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erroneous assumptions about the base case, ignoring logical 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.

(10) Flawed Transportation Impacts Analysis:

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:

(A) 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 thereby generally reduce transportation costs.

However, Corps never considers 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. I3 - 79). *However, existing as well as additional river elevators could readily be made available for storage after a return to a free-flowing river, thereby decreasing this cost significantly.* The DEIS acknowledges this fact (p.I3 - 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.

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framework for assessing all the costs and benefits of salmon recovery measures, and also found that:

“Most of the discourse on the economic issues of salmon recovery has focused too narrowly, concentrating almost exclusively on the costs of recovery. Costs are indeed important, but they tell only part of the economic story.... Toward this end, we recommend that you examine and weigh all these factors:”

The Economists Letter then set forth a framework for assessing all the costs and benefits required for any full accounting and any complete analysis. Among their recommendations are:

“Salmon recovery will generate economic benefits as well as costs... A full accounting must be provided of the true value of each affect good or service, taking into account market price, where appropriate, as well as all factors, such as subsidies, taxes, and environmental externalities, that distort the level of supply and demand.”

The Economists Letter established a consensus within the economics profession as to the baseline that any legitimate costs vs. benefits analysis of salmon recovery measures should meet. Unfortunately, the Corps DEIS economic analysis fails to meet those minimum standards in several regards.

The end result is that 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. For instance, 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. 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.

Additionally, the DEIS includes numerous shortcomings and failures to utilize or analyze available information. A number of important and published economic analyses were simply ignored.

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

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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, including the costs of the status quo, and the benefits are fully explored. *Greenpeace Action v. Franklin*, 14 F.3d 1324, 1332 (9th Cir. 1992).

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cont. In order to identify where the economic analysis misleads both the public and decision-makers, we will identify the most glaring 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. Failure to Quantify Costs of the Current Status Quo:

(A) **Understating and Ignoring the Real Costs of the Status Quo:** The DEIS assumes that the present condition (current operations) are a zero cost baseline. This is patently incorrect. In addition to the costs of operations and maintenance of the dams themselves, there are also substantial costs of the transportation program and other mitigation programs intended to help mitigate for the economic and environmental damages these dams themselves cause. Estimates of the current operations and maintenance costs plus mitigation measure costs range from \$194.4 million/year to \$230 million/year, depending on what costs are included and varying slightly by the time period included. **These are direct and indirect costs of the status quo and they must be accounted for.** The Corps DEIS includes only the direct costs of dam operations and maintenance in its cost analysis, not any of the mitigation costs. However, these costs (particularly of the artificial transportation program) would become unnecessary in a dam breaching scenario – they occur only because of, and therefore are directly dependent upon, the existence of these dams.

2 Additionally there are other costs, including so-called “foregone revenues” resulting from required spill program mitigation measures which should also be calculated in as costs of the current status quo. In every other forum the Corps and BPA asserts these as real costs of the salmon mitigation program, and therefore a complete evaluation must take these costs into account as direct and indirect costs of the current status quo. Additionally, water is lost in lock flushing, and this water loss also creates economic impacts in the form of “foregone revenues” which have been estimated at over \$809,000 annually.

Your economic analysis does not include, and your references do not include, the work of Economist Philip S. Lansing in his report *Restoring the Lower Snake River: Saving Snake River Salmon and Saving Money* (ONRC Fund, 1998) in which he concluded, on the basis of BPA, NWPPC’s own figures, that, among other things:

- (1) The Lower Snake dams and reservoirs require the BPA to spend \$194.4 million every year on salmon restoration and mitigation measures (a cost of the status quo);
- (2) Taxpayers and electric ratepayers subsidize electric power production, river

transportation and irrigation from the lower Snake dams are reservoirs, and that when all these subsidies are accounted for, the "benefits" of these dams actually amount to a net loss to the economy of \$114 million annually;

(3) Electric power generated by the lower Snake River dams is not cost competitive, but in fact (including all the costs including necessary mitigation costs as costs of operations) costs more than current 'spot market' rates for replacement power;

(4) River transportation on the Lower Snake is expensive by comparison to rail costs and can only be cost competitive because it is heavily subsidized. These hidden subsidies, however, are completely ignored in the DEIS economic analysis. According to his analysis of the numbers provided by the agencies themselves, although river shippers pay only about \$1.23/ton to go from Lewiston to Kennewick, taxpayers and ratepayers pay an additional \$12.66/ton in subsidized underwriting, bringing the total real cost for barge shipment for this river segment to \$13.89/ton, as compared with rail shipment costs of only \$1.26/ton which are self-supporting.

The DEIS cannot ignore the costs of salmon mitigation measures as a real cost of doing business for the hydropower system as it is currently structured. Nor can it ignore the cost savings to be made in these mitigation costs which can be obtained by dam decommissioning that would remove the need for most of these mitigation measures. If even part of these mitigation measure costs are attributable, directly or indirectly, to the four lower Snake River dams, any legitimate economic analysis must include them.

Likewise the costs of subsidized river transportation cannot be ignored. These subsidies cause real economic impacts on the BPA rate structure as well as on taxpayers and ratepayers who must pay them. In accordance with the analysis standards raised in the Economists Letter, these subsidies must also be factored in as a cost of doing business.

(B) Other Costs of the Status Quo Ignored: Additionally, 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 (including the current NMFS Biological Opinion) 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 mentioning the existence of the study in Appendix I – Economics (p. I2 - 7 and I2 -10). This is an unjustified and unjustifiable oversight because the Bureau concluded that acquisition of an additional one million acre-feet of flow

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cont. 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 4,200 to more than 6,500 jobs. If this is not a substantial economic consequence of maintaining the current operational status quo, it would be hard to imagine what is.

Similarly the Corps chose to ignore the very high costs of compliance with the Clean Water Act. A recent district court opinion makes clear that the Corps and its Snake River dams are not exempt from the Clean Water Act, *National Wildlife Federation v. U.S. Army Corps of Engineers*, Civ. No. 99-442-FR (Ruling March 24, 2000). This ruling changes the economic equation considerably. If the dams are not removed, compliance with the Clean Water Act could run as high as \$900 million -- a very 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. While it is perhaps understandable that the DEIS, drafted prior to the ruling, does not take clean water compliance impact retrofitting costs into account, there is now clear legal obligation on the Corps to do so.

(2) Ignoring the Economic Costs of the Status Quo to Downriver Communities:

The current status quo is also not free in a variety of other ways, including the net economic losses to the commercial, recreational and Tribal fishing communities which have resulted directly and indirectly from the declines of salmon caused by the Snake River dams. None of these economic deficits have been addressed in the DEIS, even though they are very real indeed to those communities and to the regional economy as a whole.

4 In a report published by the Institute for Fisheries Resources, *The Cost of Doing Nothing: The Economic Burden of Salmon Declines in the Columbia River Basin* (October, 1996) we calculated, from Power Planning Council peer reviewed reconstructions of the total number of fish historically present in the Columbia/Snake River Basin, the approximate 'net economic drag' on the regional economy due to Columbia/Snake River losses of salmon since predevelopment times. We calculated that the total net economic losses from these salmon declines would, over the whole river system, in 1996 dollars, have amounted to a net economic loss from salmon-dependent sectors of the economy of up to \$500 million/annually, and up to 25,000 family wage jobs. While only a portion of these losses could be attributed directly to the losses caused by the Snake River dams, the DEIS made no attempt to quantify any of these losses, and for all practical purposes completely ignored these losses even though they are clearly an important part of the 'environmental externalities' costs of the Snake River dam system. For almost three decades now, the Port of Astoria has been losing in-river salmon harvest opportunities, losing product for its fish processing plants, and losing jobs in its fishing-dependent economy -- yet none of these are even considered as current or past costs of the present status quo.

Additionally, the *Cost of Doing Nothing* report made an effort to quantify the net asset value of the Columbia River salmon runs, deriving a figure of \$13 billion as a very conservative estimate of

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cont. | their total original asset value. None of this analysis was considered in the DEIS either.

(3) Ignoring Potential Economic Benefits from Salmon Restoration, Particularly on the Commercial Fishing Industry and its Salmon-Dependent Communities:

The flip side of this lack of consideration of the economic losses of the status quo to downriver communities is the DEIS teams consistent undervaluing or ignoring of the economic benefits to be obtained from salmon restoration measures generally, particularly in the commercial fishing part of the regional economy. The Economists Letter indicates quite clearly – and it is only common sense – that both the costs and the benefits sides of the economic equation must be fully delineated in order to be able to compare them.

5 | The DEIS seriously undervalues the positive economic impacts of salmon restoration on the down-river and commercial fishing industry. Whatever methodology was being used by the DEIS team, the economic framework and methodology that should be used is that in the *Cost of Doing Nothing* report (Attachment C) which, incidentally, was developed by Hans Radtke, the very contractors cited in your DEIS on these issues. Those economic benefits are diverse and spread through a wide regional area up to and including Alaska, because salmon themselves are highly migratory. Columbia River origin fish are caught well up into the Alaska salmon troll fishing grounds. Again, see the *Cost of Doing Nothing* report for an economic analysis of the dispersion of these economic benefits.

(4) 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.

6 | Conversely salmon extinctions in the Snake Basin would represent an obvious violation of its legal duties by the United States. In the press, NMFS recently acknowledged that penalties for the United States might run to \$10 billion -- far more than any proposed or conceivable salmon recovery program. Some legal scholars estimate that the United States would have to pay several times that amount.

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.

(5) 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:

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 fails 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.

7 A perfect example of this failure 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 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. See EWITS Report No. 24, Jessup, Eric L. and Kenneth L. Casavant. Impact of Snake River Drawdown on Transportation of Grains in Eastern Washington: Competitive and Rail Car Constraints (June, 1998). This report is available from the EWITS web site at: <<http://ewits.wsu.edu/reports.htm>> *We hereby incorporate that report as part of these comments by reference.*

In this regard, you should also 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. *A copy of this report was included with the comments of Save Our Wild Salmon and we hereby incorporate it as part of these comments by reference.*

Once it has acknowledged a potential benefit, the agency cannot simply drop further investigation or refrain from analysis. 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.

(6) The Economic Analysis Ignores and Distorts Costs of Alternatives Related to Habitat Actions:

8 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

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(7) The Economic Analysis Ignores the Costs, Benefits, and Impacts of Each Alternative Beyond the Immediate Area of the Lower Snake River:

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, particularly in light of the fact that salmon are highly migratory.

9 The DEIS provides no estimate of "regional" job or income impacts to coastal and fishing communities and fishing dependent businesses which would generally benefit from salmon and steelhead restoration. Nor does it account for economic benefits which would flow to American Indian Tribes 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. The Corps should consult with the Pacific Fisheries Management Council (PFMC) and other fisheries management agencies who have both the data and the expertise to assess the broader fisheries impacts, both positive and negative, of each option considered.

Likewise, the DEIS says absolutely nothing about the many embedded subsidies to private interests which flow from current dam operations. 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 and additional costs, benefits, and impacts for federal taxpayers as opposed to citizens who reside in the Lower Snake River vicinity.

(8) The Economic Analysis Ignores Important Non-monetary Values of Environmental Restoration, and to American Indian Tribes:

10 The DEIS fails to incorporate two significant non-monetary "existence" values: (1) that of restoring wild salmon runs and a free-flowing river to society generally, 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.

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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 -- surely an even worse distortion of these overall values, the equivalent of valuing them at zero. Tribal employment and other community impacts are also 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. These impacts must be included in any well-reasoned decision. See Exec. Order No. 12898 (Feb. 11, 1994).

(9) Flawed Electricity Impacts Analysis:

The DEIS assumes a base case for electricity production and costs which is at best unrealistic, mainly because dam retention would inevitably carry new burdens on the hydroelectric system. 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 also become necessary, thus upping the price tag for "foregone revenues." Similarly dam retention would require a sizeable investment in new dissolved gas abatement measures in order to comply with the Clean Water Act.

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With these indefensible and impossible assumptions that hydroelectric generation would not increase, and that production costs would not increase substantially in the near-term, 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 much more realistic assumptions about the future, such as those in the new Natural Resources Defense Council study (*Going with the Flow: Replacing Energy from Four Snake River Dams by the Natural Resources Defense Council* (April, 2000 - NRDC) one concludes that residential electricity costs would rise by only about \$1 to \$3 per month in a worst case scenario, and then only for those customers wholly dependent upon BPA power. For the majority of residential users, non-BPA sources al.

These projections for energy cost increases are based upon an assumption in the DEIS and the NRDC report that the marketplace would replace the power currently generated by the four lower

Snake dams. The DEIS stops its analysis at that point, concluding that replacement power will come from natural gas fired combustion turbines, thereby increasing air pollution. Unlike the DEIS, the NRDC study asks the next logical question, namely what is the best way to replace the dams' output. The answer to this crucial mitigation question is a "zero-carbon" strategy in which BPA and the Northwest region would aggressively acquire clean conservation and non-hydropower renewable resources. The NRDC report finds that this strategy is feasible and affordable with its costs likely equal to or less than the market replacement method exclusively used in the DEIS. Moreover, the "zero-carbon" replacement of the dams' output would protect consumers against increased air pollution as well as volatility in the market for fossil fuels. In this regard, it is also important to point out that the Northwest Power Planning Act of 1980 requires the federal agencies to give top priority to conservation and renewables over fossil fuel fired generation. So if left in its current form, the DEIS strategies would not comply with the statute.

Also, under any reasonable set of mitigation strategies there very well may be no rate increase at all. In fact, the past system of cheap electricity has promoted considerable overuse and waste. The four Snake River dams combined have an average generating capacity of only 1136 megawatts. However, the NW Power Planning Council concluded in 1998 that a conservation benefit of (conservatively) 1535 megawatts power could be achieved with readily available and relatively inexpensive conservation technologies. The Renewable Northwest Project also estimated that an additional 420 Megawatts of wind, solar and geothermal power could come online with 10 years with relatively modest investments. In other words, not only is a "zero-carbon" strategy a reasonable probability, but the replacement energy could, through reasonable and standard conservation measures, be replaced solely through conservation - with the end result being a more efficient system overall. Failure to ascertain the degree of conservation benefit readily available, and instead assuming a "worst case scenario" of total replacement solely through additional gas-fired plants, leads to unrealistic conclusions. At a minimum, the available conservation benefits should be ascertained, and the costs of conservation compared to the costs (generally much higher) of replacement or construction of additional generating capacity.

Finally, the DEIS does not identify federal subsidies embedded 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 EISs. 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.

Once again in the energy analysis, the DEIS has exaggerated the costs of partial dam removal and greatly underestimated or ignored those for dam retention. The document does so by making

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The JFA report's information is clearly outdated, and a more realistic project of market growth would be more than appropriate.

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 overly 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). Past history and more current projects do not bear this out. 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 exaggerated projected 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). Again, given the current and likely future glut of these products on the international markets, these projections are hopelessly optimistic.

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 cannot truly make a well-informed and balanced assessment of the environmental and economic costs associated with the proposed alternatives. The NEPA process requires a more thoughtful approach based on much more realistic assumptions and projections.

(D) The Economic Analysis Artificially Restricts Alternative Rail Shipping Points. The DEIS rather irrationally limits points of shipping by railroad, and as a result increases costs associated with partial dam removal. Although the DEIS realistically assumes that shippers 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 thus 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 even while the DEIS acknowledges the error.

(E) The Economic Analysis Contains Other 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.

The DEIS describes as "unresolved issues" what are, in fact, inaccuracies in its 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 traffic. 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.

(F) 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 even today acquires used grain cars at half the cost estimated in the DEIS. In addition, currently there is, as acknowledged in the DEIS (p. 13 - 76), a grain car surplus. These inflated cost estimates potentially adds an unnecessary \$14-37 million to the DEIS projected 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.

(G) 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 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.

The EWITS report referred to above indicates that a shift from barge to rail, as would naturally occur under the partial dam removal alternative, would in fact 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 this portion of the economic analysis as well.

Failure to Meet NEPA and Other Legal Requirements

Because of weaknesses and inadequacies in the DEIS previously discussed in these comments, the draft document does not comply with NEPA. There are at least 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 decision-making process and the implementation of that decision,” *id.* at 349. In short, NEPA requires federal agencies to look before they leap. Unfortunately, because of its many inaccuracies and distorted analyses, the DEIS fails to serve this function.

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). 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,” *accord, California v. Block*, 690 F.2d 753 (9th Cir. 1982).

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. We believe 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 and economic 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:

“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”), and Magnuson-Stevens Fisheries Conservation Act (“Magnuson Act”). To give the public and decision-

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cont. makers the tools necessary to balance all relevant factors, the DEIS must address the basic requirements of each of these statutes:

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Endangered Species Act -- 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.

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Clean Water Act -- 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. 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 (Ruling 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.

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Northwest Power Planning Act -- 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, (Sec. 4.(h)(1)(A)(i)). The Power Act also sets conservation and renewable resources as the top priority whenever BPA must acquire new generation. However, the DEIS contains no accounting of how the Corps will comply with these or the Power Act's other requirements.

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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 essential fish habitat. 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.

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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

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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 the *U.S. v. Oregon* case (699 F. Supp. 1456 (D. Or. 1988), aff'd, 913 F.2d 576 (9th Cir. 1990)). 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."

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

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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 dramatically 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, Congressional appropriations have been approved and a Biological Opinion recently issued, and is therefore clearly "reasonably foreseeable," the DEIS does not mention this massive project, let alone analyze its impacts in conjunction with each (or any) of the alternatives.

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.

These examples are by no means exclusive. There are numerous other, easily identifiable actions and conditions that impact or foreseeably will 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.

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.

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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 vs. 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 cumulative effects.

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.

References and Relevant Current Works Omitted from DEIS Consideration:

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The DEIS simply omits mention of, or any reference to, many important and highly relevant recent studies of the Snake River Dams issue. Only one was published after the drafting of the

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DEIS itself. Among the major works that have been omitted, whether intentionally or negligently, and which clearly were never considered nor responded to by the DEIS Team are the following:

Lansing, Phillip S., *Restoring the Lower Snake River: Saving Snake River Salmon and Saving Money* (ONRC Fund, 1998).

Institute for Fisheries Resources, *The Cost of Doing Nothing: The Economic Burden of Salmon Declines in the Columbia River Basin* (Oct. 1996).

EcoNorthwest. *An Economic Strategy for the Lower Snake River* (Nov. 1999).

Dickey, G. Edward, *Grain Transportation After Partial Removal of the Four Lower Snake River Dams: An Affordable and Efficient Transition Plan* (American Rivers, 1999)

Jessup, Eric L. and Kenneth L. Casavant. *Impact of Snake River Drawdown on Transportation of Grains in Eastern Washington: Competitive and Rail Car Constraints* (EWITS Report No. 24, June, 1998).

Natural Resources Defense Council. *Going with the Flow: Replacing Energy from Four Snake River Dams*. (April, 2000)

We believe that in order to fulfill its NEPA requirements, the analyses of these reports needs to be fully considered, and if rejected that the reasons and rationale for rejection must be clearly articulated.

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 analysis.

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.

GHS/lt

Sincerely,

Glen H. Spain
Northwest Regional Director
for IFR and PCFFA

Attachment A – “Economists Letter” of 9 September 1998.

Attachment B – Lansing, Phillip S., *Restoring the Lower Snake River: Saving Snake River Salmon and Saving Money* (ONRC Fund, 1998).

Attachment C – Institute for Fisheries Resources, *The Cost of Doing Nothing: The Economic Burden of Salmon Declines in the Columbia River Basin* (Oct. 1996).

Attachment D – EcoNorthwest *An Economic Strategy for the Lower Snake River* (Nov. 1999).

Attachment E – NRDC. *Going With the Flow: Replacing Energy from Four Snake River Dams* (April, 2000).

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