



COLUMBIA & SNAKE RIVERS CAMPAIGN

remove dams, restore rivers, return salmon

April 28, 2000

About the Campaign

The Columbia & Snake River Campaign is working to restore salmon to the rivers of Lewis and Clark. To save this national treasure, we seek the partial removal of four dams on the lower Snake River and modification of the John Day Dam on the Columbia River.

The Columbia & Snake Rivers Campaign is a diverse alliance of dozens of organizations nationwide, including:

- Fish and Wildlife Conservationists
- Sportfishing Groups
- Scientists
- Good Government Organizations
- River and Recreation Groups
- Commercial Fishing Associations
- Environmental Organizations
- Businesses and Trade Associations

U.S. Army Corps of Engineers
 Walla Walla District
 ATTN: Lower Snake River Feasibility Study
 201 N. Third Ave.
 Walla Walla, WA 99362

Federal Agencies Caucus Comment Records
 c/o Bonneville Power Administration - PL
 707 W. Main St., Suite 500
 Spokane, WA 99201

Dear Sirs and Mesdames:

This letter is written by the Save Our *Wild* Salmon (SOS) coalition and its undersigned member organizations in order to comment on the draft "Lower Snake River Juvenile Salmon Migration Feasibility Report / Environmental Impact Statement" (DEIS) prepared by the U.S. Army Corps of Engineers under the National Environmental Policy Act (NEPA) and released to the public in December, 1999. The DEIS analyze alternative actions to be taken in the Lower Snake River for salmon and steelhead stocks listed for protection under the Endangered Species Act (ESA).

With a combined individual membership of 6,000,000, SOS is a coalition of more than 50 sport fishing, commercial fishing, and conservation organizations - local, regional, and national - which seek restoration of salmon stocks throughout the Pacific Northwest to sustainably harvestable numbers. SOS appreciates this opportunity to comment on the Corps' DEIS.

After a brief introductory statement, these comments discuss the biological, economic, environmental, engineering, and legal issues analyzed in the DEIS. For convenience, we have adopted the same numbering scheme for the four alternatives in the DEIS: 1. status quo; 2. expanded juvenile fish barging; 3. expanded juvenile fish barging with major hydrosystem improvements; and 4. partial removal of the four Lower Snake dams. As does the DEIS, we define partial dam removal and its synonym "breaching" as the removal of the earthen portion of each dam so that the Snake River flows freely around the concrete which remains in place.

Introduction

Overall, SOS finds the DEIS woefully inadequate, crying out for major revision and enlargement in the final version. The "extinction avoidance" standard used to measure benefits or impacts to anadromous fish from the four alternatives is inappropriate scientifically, and a violation of the ESA. Combined with numerous specific errors and omissions, the economic analysis exaggerates the costs associated with the partial dam removal alternative, underestimates those for dam retention, and completely ignores the

1511 N. Eleventh
 Boise, ID 83702
 208/345-9067
 pford@wildidaho.org

www.removedams.org
 1.800.SOS.SALMON

potentially massive costs which would flow from salmon and steelhead extinctions in the Snake River Basin. Finally, the DEIS does not meet the test of NEPA.

Based upon our review of the DEIS and other relevant documents, SOS supports alternative 4, "partial removal of the four Lower Snake dams." We have not adopted this position lightly or with ulterior motives. We have followed the best available science which has been approved in peer review and supported by the vast majority of fish biologists. We have committed to seek and obtain the strategic investments necessary to mitigate economic and environmental impacts associated with partial dam removal so that the regional and local economy will remain intact, if not stronger to do business in the 21st century. As should all citizens of the United States, we are determined to avoid the massive cost of salmon extinction that would run to tens of billions of dollar, and crush the economy of the Pacific Northwest. And as should the federal agencies, we are steadfast in our resolution that the United States will fulfill its legal and moral obligations under multiple federal statutes and under treaties with Canada and the sovereign American Indian nations to recover salmon and steelhead in the Columbia Basin to sustainably harvestable numbers. While it is not the exclusive measure necessary to meet these goals, partial removal of the four Lower Snake dams is an essential action and is the only alternative presented in the DEIS which meets these requirements. We respectfully urge the federal agencies to make partial dam removal the preferred alternative in the final EIS.

Biology

Prepared by the National Marine Fisheries Service (NMFS), Appendix A – Anadromous Fish ("A-fish") of the DEIS analyzes the likely efficacy of the hydropower system alternatives in restoring listed Snake River salmon and steelhead populations. The analysis goes further, however, and addresses the potential efficacy of actions in all four "Hs" of human impacts: hydropower, habitat, hatcheries, and harvest. We appreciate the efforts of the NMFS staff who prepared A-Fish, and their responsiveness to concerns we had raised previously in comments on the first draft released in April, 1999.

1, 2, 3 While it remains at best unclear why NMFS has chosen to shelve the scientific work of federal, state, tribal, and independent biologists in the Plan for Analyzing and Testing Hypotheses (PATH), our comments here focus on what we believe are remaining flaws in the approach used by NMFS in A-Fish and the conclusions drawn from the analyses. There have been several technical critiques of the Cumulative Risk Initiative (CRI), such as the *7 Questions* document prepared by Dr. Gretchen Oosterhout on behalf of Trout Unlimited and American Rivers, which we attach and incorporate by reference here. We are also attaching and incorporating by reference our comments on the science used in the Federal Caucus's All-H Paper, which address some of the same issues that also arise in A-Fish.

4 Finally, as you know, the CRI analysis relied upon in A-Fish has been subsequently modified. We have not yet seen that modified analysis, which may alter some of the key findings and conclusions set forth in A-Fish. Accordingly, we reserve the right to submit additional comment on A-Fish as we obtain updated information bearing on these issues.

As presented in the DEIS, A-Fish provides an incomplete, distorted, and misleading analysis of the scientific costs and benefits, preventing both the public and the Corps from making a truly informed and well-reasoned decision.

1. **A-Fish misleads both the public and decision-makers about what is needed to meet ESA recovery goals, U.S. law, and International and Tribal Treaty obligations.**

5 | The adequacy of the action alternatives turns on what they must achieve. The A-Fish Appendix sets the standard as avoiding extinction, defined as maintaining at least one returning adult in any given year. That standard, while instructive in terms of revealing the risk of extinction and the likelihood of species survival, is wholly inadequate and inappropriate to use as the measure of "success" for the various hydro alternatives. The public has spoken clearly that the goal is self-sustaining, harvestable populations of Snake River salmon and steelhead. The All-H Paper acknowledges this requirement and plainly states that its objective is "recovery" of Snake River stocks (i.e., self-sustaining, harvestable populations). Resolution of the contentious and divisive issues that have divided the region geographically and culturally will not be resolved by merely avoiding extinction – only recovery of self-sustaining, abundant runs that can withstand reasonable harvest will suffice.

6 | Moreover, extinction avoidance is inadequate as a matter of law. NEPA requires agencies to evaluate action alternatives in light of applicable law – all of which requires genuine recovery of listed stocks.

7 | The ESA requires that federal agencies recover (i.e., "conserve") listed species as well as ensure that their actions do not jeopardize the continued existence of a listed species or its critical habitat. 16 U.S.C. § 1536(a)(1) & (2). An action "jeopardizes" a listed species if it "reduce[s] appreciably the likelihood of both the survival *and* recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." 50 C.F.R. §402.02 (emphasis added). "Recovery" requires "improvement in the status of the species to the point at which listing is no longer appropriate." *Id.* Thus, to satisfy the ESA, actions must be adequate to achieve recovery, not merely ensure survival.

In addition, the Treaties signed by the federal government and the Columbia Basin Tribes in 1855 and 1856 require maintenance of salmon runs that would provide for meaningful Tribal harvest. Clearly, merely avoiding extinction fails this legal obligation as well. Furthermore, the federal government has obligations to conserve transboundary salmonid resources pursuant to the Pacific Salmon Treaty Act and the Magnuson Fishery Conservation and Management Act. Fulfilling the purposes and goals of these statutes requires actually recovering ESA-listed fish in the Columbia River basin, not merely preserving remnant populations.

A-Fish's "extinction avoidance" standard is markedly lower than the recovery standard required by these laws and treaties. This lower standard causes confusion for both the public and the Corps as to what is necessary to meet these legal requirements, and poises the Corps to make a decision based on irrelevant or inappropriate factors. See, e.g. *National Wildlife Federation v. Coleman*, 529 F.2d 359, 372 (5th Cir. 1976).

8, 9 | NMFS accentuates the confusion between extinction avoidance and recovery by distorting exactly what standard it is using in A-Fish. NMFS fails to clearly distinguish in A-Fish whether the standard against which the alternatives are measured in the DEIS is really extinction avoidance or recovery. Although the document does state that the CRI evaluates the likelihood of avoiding extinction over a 100-year period, that point is lost as NMFS repeatedly discusses the CRI results in terms of "recovery." (See, e.g. p. A8 - 21.)

This is a very significant flaw. The lack of clarity has misled both the public and the decision-makers to believe that A-Fish addresses what is needed for recovery -- that is, self-sustaining, harvestable populations of Snake River salmon and steelhead. A-Fish does not do so. Accordingly, NMFS should analyze all current and potential actions in light of a genuine recovery standard in its final A-Fish Appendix. If NMFS chooses not to do so, NMFS must make clear that the analysis presented in the final

8, 9
cont.

document addresses only extinction avoidance. Otherwise, the Corps will be unable to assert that its final decision was either "fully informed" or "well-considered."

2. Using extinction avoidance to evaluate the efficacy of the DEIS alternatives distorts the decision-making process.

Of course, the standard for measuring success makes an enormous difference in the outcome of NMFS's analysis and in the final Corps' decision. As it stands now, A-Fish states essentially that, of the DEIS alternatives, only dam removal (Alternative 4) has the potential to adequately minimize the risk of extinction of any of the listed Snake River stocks. Specifically, partial removal of the four Lower Snake dams is likely -- alone -- to be sufficient to avoid extinction of fall chinook and steelhead. For spring/summer chinook, whether dam removal alone is enough depends on the extent to which juvenile fish transportation and the hydrosystem cause mortality outside of the migration corridor. If that mortality is high (as concluded by PATH), then dam removal would suffice. If it is low, then dam removal is not likely to be enough on its own.

NMFS concludes that by themselves, the other alternatives -- 1. status quo, 2. maximum transport, and 3. major system improvements -- will not be effective. As stated in A-Fish:

One obvious question is whether transportation or bypass systems could ever be improved to such an extent that, by themselves, these improvements would adequately reduce extinction risks. *The answer is no.* (p. A8 - 20; emphasis added)

The key phrase here is "by themselves." This leaves open the possibility that options exist outside the hydro system that, when coupled with one or more of the hydrosystem that, when coupled with one or more of the dam retention alternatives, can avoid extinction.

This is where the distinction between extinction avoidance and recovery becomes critical. Assuming that NMFS's CRI analysis is accurate, it **might** be possible to avoid extinction for spring/summer chinook, fall chinook, and steelhead with the dams in place. However, this is true if and only if improvements in the other Hs can, in fact, result in survival increases at the levels needed to avoid extinction. (Please see our All-H comments for a discussion of why it is unlikely for the other Hs to meet this standard.) NMFS admits that whether such improvements are feasible is uncertain and unknown until additional research is completed (p. A9 - 2). If the standard is merely avoiding extinction, delay in proceeding with dam removal can be justified in order to carry out scientific research as to whether or not there are feasible actions with dam retention which would avoid extinction.

However, the outcome is radically different when the standard is "recovery." NMFS has not determined abundance or other standards necessary to measure Snake River salmon and steelhead recovery. It is self-evident, however, that "recovered" populations will need to be significantly larger and more fit than populations that are merely avoiding extinction. When viewed in light of recovery, the necessity of dam removal becomes obvious -- because actions in the other Hs which might potentially avert extinction will not lead to recovery. In other words, for some stocks such as fall chinook, dam removal is the only alternative that would likely achieve recovery. Though not likely to be sufficient alone, dam removal for spring/summer chinook will be a necessary action in a broader suite of actions if the populations are to rebound to self-sustaining, harvestable levels.

By confusing the standards and using a lesser standard than required by federal law and treaty, A-Fish distorts the necessary scientific analysis, rendering it impossible for the public or decision-makers to make an informed evaluation of the risks and benefits associated with different alternatives. Accordingly,

13, 14,
15
cont.

A-Fish needs major revisions to address the adequacy of the alternatives using recovery of self-sustaining, harvestable stocks as the standard.

3. A-Fish attempts to "sweep under the rug" serious problems and criticisms voiced by scientists about the CRI.

The essence of the NEPA process is to ensure a fully informed and well-reasoned decision. "In so doing, the E[nvironmental] I[m]pact S[tatement] insures the integrity of the process of decision by giving assurance that stubborn problems or serious criticisms have not been 'swept under the rug.'" *Silva v. Lynn*, 482 F.2d 1282, 1285 (1st Cir. 1978). By failing meaningfully to address hydrosystem-caused fish mortality beyond CRI parameters and by ignoring scientific and other criticism of this failure, A-fish does not meet this basic legal test of laying out all of the scientific information.

16, 17,
18

NMFS acknowledges that the CRI does not address how dam removal might positively affect salmon and steelhead beyond the three parameters analyzed: (1) downstream juvenile survival; (2) upstream adult survival; and (3) "extra mortality" below Bonneville dam (p. A8 - 21-22). NMFS also acknowledges that benefits outside these parameters may in fact exist, but then does nothing in its analysis to factor in such benefits in any meaningful way. For all intents and purposes, NMFS sweeps this information under the rug, and fails to provide the Corps and the public with any of this necessary information.

We recognize that currently data are limited which demonstrate the potential benefits of dam removal beyond those analyzed by CRI (p. A2 - 4). However, this does not mean that such benefits are not likely or insignificant. In fact, well-established biological and ecological theory strongly suggests that significant dam removal benefits beyond those analyzed by CRI would actually be realized. For example, the 1996 *Return to the River*, which we incorporate into these comments by reference, makes as its central thesis the need to restore more "normative" river conditions to recover Columbia Basin salmon and steelhead. By definition, a free-flowing river is a "normative" one.

Similarly, using indirect statistical analysis of several hypotheses, PATH analyzed the likelihood that the hydrosystem was responsible for "extra mortality" beyond the migration corridor (p. A2 - 8-13). From this analysis, PATH concluded it is most likely that "extra mortality" is related to the hydropower system. Based upon actual observations, PATH chose a value of 0.4 for differential delayed mortality rather than the optimistic (95th percentile) value of 0.8 adopted by NMFS in A-fish. PATH's findings were confirmed by the Scientific Review Panel (SRP), a group of four independent scientists, as well as by tribal and U.S. Fish and Wildlife Service biologists.

19, 20

NMFS has rejected the SRP's work for three alleged reasons: (1) it lacks clarity; (2) the weighted assumptions do not qualitatively alter the conclusions; and (3) new data "render some of the weightings obsolete" (p. A3 - 2-3). These were the same reasons identified in the initial A-Fish draft. Members of the Save Our Wild Salmon coalition commented at that time on the inaccuracy of NMFS's rationale for rejecting the SRP work, but those comments are not addressed in the DEIS version of A-Fish. Accordingly, those comments are repeated here.

First, legitimate and helpful scientific analysis should not be ignored simply due to a perceived lack of clarity.

Second, NMFS itself is not consistent in dealing with quantitative and qualitative issues. On the one hand, A-fish emphasizes the quantitative difference -- depending upon assumptions of delayed mortality - - in relative probabilities between achieving spring/summer chinook recovery under the partial dam removal and the three juvenile fish transportation alternatives. But then on the other hand, A-fish implies

that quantitative differences are insignificant with respect to the SRP weighted assumptions because they do not change the qualitative ranking of alternatives.

Third, the "new data" referred to by NMFS is the 1994-95 spring/summer chinook PIT-tag data, which, NMFS acknowledges, have high levels of uncertainty and error because of the small sample size and the limited environmental conditions present during the study.

The SRP work product should not be excluded without a well-founded and compelling rationale. The reasons set forth in the Appendix are inadequate. At a minimum, the SRP results should be presented and the potential problems with the weighting discussed. This is exactly what a fully-informed and well-considered decision must include. To do otherwise is to ignore credible criticism of NMFS' work and legal precedent. Accordingly, we request that the SRP findings be presented and addressed in the final A-Fish.

4. A-Fish distorts the environmental factors at play in this decision by failing to capture accurately species- and run-specific differences in the efficacy of various recovery measures.

The efficacy of the DEIS's four alternatives varies depending upon species- and run-timing. Fall chinook will not benefit substantially from improvements in Snake River tributary habitat because they spawn in the mainstem. Similarly, harvest reductions will provide only a minor benefit to spring/summer chinook because current catch is so very small.

At various points, A-fish refers to Snake River salmon and steelhead generically as if a particular finding were applicable to all species and stocks, when in fact it is not. The worst example of this flaw is the statement that differential delayed mortality is a crucial question "because the answer strongly influences the possible advantage to be accrued by drawdown" (p. A9 - 4), when this observation is true only for spring/summer chinook. As NMFS acknowledges throughout A-fish, dam removal is likely sufficient by itself to avoid extinction of fall chinook and possibly steelhead -- regardless of differential delayed mortality.

Precision is important. NEPA requires that decision-makers and the public be given an objective, clear view of the environmental factors and the recovery options available. Without this objectivity and clarity, neither the public nor the decision-makers can reasonably balance the risks and benefits to the environment. NMFS must more accurately and specifically describe the efficacy of various recovery measures to ensure that the Corps makes a fully informed decision.

5. The DEIS fails to adequately consider science and comments developed by sister agencies.

The U.S. Fish and Wildlife Service as well as state and tribal biologists agree with the above comments as well as with SOS's assessment that dam removal is the best option for recovering salmon populations in the Snake River Basin. These biologists have complete numerous intensive studies and reports highlighting their findings in this regard and outlining their concerns with the current NMFS approaches. Yet NMFS seems to dismiss these findings, concerns, and comments out of hand. Courts have found that it is particularly important for federal agencies to assess and respond to criticism and comments from sister agencies. See, e.g. *Idaho Fish and Game Department v. National Marine Fisheries Service*, 850 F. Supp. 886, 900 (D. Or. 1994), *vacated as moot* 56 F.3d 1071 (9th Cir. 1995) (directing NMFS to better consider "significant information and data from well-qualified scientists such as the fisheries biologists from the states and tribes"); *Sierra Club v. U.S. Army Corps of Engineers*, 701 F.2d 1011 (2nd Cir 1983) (stating that a failure to assess a sister agency's pointed comments supports a finding by the courts that the decision-maker could not have fully considered and balanced environmental factors).

23, 24
cont.

Additionally, attached to these comments and incorporated by reference here are comments developed by the USFW as well as state and tribal biologists regarding habitat improvements in the Snake River Basin. The attached paper finds that habitat improvements do not correspond with increases in salmon populations levels. We urge the Corps to fully consider this analysis in its completion of the final EIS. See *Idaho Fish and Game Department v. National Marine Fisheries Service*, 850 F. Supp. 886, 900 (D. Or. 1994), vacated as moot 56 F.3d 1071 (9th Cir. 1995).

Economics

Although crucial to saving the salmon and resolving the political crisis, the economic analysis in the DEIS includes incomplete, distorted, and inaccurate analyses which prevent the public from understanding, and the Corps from making, a well-balanced and fully informed decision. The DEIS consistently overestimates the costs, and underestimates or excludes the benefits, of partial dam removal (Alternative 4), while underestimating or entirely excluding costs of dam retention alternatives (Alternatives 1-3). The result is that the DEIS distorts the comparison between alternatives, exaggerating the comparative cost of partial dam removal and failing to recognize benefits of restoring the Lower Snake River to a free-flowing condition. Moreover, despite available evidence and studies, the DEIS does not consider mitigation and transition programs that would alter the relative cost and impacts of dam removal and dam retention alternatives.

25, 26

The distortions in analysis and assumptions carry through to the regional impacts. Estimates of job and income losses associated with the dam removal alternative are exaggerated as multiples of basic cost estimates, while potential job and income loss from dam retention alternatives are artificially hidden.

The DEIS includes numerous shortcomings and failures to utilize or analyze available information. All of these shortcomings and omissions must be addressed if the DEIS economic analysis is to contribute to the region and nation's decisions on salmon and steelhead recovery. NEPA requires that an economic analysis not be misleading, biased, or incomplete. See *Johnston v. Davis*, 698 F.2d 1088, 1094 (10th Cir. 1983); *Oregon Natural Resources Council v. Marsh*, 832 F.2d 1489, 1499 (9th Cir. 1987). There simply can be no "hard look" at the costs and benefits unless the costs are disclosed and fully so. *Greenpeace Action v. Franklin*, 14 F.3d 1324, 1332 (9th Cir. 1992).

In order to identify where the economic analysis misleads both the public and decision-makers, here we identify general omissions and distortions prevalent throughout the DEIS, and then offer specific section-by-section comments. These omissions, distortions, and inaccuracies must be addressed in order for the Corps to meet NEPA's "hard look" requirements.

1. General Comments

(a) The economic analysis ignores the costs of dam retention alternatives.

27

28

In particular, the economic analysis completely ignores two major costs associated with dam retention: (1) the cost of acquiring additional flow augmentation in the Snake River Basin needed, according to NMFS and the All-H science paper, in order to protect listed salmon species; and (2) the cost of compliance with Clean Water Act water quality standards. In the case of additional flow augmentation, the DEIS does not address either the cost of acquiring the additional volume of water or the "regional" impacts on jobs and income of doing so. Even though the Bureau of Reclamation completed -- well before the release of the DEIS -- its report on acquisition of an additional million acre-feet of flow augmentation, the Corps chose to exclude that study's results from the draft document, only briefly

28 | mentioning the existence of the study in Appendix I – Economics (p. I2 - 7 and I2 -10). This is an
cont. | unjustified and unjustifiable oversight because the Bureau concluded that acquisition of an additional one
million acre-feet of flow augmentation would take nearly 650,000 acres of irrigated farm land in southern
Idaho out of production, causing a monetary loss of \$150 million to \$1.3 billion annually, and an
employment loss of 4200 to more than 6500 jobs.

27 | Similarly the Corps chose to ignore the very high costs of compliance with the Clean Water Act. A recent
cont. | district court opinion makes clear that the Corps is not exempt from the Clean Water Act, *National
Wildlife Federation v. U.S. Army Corps of Engineers*. Civ. No. 99-442-FR (March 24, 2000). If the dams
are not removed, compliance with the Clean Water Act could run as high as \$900 million -- a very
29 | significant cost which does not appear anywhere in the DEIS. Inclusion of these costs would significantly
alter the DEIS's findings on the cost-benefits as well as the social impacts of all three dam retention
alternatives.

(b) **The DEIS ignores the potentially massive economic costs of salmon extinction.**

Salmon recovery in the Columbia Basin is a legal obligation of the United States under multiple federal laws as well as treaties with Canada and the sovereign American Indian Tribes. Harboring the largest single block of excellent-to-pristine spawning habitat in the Pacific Northwest, the Snake River watershed is the best hope for fulfilling these legal and treaty mandates.

30 | Conversely, salmon extinctions in the Snake Basin would represent an obvious violation of its legal duties
31 | by the United States. In the press, NMFS recently acknowledged that penalties for the United States
32 | might run to tens of billions of dollars -- far more than any proposed or conceivable salmon recovery
program. Furthermore, SOS believes, and informed the Corps during its preparation of the DEIS, that
such a massive bill for Snake Basin salmon extinctions incurred by the United States would inevitably
lead to the repeal of special federal laws, such as Northwest preference for electricity generated at
Columbia Basin federal dams, plunging the region into the catastrophic worst-case scenario of no salmon,
no fishing industries, no cheap energy, no cheap barge shipping, no cheap irrigation water, and no
investments to secure these economic blessings for future generations.

Certainly the danger of huge economic costs associated with salmon extinction is grave enough that the DEIS should have addressed this potential outcome. But the DEIS utterly ignores this crucial economic issue. The Corps must correct this oversight if the public and decision-makers are ever to become fully informed as required under NEPA.

(c) **The economic analysis ignores or downplays opportunities for mitigation and transition investments which would reduce costs associated with partial dam removal, and which potentially might provide a net gain for regional economic development.**

33 | The DEIS spends precisely 4 pages on economic mitigation (p. I13 – 3-6), mainly complaining that the
issue is beyond the scope of the Corps' authority. As a result, the DEIS misses numerous opportunities to
assess how mitigation and transition investments might not only decrease costs associated with partial
dam removal, but also make significant improvements in the local or regional economy. A perfect
example of this lost opportunity can be found in the DEIS's treatment of transportation. The "sensitivity"
analysis acknowledges that conversion and use of existing shipping facilities along the river could lower
costs. Nevertheless, this type of sensible infrastructure investment is never explored. Nor are its
implications elaborated for the cost of shipping commodities after partial dam removal. Keeping existing
facilities in operation would lower costs for shippers already using trucks, and would reduce displacement
of employment and secondary services in communities near the river. Moreover, the Eastern Washington

33
cont. Inter-modal Transportation Study (EWITS) indicates that closure of the Lower Snake navigation waterway combined with strategic investments can lead to a net gain for shippers by re-establishing competition into the transportation marketplace. In this regard, we attach as Attachment #3 and incorporate into our comments by reference a report entitled *Grain Transportation After Partial Removal of the Four Lower Snake River Dams: An Affordable and Efficient Transition Plan* prepared for American Rivers by G. Edward Dickey.

34 Once it has acknowledged a potential benefit, the agency can not simply drop further investigation. The chief purpose of NEPA is to assure disclosure of all relevant costs and benefits of a proposed federal action. Whatever the Corps may believe is its scope of authority, NEPA requires the EIS to address all the information and investigate all of the foreseeable implications of each alternative.

(d) **The economic analysis ignores and distorts costs of alternatives related to habitat actions.**

35, 36 The very brief mitigation section of the DEIS claims that partial dam removal would require a \$20 million increase in spending to maintain wildlife habitat. Yet the DEIS gives no value to the 14,000 to 34,000 acres of riparian land that would be uncovered by dam removal, either as habitat or in some other use. Moreover, costs and impacts of habitat actions that would be needed under dam retention alternatives are missing from the DEIS. Discussions at federal and regional forums, in the NMFS All-H science paper, and in the Multi-species Framework indicate that dam retention alternatives will place severe restrictions on uses of public and private lands, and thus require more extensive and expensive habitat actions than associated with partial removal of the four Lower Snake dams. These high costs related to habitat must be included in the EIS and in the decision-making process.

(e) **The economic analysis ignores the overall regional economic benefit that partial dam removal would create by restoring a free-flowing river.**

37 We attach and incorporate into these comments by reference a study by EcoNorthwest for Trout Unlimited entitled *An Economic Strategy for the Lower Snake River*. This report demonstrates that the region's economy is moving away from dependence on commodity production and toward other areas of economic activity. Because maintenance of healthy ecosystems, such as a free-flowing Lower Snake River, encourages stronger economic development, partial dam removal would create conditions which encourage and stimulate general economic growth. Other than acknowledging the growth of non-farm sectors (p. 12 - 2), the DEIS does not account for these trends and factors in the economy. In its decision-making process, the Corps must consider the information in the EcoNorthwest study.

(f) **The economic analysis ignores the costs, benefits, and impacts of each alternative beyond the immediate area of the Lower Snake River.**

38 With the exception of the energy analysis, the DEIS never places costs, benefits, or impacts in a regional context broader than the immediate vicinity of the Lower Snake River. We strongly urge the Corps to consider a much broader perspective.

39 The DEIS provides no estimate of "regional" job or income impacts to coastal and fishing communities which would benefit from salmon and steelhead restoration. Nor does it account for economic benefits which would flow to native peoples and their communities from salmon and steelhead restoration. Potential expansion of recreational fishing due to recovered salmon and steelhead stocks would also benefit communities outside the 25-county study area of the DEIS regional impact analysis. But all of these benefits are excluded from the DEIS analysis. These benefits must be disclosed to the public and the decision-makers to ensure the integrity of the NEPA process.

39
cont. Likewise, the DEIS says absolutely nothing about imbedded subsidies to private interests, which flow from the dams. Ultimately federal taxpayers foot the bills for Northwest preference on electricity generated at the dams, and for barge companies not paying for the operation and maintenance of the dams' navigation locks. Therefore, the DEIS's four alternatives clearly carry different costs, benefits, and impacts for federal taxpayers as opposed to citizens who reside in the Lower Snake River vicinity.

(g) **The economic analysis ignores important non-monetary values of environmental restoration, and to Native peoples.**

40, 41,
42 Into its economic analysis, the DEIS fails to incorporate two significant non-monetary "existence" values: (1) that of restoring wild salmon runs and a free-flowing river; and (2) that of restoring salmon in the futures of American Indian communities and cultures. Although the Corps investigated the value that the public would place on merely knowing that wild salmon populations continued to exist in the Snake Basin, the Corps fails to include this value in the benefits from partial dam removal. We acknowledge that it is difficult to assess such an existence value accurately. However, that said, the Corps can not simply ignore this value, and hide its significance from the public and from decision-makers. The Corps must include this cost in its analysis to insure a well-informed decision-making process.

43,
44 Similarly, the DEIS's failure to treat the impacts, costs, and benefits to tribal communities distorts the perception of each alternative, particularly partial dam removal. Tribal impacts are discussed but not given equivalent value in overall economic comparisons of alternatives. The DEIS does recognize that "[d]ollar revenue is considered by the study tribes to be a severely limited indicator of tribal value, and can provide distorted impressions of the full impact on tribes" (p. 13 -146 and 15 - 1). However, the DEIS provides no mechanism for addressing this distortion, and instead, merely ignores these other tribal values. Tribal employment and other community impacts are not included in the regional or social impact analyses. Tribal cultural integrity as well as the overall physical and social health of tribal people are given no value in the DEIS. Although a key part of the Tribal Circumstances section of Appendix I - Economics, environmental justice issues were essentially deleted from the economic analysis. By excluding these impacts, the DEIS fails to present an adequate assessment of the costs and benefits of the proposed alternatives and fails to meet environmental justice laws. These impacts must be included in any well-reasoned decision. See Exec. Order No. 12898 (Feb. 11, 1994).

2. **Comments on Specific Issues**

(a) **Electricity**

Our comments here rely largely upon a new report released by the Natural Resources Defense Council (NRDC): *Going with the Flow: Replacing Energy from Four Snake River Dams*. We attach the report and incorporate it by reference into these comments.

45 The DEIS assumes an "existing conditions" case for electricity production and costs that does not, in fact, reflect current conditions in the river. It reflects the hydropower generation that was possible under the 1995 BiOp, while *actual* existing conditions are dictated by the 1998 Supplemental BiOp, which provides more spill and allows less hydropower generation. The Corps' electricity analysis thus overstates the amount and the cost of energy that would have to be replaced if the lower Snake dams were removed.

46,
47 The electricity analysis in the DEIS also ignores the additional burdens that would be imposed on the hydroelectric system to achieve compliance with the Clean Water Act, and additional steps that would be necessary to improve in-river conditions if the dams are retained. NMFS and the All-H science paper make it clear that with the dams still in place, expansion of controlled spill and flow augmentation would

45
cont.

46, 47
cont.

become necessary. Similarly all alternatives for the future would require a sizeable investment in new dissolved gas and temperature abatement measures in order to comply with the Clean Water Act, but the need for those compliance measures would be obviated at the Snake River dams if those dams were removed. Changes in the DEIS assumptions to make them more accurate and current would produce lower cost estimates for replacing the power from the Snake dams, and higher hydropower system cost estimates for alternatives to dam removal.

48, 49

With these inaccurate assumptions about current hydroelectric generation and the lack of even a proxy for future costs of complying with the Clean Water Act, the DEIS calculates a price hike for the average Northwest residential consumer of \$1.20 to \$6.50 per month when the four Lower Snake dams are partially removed. Using more realistic assumptions about the present and the future, the NRDC study concludes that electricity costs would rise by about \$2 per month.

50

These projections for energy rate increases apply to a scenario in which the marketplace would replace the power currently generated by the four Lower Snake dams. Both the DEIS and the NRDC report conclude that this scenario would replace energy from the dams with fossil fuel generation, and that carbon dioxide emissions and other air pollutants would increase across the west as a result. The DEIS stops its analysis at that point. Unlike the DEIS, the NRDC study asks the question the National Environmental Policy Act (NEPA) requires the Corps to address, namely "what reasonable alternatives... will avoid or minimize adverse effects of these actions upon the quality of the human environment." NEPA also requires the Corps to analyze such reasonable alternatives. (40 C.F.R. §§ 1500.2 (b) & (c)). The answer to this crucial mitigation question is a "zero-carbon" strategy in which BPA and the Northwest region would systematically acquire clean cost-effective energy conservation and non-hydropower renewable resources. The NRDC report finds that this strategy is feasible and affordable, with costs about equal to the market replacement method when future energy prices are in the medium range. If future energy prices are higher than a projected medium level, the clean energy strategy is actually cheaper than the dirtier fossil fuel approach identified in the DEIS. The NRDC report estimates that the rate increase for NW residents who use 1000 kwh per month and depend entirely on BPA for their power is a \$1 to \$3 per month for dam removal and clean energy replacement. Even with this increase (from the current average of 5 cents per kwh to a maximum of 5.3 cents per kwh for a Washington resident, compared to the 8.4 cents per kwh national average), electricity rates in the Northwest would be among the lowest in the nation. Moreover, the "zero-carbon" strategy for replacing the dams' output would protect consumers against climate impacts and increased air pollution, as well as volatility in the market price of fossil fuels. The clean energy strategy appears to be an economically reasonable, as well as environmentally preferable, alternative.

51, 52

The DEIS clearly falls short of the NEPA requirement to identify and analyze reasonable alternatives that minimize adverse environmental effects, while the NRDC clean energy analysis meets those requirements. We therefore suggest that the Corps incorporate the conclusions of the NRDC report in its final EIS. Moreover, the Northwest Power Planning Act of 1980, 16 U.S.C. § 839d, requires BPA to give top priority to conservation and renewables over fossil fuel fired generation in meeting the region's energy resource needs. Left in its current form, the DEIS approach to energy replacement would not comply with the statute.

53,
54,
55

Finally, the DEIS does not identify federal subsidies imbedded in the four federal dams. These include (1) Northwest preference which gives the region "first dibs" on inexpensive electricity generated at federal dams, and (2) at-cost pricing by BPA as opposed to the de-regulated at-market rates paid by most of the rest of the nation for wholesale power. The DEIS seems to insist that the entire question of subsidies does not fit into the National Economic Development (NED) method which the Corps uses in the preparation of an EIS. But its own NED method, in fact, forces the agency to account for these

subsidies because they represent an on-going transfer of wealth from the national taxpayer to private interests in the Pacific Northwest.

53, 54
55
cont

Once again in the energy analysis, the DEIS has exaggerated the costs of partial dam removal and underestimated those for dam retention. The document does so by making erroneous assumptions about the base case, ignoring reasonable, affordable mitigation actions (in this case, a zero-carbon strategy for replacing the dams' output) as well as desirable and positive outcomes from the mitigation, and overlooking obvious federal subsidies which flow from the dams. The electricity analysis in the DEIS also fails to meet the requirements of NEPA.

(b) Transportation

Inaccuracies, omissions, and distortions in modeling and other assumptions, forecasts, savings, and efficiency investments combine to mislead the public and decision-makers about impacts on transportation costs from the four alternatives, particularly partial dam removal. We have identified seven ways in which transportation costs have been inaccurately assessed in the DEIS.

First, the economic analysis inflates additional transportation and storage costs because of erroneous assumptions in the calculation. The DEIS assumes a static, unresponsive transportation market which would not change after partial removal of the four Lower Snake dams. In fact, various responses to such an infrastructure change are possible, some of which would increase efficiency, re-establish competition among transportation modes, and reduce transportation costs.

56, 57

But the Corps does not consider such strategic investments and marketplace shifts toward efficiency. For example, the DEIS estimates a cost of \$58.7-335.4 million for additional grain storage at river elevators (p. 13 - 79). However, existing river elevators would be, or could be made available for storage after a return to a free-flowing river, thereby decreasing this cost significantly. The DEIS acknowledges this fact (p.13 - 92), but never explores the potential benefits of converting river elevators to rail-loading. Such dismissal of potential cost savings inaccurately inflates transportation cost after partial dam removal.

58, 59

Second, the economic analysis ignores the costs and benefits of imbedded subsidies. The report by G. Edward Dickey estimates that users of the federal navigation waterway currently receive a subsidy of \$10 million per year. Although current users pay a fuel tax, the tax has never exceeded \$500,000 per year. This subsidy should be counted as a base-case cost, and as an avoided cost under the partial dam removal option. However, the DEIS completely ignores this imbedded subsidy to private interests, thereby distorting the economic analysis.

60, 61

Third, the economic analysis uses inflated forecasts of transportation volumes. The predictions of commodity market trends used in the DEIS appear outdated and thereby inflated. The DEIS discussion is based upon the "Columbia River Channel Deepening Feasibility Study -- Commodity Projections" by Jack Faucet Associates (JFA), which was completed in February, 1996 prior to the collapse of the Asian markets representing the main buyers of Snake River grain exports. Therefore, the JFA study forecasts that wheat exports to the "rapidly developing Asia" markets would double from 1995, and Asia's "wheat imports were expected to grow at a rate greater than population due largely to increases in per capita consumption related to rising incomes" (JFA, p. 50). The JFA report's information is clearly outdated.

However, the DEIS makes no adjustment for the changes in foreign grain markets since 1995 and the economic downturn in Asian nations. Indeed the DEIS adopts the JFA report's optimistic forecast of grain exports running higher than ever recorded from the Lower Snake region with grain shipments from southeastern Washington increasing approximately 20-33 percent above the 10-year average (Tables 3.3-

3 and 3.3-4; p. 13 - 65-66). Compounding this error, the DEIS predicts that volumes of agricultural chemicals shipped into the Snake River area will go up with the forecasted grain exports (p. 13-67).

60, 61
cont.

Compounding this error, the DEIS predicts that volumes of agricultural chemicals shipped into the Snake River area will go up with the forecasted grain exports (p. 13-67). Compounding the errors one more time, the commodity forecasts and transportation changes are rolled into the air quality analysis (section 5.2.1.2), thereby generating falsely and exaggerated air quality impacts for partial dam removal.

The DEIS also forecasts volumes of transported wood chips and logs to run 26% higher than the 10-year average. (p. 13 - 66; Table 3.3-3).

62

By using overly optimistic forecasts of volumes of commodities shipped into and out of the Snake River area, the DEIS yields an inflated estimate of transportation costs and impacts when the four Lower Snake dams are partially removed. As a result, the public and decision-makers can not truly make a well-informed and balanced assessment of the environment and economic costs associated with the proposed alternatives. The NEPA process requires a more thoughtful approach.

63, 64

Fourth, the economic analysis artificially restricts alternative rail shipping points. The DEIS irrationally limits points of shipping by railroad, and as a result increases costs associated with partial dam removal. Although the DEIS realistically assumes that shipper would need grain elevators with 25-car "unit" loading capability, the analysis ignores many such facilities - even those located within 15 miles (p. 13 - 61). This exclusion in the Corps' transportation model erroneously underestimates the availability and capacity of railroad shipping after partial removal of the four Lower Snake dams. Although the DEIS concedes that these rail facilities exist (p. 13 - 72), the model does not take advantage of these facilities, and thus inflates costs or capacity constraints.

65, 66

Fifth, the economic analysis contains acknowledged errors in modeling and cost estimates. The DEIS is fraught with acknowledged errors in transportation cost assessments, which, to assure a well-informed decision, the Corps must correct. For example, the DEIS identifies errors in commodity storage costs (p. 13 - 68) the corrections for which have not been plugged into the analysis. The Corps justifies this bizarre approach to economic research by claiming that the errors appear in calculations of both the base case and the partial dam removal option, thereby yielding an accurate picture (p. 13 - 73). We disagree; two errors never result in an accurate estimate.

67, 68

The DEIS describes as "unresolved issues" what are, in fact, inaccuracies in the transportation analysis. The model assumes a perfectly efficient market in the base case (p. 13 - 90), and includes other erroneous factors such as inflated costs for truck shipping and deflated ones for barge. Similarly, the model adds an "adjustment" whenever shipping costs estimated for an alternative exceed the base case expense (p. 13 - 61; footnotes to Tables 3.3 - 12 and 3.3 - 20). The Independent Economics Analysis Board correctly recommended the elimination of this adjustment.

69, 70

Sixth, the economic analysis exaggerates the cost of additional rail cars. The DEIS gives an inflated cost for acquiring additional rail cars needed after partial removal of the four Lower Snake dams. The Washington State Grain Train program today acquires used grain cars at half the cost estimated in the DEIS. In addition, currently there is, acknowledged in the DEIS (p. 13 - 76), a grain car surplus which potentially adds an unnecessary \$14-37 million to the cost of rail infrastructure. These inaccuracies and exaggerations need to be addressed to ensure that the public and decision-makers are receiving unbiased information upon which to make an informed decision.

71, 72

Seventh, the economic analysis ignores cost savings for Idaho shippers and for Washington road maintenance under the partial dam removal alternative. After partial removal of the four Lower

71, 72
cont.

Snake dams, Idaho shippers would see a mileage reduction (p. 13 - 77; Table 3.3 - 16). Nevertheless, the DEIS does not calculate or include the reduced costs which followed from reduced mileage.

An EWITS report indicates that a shift from barge to rail, as would occur under the partial dam removal alternative, would eliminate or reduce wear on county roads, saving road maintenance costs throughout eastern Washington State. The DEIS irrationally counts increased road maintenance as an additional cost, but does not view decreased maintenance as a savings. The result is a bias against partial dam removal in the economic analysis.

(c) Water Supply

The DEIS misleads the public and decision-makers on the cost estimates for maintaining water supply under the partial dam removal alternative. The DEIS identifies, but dismisses or ignores more cost-effective means of maintaining agricultural and other water supply. The analysis also does not provide evidence that, under the partial dam removal alternative, major water supply mitigation projects are actually necessary, relying instead on scant research and broad assumptions.

We agree with the DEIS that a major modification of irrigation pump systems at the Ice Harbor reservoir costing more than \$300 million "is an overstatement of the economic effects" (p. 13 - 108). Features such as a system capacity which is 25% greater than the current peak irrigation demand (DEIS Appendix E, Annex O, Section O.3.2) suggest that the Corps' engineering to keep irrigated agricultural production in operation following partial removal of Ice Harbor Dam is over-designed and over-priced.

73, 74

Indeed the DEIS makes no effort to engineer a more affordable way to keep Ice Harbor irrigation systems in operation when Ice Harbor Dam is partially removed, and then compounds this inadequacy by recommending a buy-out program of the affected irrigated land. SOS strongly believes that irrigators should decide whether to accept modification of their irrigation pump systems or purchase of their lands -- not the Corps or the federal government. Therefore, the DEIS must provide more reasonable and cost-effective pump modifications for both irrigators and other water users, including detailed estimates of design and financing. The DEIS should address potential use of groundwater for water supply as well as an accurate assessment of impacts to private well users. The cost of new flow augmentation should also be included under the dam retention alternatives. Currently the DEIS fails to incorporate any and all of these estimates of costs and impacts.

To limit its scope of study, the Corps uses the faulty assumption that water supply impacts "are small" relative to other values (p. 13 - 93), when in fact, water supply shows major impacts on regional employment and income. For example, more than half of the long-term job losses predicted by the DEIS are based on the false assumption that partial removal of Ice Harbor Dam will cause irrigated lands to go out of production. Given these high stakes, the Corps must take greater care to ensure that the DEIS reasonably evaluates maintenance of irrigation water supply.

To do so for fully informed decision making, the agency must fill the following holes in the analysis:

75, 76

First, the DEIS must explore less expensive modification to irrigation pump systems. Earlier engineering studies suggested that extensions of individual irrigation pumps to free-flowing river elevation are feasible at a total cost of \$37 million (Anderson & Perry, 1991). Given the significant difference between this previous estimate and that in the DEIS, further investigation clearly is warranted.

77

Second, the DEIS must explore the possibility of replacing surface water supply with groundwater. The DEIS denies the feasibility of using groundwater as a replacement source of irrigation supply -- apparently based on discussions with a single county extension agent (p. 13 - 99). Yet the DEIS also

77
cont.

reports that groundwater wells currently represent major portions of water supply to three existing farms, two of which have high value vineyards and orchards. The analysis estimates that acreage equal to a third of that supplied by pumped river water may already irrigate from wells (p. 13 - 94), and notes, "[I]t is likely that other agricultural operations also irrigate from wells, but identification of all irrigation well stations was beyond the scope of this analysis" (p. 13 - 113). At least one Ice Harbor farm currently has greater pumping horsepower in its groundwater wells pumps than in its river pumps (p.13 - 95). There is substantial evidence in the DEIS itself that groundwater wells are already a significant, functional source of irrigation water supply, contradicting the Corps' denial of the feasibility or suitability of groundwater as a potential source.

78

Third, the DEIS must explore the potential to reduce costs and maintain jobs by modifying irrigation pump systems for the highest value acreage. The DEIS irrationally assumes that partial removal of Ice Harbor Dam inevitably means loss of all production from all of the 37,000 acres currently irrigated from pumps on the reservoir. Approximately 7,750, or 21 percent, of the 37,000 irrigated acres are vineyards and fruit orchards, representing 51 percent of the total value of all irrigated production. Maintaining just this portion of the irrigated production would save more than half the jobs, income, and sales from irrigated agriculture at Ice Harbor (p. 16 - 15). Nonetheless, the DEIS does not investigate pump modifications for water supply to just these 7,750 acres, thereby failing to provide important information for an informed and balanced decision.

79

Fourth, the DEIS analysis of private wells is comprised of unsupported assertions. The DEIS provides no evidence and simply makes conclusory statements that partial dam removal would impact 40 percent of private wells requiring a total modification price of \$56.4 million (p. 13 - 114). For the sample in the DEIS, the Corps chose several large irrigation wells even though they represent a very small portion of private wells in the impacted area, which inflates the cost estimate for modifications to keep all wells in operation after partial dam removal. Moreover, while putting all the wells into its estimate of modification costs, the analysis suggests that nearly 10 percent of the wells may not be functioning (p. 13 - 112). Deletion of the wells not operating currently would reduce modification costs by \$4.8 million from the \$56 million total. Both errors and lack of evidence cast doubt upon the credibility of the information passed on to both the public and decision-makers by the DEIS.

80,
81,
82

Fifth, the DEIS does not assess irrigators' costs under dam retention alternatives. The DEIS completely ignores the largest expense impacting more irrigators under any of the alternatives -- the cost of additional flow augmentation necessary to protect salmonid species under the dam retention alternatives. A study by the Bureau of Reclamation indicates that just acquisition of an additional million acre-feet of flow augmentation water in the Snake Basin -- a volume that in all likelihood is less than what is needed -- would put between 243,000 and 643,000 irrigated acres permanently out of production in southern Idaho, costing at least \$182 million per year -- far more than any option to maintain irrigation at Ice Harbor. Although the Corps requested the Bureau's study as part of its DEIS and should have included these impacts as regional economic effects, the results do not appear in the economic analysis. To so exclude such a massive economic impact violates NEPA's primary purpose of assuring that all relevant factors are considered in the decision-making process.

(d) Recreation

83

Throughout its assessment of the recreation potential on a free-flowing Lower Snake River, the Corps has taken every possible step to find little or none. Low values for recreation-days, pessimistic assumptions, and unwarranted limitations on estimates of capacity and geographic scope combine to unreasonably lower the predicted recreation potential associated with partial dam removal. The DEIS should be corrected to recognize the vast recreation potential of the Lower Snake River without dams, and to give a more thoughtful and unbiased analysis. We here recommend five ways in which to do so:

84

First, the DEIS should use the middle estimates of recreation use. Even though the Corps' work group agreed that the middle scenario made sense for assessing recreation potential, the DEIS itself uses the low estimate. Following the middle-use numbers raises the total annual value of free-flowing river recreation by \$199 million (even when the Corps uses the faulty methodology of averaging values described below).

85, 86

Second, the DEIS should not average high and low per-day values. Doing so underestimates the advantages of recreation on a free-flowing river, and gives too much weight to activities with relatively low value. The survey conducted for the recreation analysis in the DEIS suggests that the useful per-day value is \$114 which comes from non-fishing recreation on the free-flowing Lower Snake River. Meanwhile, the low value of \$39 per day represents only the cost of mileage for one day of reservoir fishing. Averaging these per-day figures gives disproportionate weight to the low end, reducing the total estimate of recreation value. Moreover, using a figure based solely on travel costs ignores other recreation spending which make major contributions to the economy. The DEIS recognizes the error in averaging per-day values (p. 13 - 49), and then makes the mistake anyway.

87

Third, the DEIS should use more reliable per-day values. Evidence suggests that the per-day values used in the DEIS are unreasonably low. For example, a 1999 study by the Idaho Fish and Game Foundation finds that a restored salmon fishing season would bring \$72 million per year in spending for fishing recreation, and \$170 million per year in economic activity within the Gem State alone -- with a per-day value of \$189 which is much higher than the figure used in the DEIS.

88, 89

Fourth, the DEIS should include the value of downriver recreation. Also missing in the DEIS is the potential value of increased fishing recreation below the confluence of the Snake and Columbia Rivers, even though the Corps claimed that potential downriver and ocean sport harvest would go into the anadromous fish economic analysis. The Northwest Sportfishing Industry Association argues persuasively that the value of downstream recreational fishing would become significant as endangered salmon and steelhead stocks recover, allowing increased catch and activity all along the Columbia and Snake Rivers. The DEIS must add into its valuation of recreation potential the ocean and in-river fishing which would take place downstream of the confluence of the Snake and Columbia Rivers following salmon and steelhead recovery.

90, 91

Fifth, the DEIS should reassess assumptions about, and remove bias against, out-of-region visitors. The DEIS inaccurately captures the recreation potential in the Lower Snake area by out-of-region visitors. There are good reasons to dispute the Corps' claim that potential for visitation by more distant Californians "does not seem reasonable" (p. 13 - 45). For example, as expected, the return rate of the DEIS's recreation survey was lower from California than from Northwest states. By not counting non-respondents in the low-use scenario and others, the DEIS reduces and distorts the potential economic contribution of non-Northwest visitors.

Furthermore, the DEIS ignores altogether the potential economic value of visitors from outside the U.S. west coast, even though data demonstrate that 33 percent of visitors to free-flowing rivers in central Idaho come from more than 1000 miles away (p. 13 - 49).

Showing a distinct bias, the DEIS assumes that out-of-region visitors would seldom visit, and then relegates a definition of "seldom" to one of only two "unresolved issues" in the recreation analysis. By requiring annual visitation in order to count as a positive response, the recreation survey discounts more distant visitors, who might visit less often than once a year, but who might spend significantly when in the region.

90, 91
cont.

The DEIS should reflect the significant, unique, and national potential for recreation on 140 miles of restored free-flowing Snake River. To exclude significant interest by potential California visitors, to completely ignore potential visitation from the rest of the nation, and to maintain a bias against all out-of-region visitors casts grave doubt on whether the Corps has truly taken a "hard look" at the recreational potential of a free-flowing Lower Snake River.

(e) Implementation and Avoided Costs

The DEIS completely ignores or inaccurately estimates two major costs associated with dam retention: (1) compliance with the Clean Water Act (CWA) at the four Lower Snake dams, and (2) turbine rehabilitation at the four dams' powerhouses. Both costs are significant, and accurate estimates for either would alter the cost-benefit calculation for partial dam removal. NEPA does not allow the Corps to simply close its eyes to real costs in any given alternative.

93

(i) **CWA compliance:** The Clean Water Act requires federal facilities to comply with water quality standards. A recent court decision has made clear to the Corps that the agency's dams are not exempt from the statute. See *National Wildlife Federation v. U.S. Army Corps of Engineers*, Civ. No. 99-442-FR, Slip Opinion (March 21, 2000). Therefore, if the dams remain in place, the Corps must ensure that they meet water quality standards set by Washington State, which they currently violate. Despite our recommendations to include costs to meet CWA requirements under the dam retention alternatives, the DEIS does not do so. Estimates available to the Corps (A federal memo, "Resolving Rate Case Issues" of May 11, 1999, and discussions at the Columbia Basin Forum) provide a range of \$460 million to \$900 million to bring the four Lower Snake dams into CWA compliance. Nevertheless, the Corps chose to ignore not only these estimates, but the entire question of CWA compliance under the dam retention alternatives. "There can be no 'hard look' at costs and benefits unless all costs are disclosed," *Sierra Club v. Sigler*, 695 F.2d 957, 979 (5th Cir. 1983). Failing to include these costs seriously undermines the Corps cost-benefit analysis.

92

94

(ii) **Turbine rehabilitation:** The DEIS severely underestimates the cost of turbine rehabilitation. Without any explanation or justification, the DEIS reduces the frequency of turbine rehabilitation from two regular cycles to one. The standard of two regular rehabilitation cycles is based upon the need to overhaul turbines every 40 to 50 years. Thus turbines in dams constructed in 1961-1975 would require major rehabilitation twice during a 100-year period beginning approximately 2010. Nonetheless, the DEIS includes only one major rehabilitation for all turbines, cutting the estimate of avoided cost in the partial dam removal alternative by half, or \$380 million. Again these costs must be included to ensure that the agency has taken the hard look that NEPA requires.

(f) Mitigation

95

In these comments, we have already discussed the DEIS's nearly total failure to provide analysis of measures and their economic benefits to mitigate impacts in the partial dam removal alternative. By replacing the dams' hydroelectric generation with a "zero-carbon" strategy, partial dam removal would give the Northwest a more reliable energy supply, and would not increase air pollution. By converting from barge transportation to greater use of trucks and trains, the Lower Snake area would re-establish competition among modes in the shipping marketplace. In both cases, strategic investments are necessary in order to implement the mitigation; the invisible hand of the marketplace will not acquire energy conservation, build new highways for trucks, or upgrade railroad infrastructure. Nevertheless, the DEIS provides either few or no estimates of either the effectiveness or the cost for these mitigation measures.

96

Wildlife habitat is an excellent example of the inadequacies and even absurdities in the DEIS's look at mitigation. The Corps asserts that the main mitigation cost in partial dam removal would be \$26 million

96, 97
cont.

per year to restore existing wildlife habitat in the reservoirs (p. 113 - 2) – a preposterous claim because re-creating a free-flowing river would make maintenance of artificial habitat obsolete. While partial dam removal might necessitate some riparian restoration, it is certainly unreasonable to assume, as the DEIS does, that the Corps' artificially created wildlife habitat units would be maintained permanently. The agency contends that the artificial habitat units are required under the federal legislation authorizing the dams, but revocation of that provision would be an obvious element in any legislation necessary to authorize partial dam removal. Elsewhere the DEIS applies a standard of "anticipated authorization" (p. 3 - 3-10), but does not do so in assessing wildlife habitat mitigation.

In addition to this invalid penalty, the DEIS ignores obvious benefits for wildlife mitigation associated with partial dam removal. Restoration of 14,000 to 34,000 acres of currently inundated riparian land receives no value in the DEIS. (The range of re-created riparian acreage comes from contradictory numbers in the DEIS; 14,000 acres in section 5.5.3, and 34,000 acres at page 15 - 12.) The Corps must correct these failings in order to ensure a reasoned-decision.

(g) Employment

98 The DEIS distorts two relevant and significant factors associated with employment. First, as in other sections of the DEIS, employment calculations are based on a definition of the impacted region (p. 16 - 4) which excludes coastal, tribal, and river communities standing to benefit from recovered salmon and restored fishing. This exclusion results in significant undisclosed benefits from partial dam removal, and must be corrected.

99 Second, the DEIS fails to distinguish between full-time permanent and part-time seasonal employment in irrigated agriculture. The DEIS estimates an employment loss of 1579 jobs in irrigated agriculture after partial removal of Ice Harbor Dam (table 5.13-3). However, the total number of jobs – both permanent full-time and regular part-time at the farms irrigating from Ice Harbor pumps – is 700. The other 879 are seasonal part-time jobs (table 5.13-30). This significant confusion around employment impacts makes it impossible for the public and decision-makers to become fully informed by the DEIS, and the Corps should correct its presentation of this information.

Environment and Engineering

100 The DEIS does not summarize and report important environmental information accurately as required by NEPA, and does not justify its decisions on how to proceed with partial dam removal. These flaws should be corrected in the final document.

1. Sediment

102 The DEIS uses a standard for suspended sediment and turbidity – 25 milligrams per liter (p. 5.3-5) – as the threshold to protect salmon and steelhead which is not supported by the scientific literature cited in the draft document (p. F15 - 2).

103 In this regard, the Corps provides no justification for its projected engineering decision to partially remove Lower Granite Dam and Little Goose Dam before Lower Monumental and Ice Harbor (p. D10 - 1-2). In order to move sediment deposited in reservoirs quickly out of a restored free-flowing river, engineers have universally recommended removal of multiple dams moving upstream, not down.

2. Air Quality

104 With proper mitigations (a “zero-carbon” strategy for replacing the dams’ hydroelectric output; an emphasis on installing railroad infrastructure for replacing barge navigation through the dams’ locks), it is feasible to have no net increase in air pollution under the partial dam removal. Even without these mitigation actions, the DEIS shows very small and insignificant increases in some air pollutants with partial dam removal (tables 5.2-2 and 5.2-6), and the document should say so.

Legal

105 Because of weaknesses and inadequacies in the DEIS previously discussed in these comments, the draft document does not comply with NEPA. Here we isolate three specific ways in which the Corps has not met the test of the statute.

1. The DEIS fails to take a “hard look” at all of the environmental information and consequences of the four alternatives.

The fundamental purposes of NEPA, 42 U.S.C. § 4331 *et seq.*, are to guarantee that: (1) federal agencies take a “hard look” at the consequences of their actions **before** the actions occur by ensuring “that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts,” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989); and (2) “the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision,” *id.* at 349. In short, NEPA requires federal agencies to look before they leap. Unfortunately, the DEIS fails to serve this function.

106 To satisfy the requirement that it take a “hard look” at the environmental consequences of its actions, an agency must engage in a “reasoned evaluation of the relevant factors” to ensure that its ultimate decision is truly informed, *Greenpeace Action v. Franklin*, 14 F.3d 1324, 1332 (9th Cir. 1992). The EIS analysis must be searching, detailed and comprehensive; “[g]eneral statements about ‘possible’ effects and ‘some risk,’ do not constitute a ‘hard look’ absent a justification for why more definitive information could not be provided,” *Neighbors of Cuddy Mountain v. United States Forest Service*, 137 F.3d 1372, 1380 (9th Cir. 1998).

An agency’s failure to include and analyze information that is important, significant, or essential renders an EIS inadequate – for, without such detailed information, there is no way for the public or the agency to adequately assess the impacts of a proposed action. See *California v. Bergland*, 483 F. Supp. 465, 495 (E.D. Cal. 1980), *aff’d sub nom.*, *California v. Block*, 690 F.2d 753 (9th Cir. 1982) (by failing to disclose key data in a draft EIS, “the Forest Service effectively undercut the twin goals of environmental statements: informed decisionmaking, and full disclosure”).

The Corps may not, as it has done throughout this DEIS, ignore relevant studies and rely upon conclusory statements and unsupported assertions to satisfy NEPA’s “hard look” requirement. SOS believes that these deficiencies present an inaccurate picture of the impacts of each of the four alternatives discussed in the DEIS to the public, making it impossible for anyone, including the Corps, to draw any reasoned conclusions about the environmental impacts of each alternative.

2. **The DEIS fails to adequately inform the public and decision-makers of the requirements and responsibilities of all federal statutes and treaties.**

107 "A reasoned evaluation of the relevant factors" must also include an understanding of all the federal laws with which an agency must comply, especially when those other laws have been enacted to protect environmental and natural resources. In this case, the DEIS fails to inform adequately the public and the decision-makers of the requirements under numerous other laws including, but not limited to the Endangered Species Act ("ESA"), 16 U.S.C. §§1531 *et seq.*, Clean Water Act ("CWA"), 33 U.S.C. §§ 1251 *et seq.*, Northwest Power Planning Act ("Power Act"), 16 U.S.C. §§ 839, *et seq.*, and Magnuson-Stevens Fisheries Conservation Act ("Magnuson Act"), 16 U.S.C. §§ 1801, *et seq.* To give the public and decision-makers the tools necessary to balance all relevant factors, the DEIS must address the basic requirements of each of these statutes:

(a) **Endangered Species Act**

108 The ESA requires a suite of federal compliance actions. However, two are basic to ESA compliance for federal agencies. First, the ESA requires federal agencies to "conserve", or "recover" listed species. 16 U.S.C. § 1536(a)(1). Second, the ESA requires that federal agencies not jeopardize the continued existence of a listed species or adversely modify the critical habitat of such a species. 16 U.S.C. § 1536(a)(2). Although these are basic to federal ESA compliance, the DEIS falls far short of providing the Corps with the information necessary to assess which of the four alternatives will actually meet these basic requirements. For example, the DEIS fails even to establish clearly what standard is required for ESA compliance (see comments above on biology), let alone to set forth the appropriate actions for ESA compliance. As a result, the DEIS fails to provide the requisite information necessary to ensure a well-informed and balanced decision.

(b) **Clean Water Act**

109 The DEIS completely ignores the requirements of the CWA. The CWA requires all dam operators, including federal agencies such as the Corps, to comply with state water quality standards. 33 U.S.C. §§ 1323, 1341. However, the DEIS barely mentions water quality standards and fails to include costs of CWA compliance in its economic analysis. As highlighted by comments from the U.S. Environmental Protection Agency, where the Corps does discuss water quality, such as temperature, the Corps analysis is "flawed and misleading." The DEIS must acknowledge the true impacts of the dams on water quality. A recent district court opinion makes clear to the agency that it does not hold an exemption to the CWA. See *National Wildlife Federation v. U.S. Corps of Engineers*, Civ. No. 99-442-FR (March 21, 2000). Accordingly, the Corps must comply with water quality standards under the CWA, and the DEIS must include an assessment of what measures are necessary to meet these standards as well as the costs associated with these measures.

(c) **Northwest Power Planning Act**

110 The Power Act directs the Bonneville Power Administration (BPA), the Corps, and other relevant federal agencies "to adequately protect, mitigate, and enhance fish and wildlife, including related spawning grounds and habitat," affected by hydroelectric dams in the Columbia Basin, 16 U.S.C. § 839b(h)(1)(A)(i). The Power Act also sets conservation and renewable resources as the top priority whenever BPA must acquire new generation. The DEIS contains no accounting of how the Corps will comply with these or the Power Act's other requirements.

(d) **Magnuson-Stevens Fisheries Conservation Act**

In the Magnuson Act, the Congress directed NMFS to regulate fish harvest within U.S. territorial waters (3-200 miles), and to protect fisheries and fish habitat. 16 U.S.C. §1801, *et seq.* Although the DEIS deals with harvest and habitat in the A-fish appendix and elsewhere, the draft document does not explain how the Corps will comply with this statute.

In addition to these laws, the United States has obligations for salmon recovery under the Pacific Salmon Treaty with Canada, and under 19th century treaties with the sovereign American Indian Tribes of the Columbia Basin. The responsibilities of the nation under the tribal treaties have already been interpreted by the federal courts to a large extent in *U.S. v. Oregon*, 444 U.S. 380 (1980). The DEIS does not explain how the federal government will comply with the court order to provide the tribes' treaty right to salmon for harvest at accustomed sites in perpetuity.

Furthermore, on February 11, 1994 President Clinton signed Executive Order 12898. The Executive Order requires federal agencies to consider and address environmental justice concerns associated with federal activities. After years of environmentally discriminating against communities that are less empowered, the Executive Order establishes a requirement on federal agencies to significantly change this dynamic. Moreover, as a society, we have established federal laws that protect disenfranchised people and those against whom discrimination occurs. 42 U.S.C. § 1983. Clearly tribal communities have been discriminated against unjustly for hundreds of years and are targeted communities for such protections. And yet, though information was provided to the Corps on the environmental justice effects of the alternatives presented in the DEIS, the Corps simply dismissed the Tribal Circumstances Report with a minor reference in the DEIS economic analysis. This dismissal is appalling and creates a fundamental flaw within the DEIS that must be corrected. The DEIS should incorporate this report in its entirety and adequately and honestly assess the impacts of the alternatives on tribal communities and to make choices that not only comply with federal law, but also support and celebrate these very special and unique communities of the Pacific Northwest.

3. **The DEIS fails to analyze the cumulative impacts of myriad other actions that affect Snake River salmon and steelhead.**

Perhaps the most glaring omission in the DEIS is the Corps' wholesale failure to consider cumulative impacts in its analysis of the four alternatives. In order to ensure that the combined effects of separate activities do not escape consideration in an EIS, NEPA requires that federal agencies consider cumulative environmental impacts in their environmental analyses. A cumulative impact is:

the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. 40 C.F.R. § 1508.7

The DEIS falls far short of satisfying a single one of these requirements. For example, the Corps has recently proposed and analyzed a project to deepen the Lower Columbia River -- an action that, if approved, will impact Snake River juvenile and adult salmon and steelhead as they migrate through the lowest reach of the Columbia River. Despite the fact that this project has been analyzed and is therefore clearly "reasonably foreseeable," the DEIS does not mention this massive project, let alone analyze its impacts in conjunction with each of the alternatives.

112, 113 cont. In addition, there are numerous studies, including a NMFS Biological Opinion prepared for the same Columbia River Federal Navigation Channel Deepening project (issued on December 16, 1999), detailing the severely degraded conditions that migrating juveniles encounter in the Columbia River's estuary. Despite the availability of this information, the DEIS makes no effort to describe the cumulative impacts of the alternatives in conjunction with the additional mortality that results from the degraded estuary.

114, 115 These examples are by no means exclusive. There are numerous other, easily identifiable actions and conditions that impact Snake River stocks, including, but not limited to: continuing habitat destruction and modification from on-going and proposed land-management activities; Snake River Basin water rights adjudication; and upstream water releases to protect resident fish. All of these activities and factors – whether they be in the development stage, or completed projects – must be considered in the Corps' cumulative effects analysis. There is no way for the Corps to take a “hard look” at the environmental consequences of each the alternatives, especially the full consequences of retaining dams, without considering these types of cumulative impacts.

116, 117 In addition to its failure to consider these other projects, what little cumulative impacts discussion appears in the DEIS is woefully inadequate. For example, the Corps' superficial “discussion” of Earth Resources consists only of the statement that “[i]t is unknown whether sediment contributions from these sources will increase or decrease significantly in the future” (p. 5.16 -1). The Corps' discussion of nearly every other factor suffers from this same deficiency. Such conclusory remarks say nothing at all about the environmental impacts of these activities in combination with the alternatives, and certainly do not allow the public or the Corps to meaningfully evaluate the relative effects of each alternative.

118, 119 The Corps must do much more than merely state that it “is not known” whether many of these factors will increase or decrease in the future; the agency must at least attempt to summarize the existing information and draw some conclusion about the impacts. 40 C.F.R. § 1502.22. See *City of Carmel-By-The-Sea v. United States Department of Transportation*, 123 F.3d 1142, 1160 (9th Cir. 1997) -- rejecting cumulative impacts analysis that referred generally to other past “development projects” and did not at all discuss the additive impacts of foreseeable future projects. See also *Natural Resources Defense Council v. Hodel*, 865 F.2d 288, 299 (D.C. Cir. 1988) -- “perfunctory references do not constitute analysis useful to a decisionmaker in deciding whether, or how, to alter the program to lessen cumulative environmental impacts.” Clearly, there is an abundance of scientific information available for all of these subject areas. Numerous Biological Opinions, multi-agency scientific studies such as the Interior Columbia Basin Ecosystem Management Project, and NEPA analyses for individual projects all provide significant sources of this information. NEPA requires that the Corps at least present that information to the public and perform a scientific analysis of its likely effects.

120, 121 NEPA “emphasize[s] the importance of coherent and comprehensive up-front environmental analysis to ensure informed decision making to the end that ‘the agency will not act on incomplete information, only to regret its decision after it is too late to correct’.” *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1216 (9th Cir. 1998). The DEIS's perfunctory and incomplete discussion of cumulative effects fails to give life to this fundamental purpose. The DEIS's failure to include all past, present, and reasonably foreseeable actions results in a skewed, and ultimately inaccurate picture of the impacts of the proposed actions, leading to the kind of “blinders-on” decision-making that NEPA is designed to prevent.

Conclusion

Once again we respectfully urge the Corps to adopt alternative 4 "partial dam removal" as its preferred action, and to correct the many flaws, inadequacies, and errors in the DEIS.

Thank you for this opportunity to comment on the DEIS, and in advance, for your due consideration of our comments. If you have questions or need further information, please do not hesitate to contact us at your earliest convenience.

Sincerely,



Pat Ford, Save Our *Wild* Salmon

Rob Masonis, American Rivers

Bill Arthur, Sierra Club

Jeff Curtis, Trout Unlimited

Bill Sedivy, Idaho Rivers United

Karen Garrison, Natural Resources Defense Council

Glen Spain, Pacific Coast Federation of Fishermen's Associations &
Institute for Fisheries Resources

Lovina Warren, Salmon for All

Sam Mace, Washington Wildlife Federation

Kent Laverty, Idaho Wildlife Federation

Sara Patton, Northwest Energy Coalition

Shawn Cantrell, Friends of the Earth

Tim Stearns, National Wildlife Federation

Attachments

1. Gretchen R. Oosterhout, Ph.D., *Seven Questions about the Cumulative Risk Initiative*. Prepared for Trout Unlimited & American Rivers (January 23, 2000).
2. Save Our Wild Salmon, *Comments on the All-H Paper* (March 17, 2000).
3. STUFA (State, Tribal, & U.S. Fisheries Agencies), *A Technical review of the National Marine Fisheries Service Leslie Matrix Model of the Snake River Spring and Summer Chinook Populations* (Draft: April 20, 2000).
4. G. Edward Dickey for American Rivers, *Grain Transportation After Partial Removal of the Four Lower Snake River Dams: An Affordable and Efficient Transition Plan* (September 1999).
5. EcoNorthwest, *An Economic Strategy for the Lower Snake River*. Prepared for Trout Unlimited (November 1999).
6. Natural Resources Defense Council, *Going with the Flow: Replacing Energy from Four Snake River Dams* (April 2000).