

March 30, 2000

U.S. Army Corps of Engineers  
Walla Walla District  
Attention: Lower Snake River Study  
201 North Third Avenue  
Walla Walla, WA 99362-1876

**RE: Comments of Pacific Northwest Generating Cooperative (PNGC Power) on Draft Lower Snake River Juvenile Salmon Migration FR/EIS**

Pacific Northwest Generating Cooperative ("PNGC Power") is pleased to comment on the Draft Lower Snake River Juvenile Salmon Migration Feasibility Report/Environmental Impact Statement ("FR/EIS"). The members of PNGC Power and their customers are located primarily in rural areas of the Northwestern United States, and have a very real interest in seeing the ecosystem of the Northwest maintained for generations to come.

PNGC Power is a Portland, Oregon-based energy services cooperative owned by 11 electric distribution systems. Operating on a not-for-profit basis, we are committed to supplying power at the lowest possible cost to our members. While the price of power is important to rural communities, other aspects of river operational decisions are just as critical in determining whether these communities will have water to irrigate their crops or barges to transport their products to market in a cost-effective manner. Our comments come under the following headings:

- I. Summary and Context
  - II. Issues Regarding the Economy
  - III. Reliability and Power Supply
  - IV. Issues Regarding Biological Analysis
  - V. Suggested Approaches
  - VI. Public Input and Process
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## I. SUMMARY AND CONTEXT

The FR/EIS prepared by the U.S. Army Corps of Engineers ("Corps") arises out of the National Marine Fisheries Service (NMFS) 1995 Biological Opinion regarding how the Federal Columbia River Power System should operate in light of Endangered Species Act requirements. PNGC recognizes the enormity and difficulty of coordinating an effort of this scale. We appreciate the efforts of those involved in this study and the intent of the Corps to act as an honest broker throughout this process.

The FR/EIS attempts to evaluate four alternative courses of action for salmon and steelhead movement through the projects on the lower Snake River. These include: (1) "Existing Conditions"; (2) "Maximum Transport of Juvenile Salmon"; (3) "Major System Improvements"; and (4) "Dam Breaching".

We understand that there is no preferred alternative offered in this report. This is unfortunate because a stated alternative would have allowed parties to focus more constructively on comments regarding particular implementation issues. Instead, many parties feel it is necessary to address the option that has received the most attention—dam breaching.

**The costs are certain, the benefits are not.** In summary, the FR/EIS finds that none of the alternatives are adequate to meet National Marine Fisheries Service (NMFS) proposed levels of extinction risk. This is no surprise to those who understand the need for a more comprehensive approach to salmon recovery that addresses more than the hydro system components discussed in the FR/EIS. At the same time the report illustrates that Alternative 4 is by far the most costly alternative with construction costs near \$1 billion, national economic development costs of \$360 million annually, and many other negative impacts to local communities and businesses.

**Alternative 4 does not solve the problem.** For reasons alluded to above, we strongly oppose Alternative 4 – Dam Breaching. This option does not provide an answer to the problem. Fish survival through the hydropower system has improved to the point where the National Marine Fisheries Service (NMFS) has found that breaching alone, or increases in flow and spill regimes alone, cannot bring these fish runs back (discussed more in Section IV below). The major focus on breaching, and on hydro operations in general is understandable, but it is not helpful; it comes from the fact that this is the easiest part of the river/ocean environment for federal agencies to control. But, this hyper-focus on one section of the river system only draws us further from a meaningful comprehensive approach.

**A constructive approach.** While we oppose Alternative 4, this in no way means that we oppose serious efforts to recover salmon and steelhead in the Columbia and Snake Rivers. To the contrary, under section IV we discuss the vast efforts already underway, and the significant improvements currently being seen in the portion of the salmon lifecycle impacted by the hydro system. And, in section V we suggest various other paths that should be pursued.

It is unfortunate that the scope of the issue here was framed in such a narrow way. The sole focus of the FR/EIS, that portion of the salmon life cycle impacted by the hydro system in one section of one river, is a small piece in a very complex puzzle.

**Continued attempts to assign to this limited piece of the salmon lifecycle most of the responsibility and cost for species recovery could mean that the recovery will never occur.** Any credible recovery plan must consider all aspects of the salmon lifecycle. The "All-H" concept paper being developed by the Federal Caucus of nine agencies is a step in the right direction. It is attempting to develop some very important ideas such as forming real goals and crafting measurements of performance to meet those goals within the areas of Habitat, Hydro, Hatcheries and Harvest.

**A history of complexity.** For some context around this need for a comprehensive approach, it is useful to note the long history associated with the difficult and complex issue of fish recovery in the Northwest. According to a document prepared for the Corps in 1994 entitled "Saving the Salmon: A History of the U.S. Army Corps of Engineers' Efforts to Protect Anadromous Fish on the Columbia and Snake Rivers" alarm about declining salmon numbers began in the mid-1800s, about a century before the first major dams appeared. Concerned about increasing impacts of harvest, mining, logging, and farming, Congress first directed the Corps to investigate causes of declining salmon runs in 1887.

By noting that problems began prior to construction of the dams, we do not mean to imply that the hydro projects had no impact on salmon runs, but rather that there are very many factors playing a role in this complex issue. And, the body science is still struggling to catch up to the need for knowledge about these various factors. Some useful information comes out of the work collected within this voluminous FR/EIS. However, on this 113<sup>th</sup> anniversary of the Corps efforts on salmon recovery, we urge you to move away from the narrow focus on a few alternatives dealing with the operations of a few federal projects. We will not see real and lasting improvements in fish runs until we move towards the implementation of a recovery plan that takes comprehensive action in all parts of the salmon lifecycle.

## II. ISSUES REGARDING THE ECONOMY

**Power costs and rate impacts.** Alternative 4 (dam breaching) would have impacts on electricity rates that could significantly impact local economies. To implement Alternative 4, the FR/EIS shows costs allocated to hydropower in a range from \$239 million to \$381 million annually over 100 years. They estimate that wholesale rate increases will range from 1.07 mills/kWh to 5.86 mills depending upon how the costs are spread. (Main Report, 5.9-8). This may understate the potential rate impacts. In reality, the costs will fluctuate with potentially higher rate impacts associated with the timing of actual implementation of a breaching plan. For example, estimates used for the current BPA power rate case showed total fish and wildlife impacts for a scenario which includes breaching of the four lower Snake dams could average \$649 million per year for 2002-2006 and \$839 million per year for 2007-2011. While the current rate case does not attempt to project rates beyond the year 2006, studies associated with this rate case estimated wholesale rates could increase by anywhere from 6 to 11 mills starting in 2007 as a result of breaching the four lower Snake dams.

In addition, the FR/EIS attempts to illustrate how costs might be spread in an average monthly electrical bill. This can be very misleading. Averaging the costs on a per person basis across vast populations would tend to understate the impacts in some ways. Increased costs are not averaged in the real world. Those customers most reliant upon electricity, especially in the

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cont. industrial or agricultural arenas, will suffer far greater than an urban apartment dweller with natural gas heating. And, especially in the residential market, this type of increase represents a regressive charge that will hit harder on those less able to pay. The FR/EIS does provide us with a useful industrial example of the very high rate impacts we will see. It states that the average power bill for an aluminum company could increase by \$940,000 monthly. Of course, this increase could be much greater if it turns out that power costs increase more than estimated. In many industries, especially in the agricultural sector, global competition prevents the ability to pass on these increased costs. This may lead to business failure and/or a decrease in disposable income causing ripple effects across the local economy.

Since the proposal to breach dams only relates to the lower Snake River (and is of questionable biological value even there) customers might be looking at the first of many rate increases needed to cover huge expenditures of this kind. This FR/EIS report was intended only to isolate four sets of actions, of which breaching the lower Snake River dams is the most severe. In reality, there are many other possible scenarios, including imposition of Clean Water Act standards on the federal hydro projects which could mean enormous cost increases added on top of those being discussed in this study.

**Transportation rates.** We agree with others who have commented that the FR/EIS should not continue to ignore the transportation rate impacts of dam breaching. We do not see how the study could find that the removal of barging, the dominant mode of transportation for bulk agricultural commodities along the Columbia and Snake rivers, would not cause rate impacts in the rail and truck transportation markets. Data within the report, and common economic practice, would indicate that decreased competition would put upward pressure on transportation rates.

2 In a recently released report conducted for the Port of Portland, and the Oregon Departments of Agriculture, Economic Development, and Transportation, significant impacts of dam breaching were noted that are not included in the FR/EIS. For example, the report found that shipping containers to Seattle instead of Portland will cost Oregon shippers an extra \$200 per container. It also found that the millions of dollars in business lost by the barge companies will create rate hikes for the rest of their customers on the Columbia River, and that higher transportation costs could significantly reduce the value of farmland in Eastern Oregon and Washington, causing some of this land to be taken out of production.

3 **Passive Use Values.** In addition, we agree with those who are troubled by the existence in Economic Appendix I of an attempt to numerically value so-called "Passive Use" values. This section should be deleted in its entirety. Passive use values are defined in the FR/EIS as the "benefit associated with knowing that a resource exists even if no use is made of it." (Main Report 5.15.2) While there is some inherent emotional value in the simple knowledge that a resource exists, trying to quantify this value monetarily is a troubling prospect. In Appendix I, section 4 the FR/EIS recognizes the controversial aspect of trying to do this, but then proceeds to disregard its own admonition by proposing theoretical values.

For example, in the Main Report document in 5.15.2, the FR/EIS states, "There are, however, disagreements about how to measure passive use values." Not only is there the fundamental accuracy problem of estimating how much intangible benefits are truly worth to people, but also

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there are questions about the major assumptions used here. Notably, the analysis assumes a direct link between dam breaching alone and significant recovery of salmon runs—a link not proven in the biological analysis. Second, the analysis assumes intangible values for a free flowing river that may not exist in the near future because of the questionable aesthetics of the breaching alternative (See Main Report 5.14). Finally, proof of the difficulty in making these determinations is found in the extraordinary range of the final estimates themselves. In section 5.15.2, dam breaching is estimated to have a passive value of between \$66 million and \$879 million annually. Even the low end of this range will look much too inflated when our “passive use” becomes the knowledge that we’ve created ugly muddy river banks, harmed resident fish populations, and not stopped the decline of salmon and steelhead runs.

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**Environmental Issues.** Of great concern are the environmental impacts of some of the economic shifts that would take place under a dam breaching alternative. There is a high potential for large negative impacts on *air quality* resulting from breaching. In the area of power generation, replacement power for the 3,033 MW of lost capacity is likely to come from thermal resources, thus increasing emissions into the air. In addition, nearly 750,000 more truck miles per year would be needed to deliver products to market, another significant impact on emission of carbons into the atmosphere. The FR/EIS should more thoroughly describe the full impact of these added truck emissions.

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Finally, another environmental issue worth highlighting includes the effects of dam breaching on *sediment* movement. The FR/EIS estimates that 50-75 million cubic yards of sediments may be eroded and moved downstream. Not only could this cause adverse effects on wildlife species, but also would cause wide scale damage to pumps and valves, and hindrances to navigation. More important, the report found that harmful chemicals now contained within reservoir sedimentation, such as DDT, could be freed to actively re-enter the ecosystem. This is another cost that serves to outweigh the uncertain biological benefits from dam breaching.

### III. RELIABILITY AND POWER SUPPLY

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The four lower Snake River hydro facilities have a peaking capacity of 3,033 MW. This represents 15% of the peaking capacity of the federal power system in the Northwest. It also represents 7% of the peaking capacity of all power facilities in the entire Pacific Northwest region. Even though these are run of the river projects without large storage capacity, they have significant ability to shape generation throughout the day, especially during the November through March time period.

The prospect of losing this 3,033 MW of peaking capacity is of special concern in light of a report released this December by the Northwest Power Planning Council. They estimated that, in the next few years, without new resources, there is a 24% chance that the region will be unable to serve loads at some level in the winter months. To reduce this probability of blackouts to 5% would require almost 3000 MW of new capacity (off of a baseline that assumes existence of the lower Snake projects as currently operating).

Obviously, this concern over regional energy supply would be exacerbated by removal of the generation of the four lower Snake projects. For an example of how sensitive the system can be without adequate generation capacity, one has only to look at the events of August 10, 1996

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when 4 million customers in 9 western states lost power from the simple event of a hot line sagging into a tree on BPA's system. A large part of the problem that day was inadequate voltage support, which was due in part to generation constraints at the Dalles because of the spill requirements of the 1995 Biological Opinion. The total economic costs from just one such event are astronomical, especially if they occur on a working day.

In addition to exacerbating the regional power supply shortage, the removal of the lower Snake River dams would directly impact the reliability of the transmission system. Widespread modifications would be necessary with the cost ranging as high as \$271 million (Appendix I, 6.3.1.5)

#### IV. ISSUES REGARDING BIOLOGICAL ANALYSIS

The economic impacts of the breaching proposal would cause hardship to our regional economy for many years. But, the real question is: to what end are these costs incurred? It must be recognized that imposing this harm on the region at great cost to ratepayers and taxpayers will not be worth our while if the salmon are not recovered through these actions.

While there is little doubt about the costs to the citizens of the region from breaching dams, the science surrounding this issue is anything but clear.

**Improvements in survival.** Recent science has provided evidence that survival of both juvenile and adult salmon through the dams has been significantly improved as a result of the region's major investments in dam passage and operational changes. Indeed, survival level through this stretch of the river is approaching the practical upper limit. Around 95% of juvenile salmon successfully pass each dam. In-river survival of spring migrants through these projects is higher than ever, similar to that before the dams were built on the Snake River.

**Current mitigation measures.** The successes seen in the hydro system portion of the salmon lifecycle have come through enormous investments in science and mitigation measures borne mostly by BPA's ratepayers. A list of some of the measures being used can be found right in the FR/EIS report summary on pages 10-13. These include extensive screening on the projects, collection and holding facilities, transport facilities, passive integrated transponder tag systems (PIT tags), surface bypass collectors, and behavioral guidance systems. Recent studies are showing that these methods are working to significantly increase passage through the projects. This begs the question: if we are close to the practical upper limit of increasing survival through the hydro projects (because fish would not survive through this stretch of the river at a 100% rate without the projects in place), then where do we look for better recovery of these runs? This will be discussed more in section V below.

Incidentally, the science continues to evolve on many salmon mitigation issues. For example, with respect to enhanced river *flow*, new studies have raised very serious doubts about the flow/survival relationship. In recent white papers by NMFS and in studies by the Washington Department of Ecology, the efficacy of flow regimes has been brought into question. Certainly, flow levels, especially for Spring/Summer runs, deserve reconsideration if we are going to put fish recovery funding to its best possible use.

**Scientific gaps.** There are many gaps in the science surrounding salmon recovery. These gaps are particularly evident with respect to knowledge about impacts of ocean conditions and estuary conditions on salmon survival. NMFS recognizes that there is unexplained mortality that could be caused by many different factors. But, these factors have yet to be identified and are in serious need of additional research. Attempts to assign this mortality to the hydro system are not based in fact.

It is very dangerous to address these questions or gaps by inserting convenient assumptions. The FR/EIS relies too heavily on science that can no longer be described as the best available science. Specifically, the Plan for Analyzing and Testing Hypotheses (PATH) process has been described by the Independent Scientific Advisory Board as having elements of a "black box" and as using "implausible" assumptions. Relying on PATH wrongly points one towards mere theories about "delayed" and "extra mortality". These are open issues in the scientific community that will take some time to study in a responsible manner.

Citizens of this region have spent too much time and money on this problem to allow major policy decisions to be based on the nascent theories and faulty methodologies found in PATH.

**Fish and Wildlife Appendix.** Finally, we question the usefulness of FR/EIS Appendix M, the Fish and Wildlife Coordination Act Report, in which the Fish and Wildlife Service promotes the dam breaching alternative. On page M ES-1 the Fish and Wildlife Service seems to recognize the narrowness of the academic point they are making. But, they proceed to make it anyway. They recognize that the FR/EIS effort is limited because it does not take into account all of the other activities that impact salmon. Further, Appendix M does not maintain that any of the alternatives will actually recover salmon runs.

7 The contention in Appendix M is that species in the Columbia Snake River will benefit more from drawdown than from the other alternatives. Again, this is a relatively academic point. There may be wildlife species that would be better off if the infrastructure of the City of Portland was relocated to the Mid-West, or if the human population of the Northwest was relocated to the East Coast where the environmental damage is well beyond repair. But, this misses the point—the point being to recover salmon runs. What is the purpose of noting that species might fare a degree better under an extreme approach if the species will not actually recover for purposes of treaties and the Endangered Species Act? There are many other factors impacting the runs, including estuary conditions, ocean conditions, spawning habitat, predators, hatcheries, and harvest. The costs to humans of radical proposals to recreate natural rivers are certain; the long-term benefits to fish are not.

## V. SUGGESTED APPROACHES

**Clearer goals needed.** The fundamental concern with dam breaching is that we have jumped to the extreme end of possibilities without real knowledge, scientific or otherwise, that this will work to recover salmon. And, in light of the continuing policies surrounding hatchery and harvest practices, we are not sure whether the goal really is to recover naturally spawning runs or to create fish for harvest. When considering a drastic medical procedure, such as having a limb amputated, it would be natural to ask whether this was really necessary in order to save the life of the patient. At the very least, one would want to know the specific goal of the procedure.

**Process.** There are approaches that should be considered immediately which address the problem of salmon recovery on a region-wide basis without breaching dams. Models and possible directions for recovery plans abound. Today, it is disingenuous for any engaged policymaker to shrug and say, "If not dams, then what?" The "whats" are all around us.

We mentioned earlier the work being done in the All-H process to create specific goals and accountability within all of the Hs. Performance measures could track progress towards those goals and allow resetting of priorities when needed to meet fish recovery targets over time. Also, within the context of the Northwest Power Planning Council's "Framework" process, the non-breaching Option 6 offers a useful direction. It recognizes the vast improvements made in salmon passage through the hydro system to date, and suggests that changing flow policies during times when high flow levels are not necessary would generate more revenue for salmon recovery measures that will achieve real results. The key is that federal, tribal, and state agencies must work together to create a strategic and comprehensive approach to recovery. This is a tall order, but is crucial to success.

**Habitat.** A part of the Framework effort and the Fish and Wildlife Program Amendment at the Northwest Power Planning Council is the creation of habitat policies for each sub-basin. This could lead to an overall habitat conservation plan for the region that might be extremely helpful in the attempt to prioritize funding to the best uses for salmon and steelhead habitat.

In addition, further efforts could be made in the area of screening irrigation intakes, and creating local partnerships that work to address these issues on the ground where the knowledge of what is really needed to help fish exists. The Umatilla Basin provides an excellent example of a recovery effort that has seen good results through a partnership between the federal, state, and tribal governments and the local residents.

**Hydro system potential.** Section III described how further improvement to the hydro system on impacts to juvenile salmon would get limited results because of current survival rates of around 95%. But, even though the success of the fish transportation measures is outstanding, efforts at further passage improvements will continue. The hydro community has supported the strong salmon recovery effort of the Corps in this area, and will continue to support this effort at a level approaching one-half billion dollars annually. Fish passage improvements for both juvenile and adult salmon continue to be extensive; these include fish screens, turbine modifications, fish ladder improvements, fish bypass improvements, and many other measures.

**Hatcheries.** Ironically, another key area to look to for survival improvement is with the hatchery system in the Northwest. Some valuable work has been done in this area with the Artificial Production Review (APR) released by the Northwest Power Planning Council last October. The APR is the beginning of an effort to reform our hatchery system—an effort that the region must be vigilant in pursuing. In a book entitled *Salmon Without Rivers* (Island Press, 1999) a top fisheries biologist, Jim Lichatowich, explains his frustration with the hatchery system:

Today we are faced with a legacy of more than a century of salmon management based on a faulty set of assumptions. Natural salmon habitats have been wrecked while we

have spent hundreds of millions of dollars on hatcheries, chasing the foolish dream of producing salmon without rivers. Every independent scientific review of the current management system has called for a major overhaul, but bureaucratic salmon managers still cling to the status quo, defend their hatchery programs, and embrace without thinking the outmoded worldview from which hatcheries first emerged in 1872. (p. 219)

**Harvest.** Related to the hatchery dilemma are the difficult issues surrounding harvest. Again, there exist several possible options that we should begin to take more seriously. *Mixed stock harvest* problems (killing fish supposedly protected under the ESA when they mix with hatchery fish designated for harvest) continue to put pressure on listed stocks. It is time to emphasize serious efforts in the area of *selective harvest*. Aggressively pursuing selective harvest techniques addresses the correct question: how can we meet tribal treaty concerns about harvest levels while recovering naturally spawning fish?

Pursuing new selective harvest techniques might help address the surreal circumstance seen now when a strong hatchery return combined with harvest restrictions leads to clubbing of fish by fisheries managers. Also, it could provide an alternative to pursuing options in the area of harvest that are comparable to the extreme of dam breaching (such as entirely eliminating harvest of listed stocks until those stocks are taken off of the list). With dam breaching on the table, citizens across the Northwest have trouble following the logic that allows harvest of listed runs to continue.

**Predation.** In addition, harvest by non-human predators continues to provide an area needing improved policy and enforcement. For example, NMFS research has indicated enormous impacts from Caspian terns and cormorants nesting on islands near the mouth of the Columbia. With estimates that tens of millions of salmon and steelhead are being consumed by these birds each year, this problem can not be taken lightly. However, efforts to relocate the birds have run into several delays. As a region, we will need to ensure that the tough choices on issues such as this are made and implemented in an expedited manner.

In addition, fish recovery would benefit from further efforts in the area of screening irrigation intakes, and creating local partnerships that work to address these issues on the ground where the knowledge of what is really needed to help fish exists. The Umatilla Basin provides an excellent example of a recovery effort that has seen good results through a partnership between federal, state, and tribal governments and local residents.

A viable recovery effort must address the array of issues surrounding spawning and rearing habitat, downstream migration, predators, estuary conditions, ocean conditions, upstream migration, hatcheries, and harvest. With progress in the regional processes mentioned above, there is reason for hope that implementing a comprehensive approach is possible in the near future.

## VI. PUBLIC INPUT AND PROCESS

8

The Corps is to be commended for their good intentions in creating an open public comment process on this study for interested individuals around the region. The purported purpose of touring the Northwest to hold hearings on the FR/EIS was to inform the public and get

constructive input from a broad range of interests. However, we believe that the federal agencies met with mixed success in this endeavor. Unfortunately, the implementation of this idea went off-track somewhat when some parties attempted to transform it from an informative exchange about salmon recovery into an uncontrolled regional shouting match on the narrow question of whether to breach four dams.

It was with some concern that we read the comments in the Oregonian newspaper on March 23, in which Brigadier General Strock is portrayed as saying that there was a collective sentiment for breaching dams during the hearings and that this might influence the Corps' decision in the absence of clear science.

We trust that the General was misrepresented in this article. Surely, it is not possible that the Corps would let the recommendation in a four-year, several thousand page scientific study costing over \$20 million be determined by the emotions of a vocal minority using organizing skills that, while not seen often in the Northwest, are used everyday in Washington, D.C.

The public comment process on this issue was in no way a valid plebiscite or scientific poll of the sentiment of the people of the Northwest. If it had been, it might have seen results similar to those obtained by Moore Information in a poll conducted February 19-20 finding that most of the public does not support removing dams to restore salmon.

Moreover, many public officials who represent large and broad constituencies spoke at these meetings. The mayors, state legislators, and other elected officials who took part in these proceedings represent tens of thousands of citizens. All of those officials who we heard from spoke strongly against Alternative 4 - dam breaching.

Please keep in mind, there are approximately 11 million people in the Northwest from whom you have not heard. All of us care about seeing salmon and steelhead runs recover. We have been working diligently towards that end. But, we also care about the multiple purposes fulfilled by the federal hydro projects. The case has not been made for the U.S. Army Corps of Engineers to allow itself to be put into the position of recommending that those purposes be destroyed.

Respectfully submitted,

PNGC Power

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