Council must accept its share of the responsibility for this failure. Adoption of the least risk plan, implementation of demand response, oversight of regional reliability, and allocation of further effort to assess loss of fish operations probabilities are important steps to assure that the events of 2001 are not repeated.

Responses to Council Inquiries

- ***Choice of the least risk plan?***

The least risk energy portfolio is generally consistent with the Commission's tribal energy vision. The thesis of the tribal vision is to lessen the pressure of the region's energy demands on the Columbia River ecosystem. The least risk portfolio is consistent this vision. Among other things, the least risk plan is more diverse and more likely to successfully address uncertainties in regional energy markets, climactic conditions, resource acquisitions, transmission system constraints, and other factors than the other plans. Unfortunately, the foregoing risks are not simply economic. Failure to properly plan for these risks can and has resulted in changes to federal hydrosystem operations that are deleterious to salmon. A diverse and robust regional energy portfolio is an important tool in managing both economic and environmental risks.[2]

- ***Treatment of uncertainty and risk?***

As discussed more fully in our section-by-section comments, we encourage the Council to more proactively consider the risks associated with climate change, regardless of its causes. It is clear that the region is experiencing climate change effects and will continue to do so. These changes are likely to result in changes to the Columbia River runoff patterns, as well as seasonal temperature changes. The Council should engage with regional bodies assessing the effects of climate change to assess risks and potential responses in a way that protects the fish and wildlife resources of the Columbia Basin.

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[2] Congress clearly envisioned that conservation and other regional energy resources would be important in achieving the "equitable treatment" balance for fish and wildlife resources called for in the Act.

We also encourage the Council to plan for the uncertainty that the four lower Snake River dams may be decommissioned. Planning responses to such a reduction in FCRPS generation is described in the tribal energy vision.

- ***Is demand response an appropriate "resource" for inclusion in the plan?***

Demand response (called "load management" in the energy vision) is a very important and under-developed resource for the Pacific Northwest. Unfortunately, the Pacific Northwest has lagged behind the rest of the nation in this regard. It's time for the Northwest to catch-up.

As described more fully in the tribal energy vision (see figures 1 & 2 therein), regional loads in excess of 75% of peak load occur very infrequently, less than 7% of the total hours in the year. Yet, billions of dollars of capital investment in generation and transmission occurs to serve these loads. Using the hydropower system to meet peak loads (e.g., those above 75% of peak load) is not only extremely costly to the power system, it can be devastating to salmonids and the aquatic environment on which salmon and other species depend. Given these and other considerations, investment in load management makes extraordinary economic and environmental sense.

While the draft plan identifies "demand response" as a method of bringing more equity to fish and wildlife under low flow years, it does not offer a specified action plan as to how this would occur, how many megawatts might be saved, and what incentives or regulations might be offered to entice consumers to adopt such a path. The final plan should begin to fill in the blanks on an action plan for load management and demand response implementation.

- ***Has climate change risk been treated appropriately?***

The Council's treatment of climate change risk is confined to an assessment of the probability that a carbon tax will be imposed as a regulatory response to climate change. We urge the Council to consider a more robust treatment of climate change uncertainties, which are likely to affect Pacific Northwest runoff patterns and hydro generation. The Commission believes, among other things, that climate change calls into question flood control management practices that were developed decades in the past. The balance of generation and hydrosystem operations must reflect this changing circumstance. In this regard, we encourage the Council to work with us and others in the region to address climate change effects proactively (regardless of their cause).

- ***Is the amount of conservation reasonable?***

Conservation is uniquely compatible with the needs of Columbia River salmon. Once installed, it is always available. It tends to reduce peak demand, both hourly and seasonal. It is affordable. Once installed, it is not subject to "economic dispatch" considerations that create adversarial situations (significant transaction costs) in daily hydro system management. We encourage the Council to include aggressive amounts of conservation in the energy plan to help address regional uncertainties, such as market development, climate change, population growth, etc.

- ***The Council should take a lead role in adequacy policy and should go much further in helping to solve transmission problems.***

The tribal energy vision points out opportunities for environmental and economic savings by holistically addressing conservation, load management, generation, and transmission constraints. The amount of capital resources tied up in transmission infrastructure is enormous. Transmission constraints can be alleviated by strategic location of generation resources at less economic cost than adding additional transmission capacity for remotely located generation.

- ***The Council should work with fish and wildlife managers to identify methods of integrating fish and wildlife needs and power operations.***

The draft plan states that the needs for fish and wildlife are "uncertain" and thus hydrosystem operations cannot be quantified. The Council has not been consistent in addressing fish and wildlife uncertainties over the last decade. For example, the landmark Council document, *Return to the River*, released in 1996, outlined several key steps to resolving these uncertainties, yet the Council has not attended to the recommendations of this independent scientific report. Instead, the Council has fostered more uncertainty. The Council should embrace the recommendations from the tribal, state and federal fish and wildlife managers with respect to decision process, scientific protocols, and hypothesis testing. The Power division should work with experts from the fish and wildlife management agencies to construct analytical techniques to address known biological conditions and risks.

Section-by-section comments

Executive Summary
(http://www.nwcouncil.org/energy/powerplan/draftplan/000_ExecSumm.pdf):

ES-5 ("Planning for an Uncertain Future"): the draft should recognize and embrace strategies that could help partially offset the effects of global warming and climate change.

ES-16 (Second bullet): "None of the plans showed significant additions of generation resources during the next five years." This statement is incredible given the major impacts of the drought of 2000-2001 that the region's fish and power program still feel to this day (and this fact is admitted in Section N).

The draft does not state the current proportion of firm to non-firm resources. Will that proportion change in the next five years? It would be desirable to build more firm resources.

The draft fails to reference CRITFC's Tribal Energy Vision Paper (Foley 2003). The tribes advocate for more firm resources so less pressure would be exerted on the FCRPS and fish.

Action Plan (http://www.nwcouncil.org/energy/powerplan/draftplan/ 00_ActionPlan.pdf):

AP-14: ACTION GEN-14 (Carbon Sequestration). The idea to bury post-production carbon dioxide gas is good. Storage facilities should be in a seismically quiet area, such as eastern Montana (Figure 1). More seismically active areas, such as Idaho and NW Wyoming, should be avoided.

Draft fails to consider the role of methane gas, which can trap over 20x more heat than carbon dioxide gas (McCully 2002), which is underappreciated by planners. Mounting research suggests that significant amounts of methane are being released from sediments trapped within hydro reservoirs (McCully 2002). Hence, methane sequestration would be needed for effective greenhouse gas control. The draft should address this issue and outline possible solutions.

AP-15: ACTION ADQ-3 (Improve Consideration of Risk). There is a disconnect in the draft for calling for an improvement in the consideration of risk and at the same time ignore the work already performed by NPCC staff. In Section N, Effect of Climate Change on the Hydroelectric System, future flow scenarios are modeled, but none of the possible consequences are being considered in the draft. Despite the uncertainties in climate change science, it is imperative that NPCC planners recognize the reality of climate change and plan accordingly.

AP-16: ACTION F&W-1. The draft fails to outline how NPCC will work with the Tribes on these issues or if the Tribes will have meaningful input. For example, despite the NPCC's recent outreach to CRITFC regarding the Flow/Survival Symposium, CRITFC's concerns to the proposal were seemingly disregarded (e.g., insufficient lead time for set-up, non-participation by most regional salmon experts, etc.).

AP-19: ACTION MON-4 (Climate Change Science and Policy). There is a low likelihood of reducing the uncertainties around climate change science in the near future. Climate change science is faced with great challenges that even unlimited research and funding support would not resolve. For example, only 50 to 100 years of good reliable weather data exists for researchers to use. "Proxy data" or data derived by knowledge of certain natural process (e.g., tree rings and geochemical signals found in lake/ocean sediments) is available but its quality diminishes as one goes further back in time. On top of the data question is the reality that the observed climate signal is a composite of several time-series of climate signals—ranging from decadal to thousands of years. Climate change science is trying to unravel where exactly we are on this composite signal by separating out the short-term and long-term signals. The NPCC needs to move forward in its planning with a warming future, despite the uncertainty.

Section 10: Power Planning and Fish and Wildlife Program Development
(http://www.nwcouncil.org/energy/powerplan/draftplan/10_Fish.pdf):

10-2: In listing how to improve the integration of fish and power needs, there are no specifics in terms of priorities (quantity or quality) or needs of both sides. The tone suggests that fish programs need to be subservient to the needs of power, for which cost is a driving factor. This

tone has been prevalent among power system economists for at least two decades. The tone belies an apparent misunderstanding of management uncertainties with regard to the biological sciences. Ecosystems simply do not respond in a linear fashion to managing economic tradeoffs at the margins. It is unrealistic to expect that ecosystem effects can be definitively modeled. The PATH and the ISG "Return to the River" reports demonstrate state of the art scientific thinking with respect to the Columbia Basin ecosystem. The PATH models were extraordinarily sophisticated. The ISG's report was based on ecosystem management concepts from foremost experts. We encourage the Council's power division staff to develop tools to integrate what is known about the Basin's ecosystem management into its planning, rather than resting on the threadbare excuse that "the biology is too uncertain." For economics, what standards are being proposed? None are suggested in the draft.

We concur that BPA must fulfill it's fish and wildlife obligations. We also concur that hydrosystem operations for fish and wildlife need to be integrated with power operations in a holistic fashion to avoid the common week-to-week operating decisions in the TMT forum. We believe that the TMT Process is seriously broken. Among other things, the tribes and states are not allowed to sit at the federal executive committee table to address river operations.

There are important modifications that could be made to the FCRPS that could assist meeting both power production and fish and wildlife. These should be considered in the final power plan. For example, the final plan should consider modifications to current FCRPS operations that would increase power production. Additional generation potential of the FCRPS is available if current, flood control rule curves were modified or if flood control operations were geographically shifted. Rule curves now in place often require loss of system storage for power production during high runoff periods when power markets are already saturated. As another example, the FCRPS power peaking capacity is only needed for short periods within the 24-hour cycle. As recommended in the *Tribal Energy Vision*, if conservation, load management, and distributed generation were promoted to fill needs during the power peaking periods, the FCRPS operation could be modified to meet spill and other fish and wildlife operations while better serving the region's energy needs.

The final power plan should examine the relationship of Columbia River Treaty, the Pacific Northwest Coordination Agreement and the Mid-Columbia Hourly Coordination Agreement with respect to power reliability and modifications to better accommodate power demand and fish and wildlife benefits.

Section M: Global Climate Change Policy
(http://www.nwcouncil.org/energy/powerplan/draftplan/Appendix%20M%20(Global%20Climate%20Change).pdf):

M-1 (Second paragraph): The assertion that regional climate change effects are "uncertain" is not true. Referencing the work of Dr. Trexler, a relatively unknown researcher in climate change science, gives too narrow of a perspective. Work by the University of Washington's Climate Impacts Group (CIG 2004) is the best science that the region has on the impacts of climate change in the Pacific Northwest and should be more fully utilized by NPCC planners. The CIG

was a significant partner in a summer 2004 meeting at OSU where scientists shared their research on climate change impacts on the Pacific Northwest (INR 2004).

Section N: Effect of Climate Change on the Hydroelectric System
(http://www.nwcouncil.org/energy/powerplan/draftplan/Appendix%20N%20(Climate%20Change%20Effects).pdf):

Causes of Global Warming (N-5): The draft fails to consider alternative paradigms on the cause of global warming. Increasing evidence suggests that the solar output plays a larger role in affecting Earth's weather than first thought. Specifically, the sun may be hotter now than it has been in the last 1000 years (Schewe, et.al. 2003, Hogan 2003) and that surge in solar activity could account for a greater share of global warming (Figure 2). It is important to note that global warming is occurring, no matter what the cause. It is likely that a combination of natural solar warming plus human-induced industrial emissions are working together to generate the observed global warming.

Potential Mitigating Actions (N-27): While the draft (Figures N-13a, N-13b, and N-13c) clearly shows the effects of global warming on Columbia River at The Dalles flows, namely higher winter peaks, muted spring peaks, and decreased summer flow, the draft fails to consider alternative strategies to mitigate for such impacts. CRITFC continues to advocate for altered flood control operations that employ modified upper rule curves and refill on May 31st instead of June 30th (Martin 2004). Preliminary GENESYS modeling (Figures 3 and 4) suggests that CRITFC's altered flood control operation could partially mitigate for future global warming at least past 2020 but diminish by 2040.

Other non-hydro mitigation efforts may include riparian re-forestation efforts under sub-basin planning efforts. More trees would pull out more carbon dioxide gas from the atmosphere and provide shade for streams and enhance water quality.

Sincerely,

Olney Patt, Jr.
Executive Director

cc: Bonneville Power Administration
Attachments

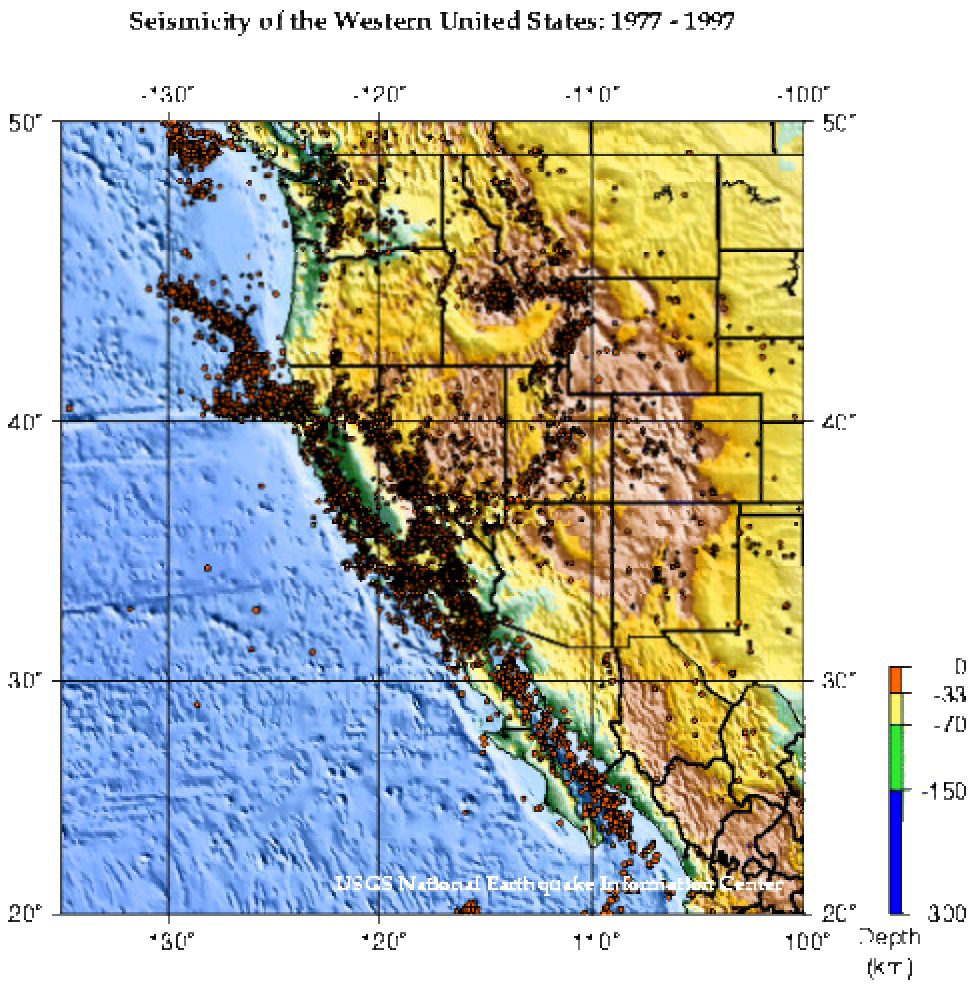

Figure 1. Recent seismic activity in the western United States (USGS 2004).

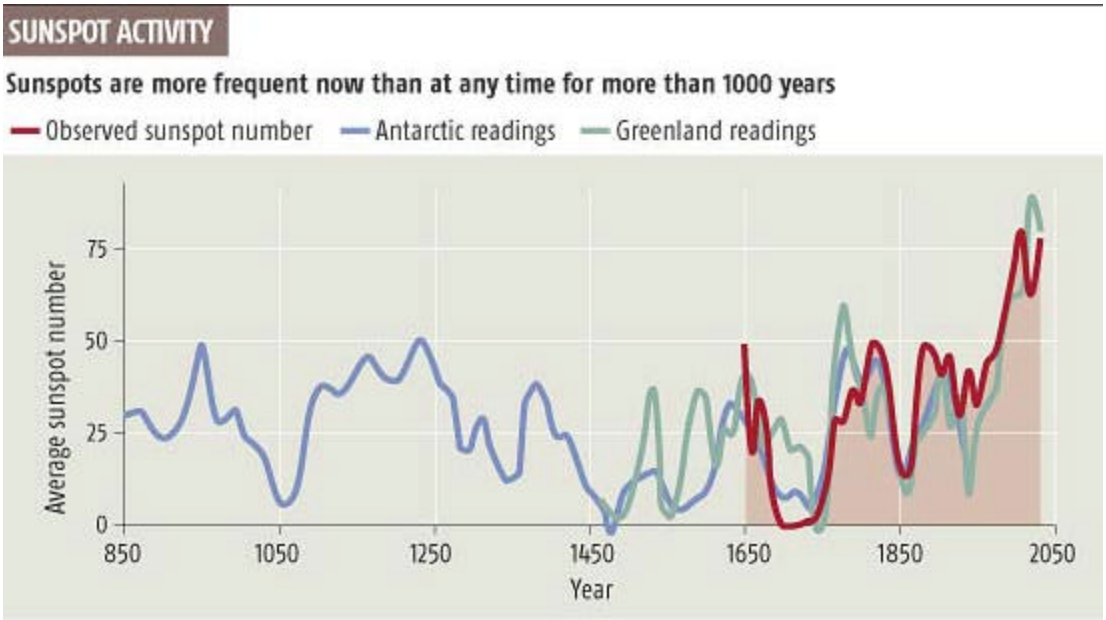

Figure 2. Observed and proxy sunspot data (Hogan 2003).

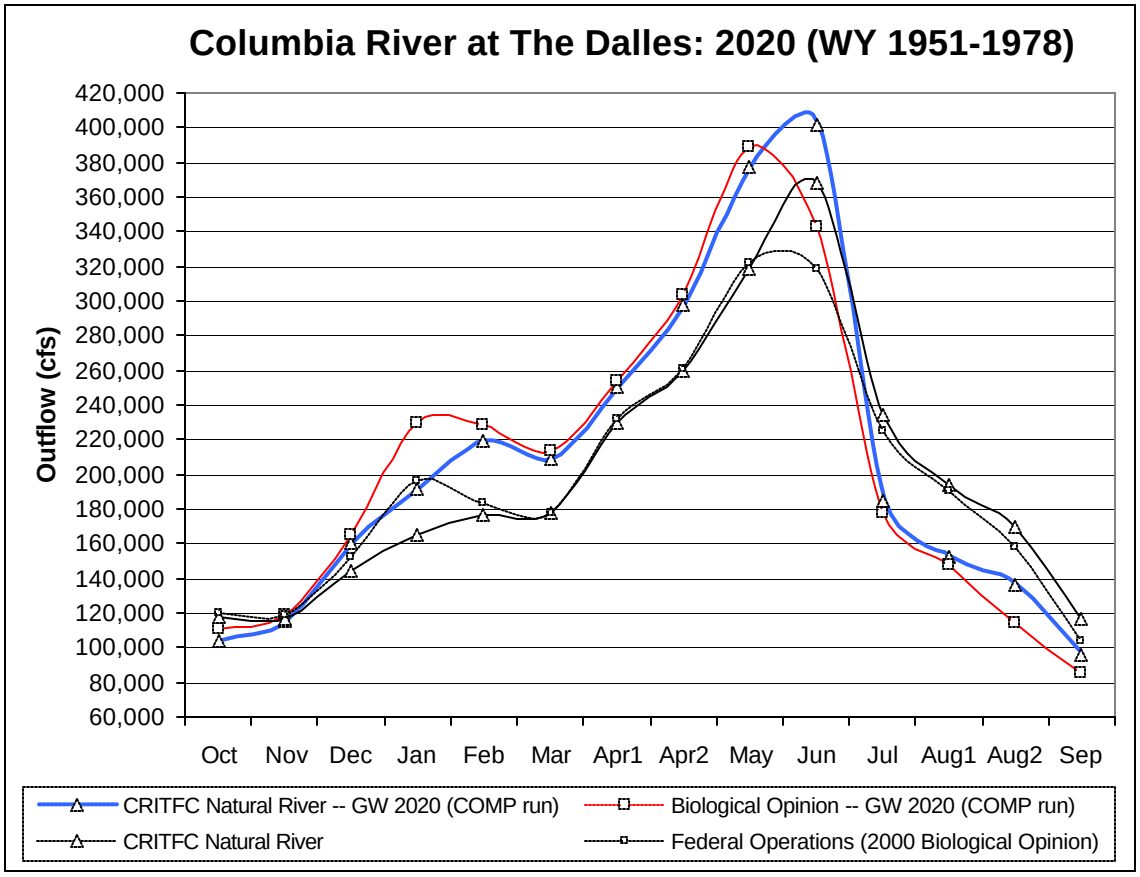

Figure 3. Current and future hydro operations, 2000 BiOp and CRITFC Plans (Martin 2004).

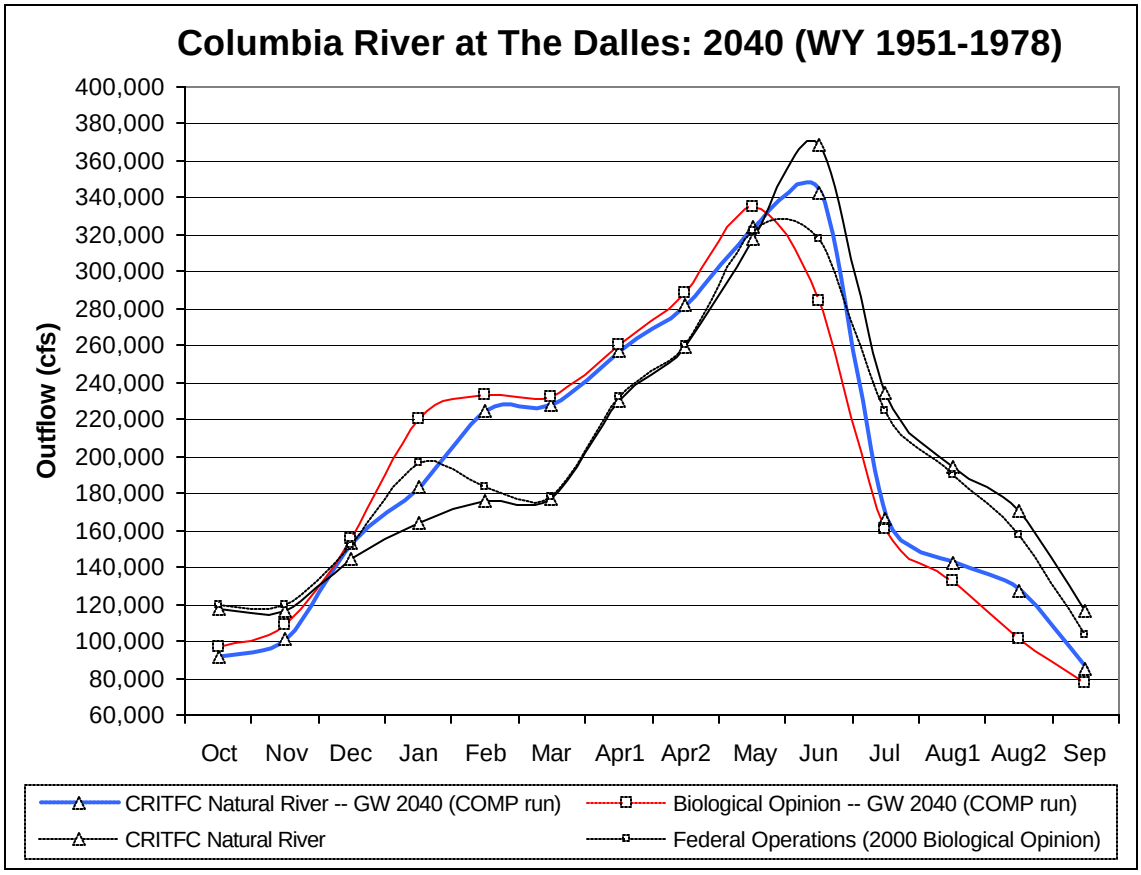

Figure 4. Current and future hydro operations, 2000 BiOp and CRITFC Plans (Martin 2004).

References

CIG (Climate Impacts Group). 2004. Seattle, WA. (http://www.cses.washington.edu/cig/)

Foley, T. 2003. Tribal Energy Vision. (http://www.critfc.org/legal/energy_fin.html)

Hogan, J. 2003. Sun more active than for a millennium. New Scientist, (http://www.newscientist.com/news/news.jsp?id=ns99994321)

INR (Institute for Natural Resources). 2004. Scientific Consensus Statement on the Likely Impacts of Climate Change in the Pacific Northwest. Oregon State University, Corvallis, Oregon. (http://www.inr.oregonstate.edu/policy/climate_impacts_consensus_statement.pdf)

Martin, K. 2004. Altered Flood Control, Climate Change, and Rebuilding Pacific Northwest Salmon Stocks. Presentation given at the Regional Flood Control Workshop, Columbia River Inter-Tribal Fish Commission, February 12, 2004, Portland, Oregon. (http://www.critfc.org/text/nat_riv.html)

McCully, P. 2002. Flooding the Land, Warming the Earth: Greenhouse Gas Emissions from Dams. IRN (International Rivers Network), Berkeley, California. (http://www.irn.org/programs/greenhouse/2002ghreport.pdf)

Schewe, P., Riordon, J., and B. Stein. 2003. Evidence for an Unusually Active Sun. Physical Review Letters, 658 (2). (http://www.aip.org/enews/physnews/2003/split/658-2.html)

USGS. 2004. Seismic map of western United States. National Earthquake Information Center (http://neic.usgs.gov/neis/general/seismicity/us_west.html)