

**AMERICAN RIVERS \* FRIENDS OF THE EARTH \* IDAHO RIVERS UNITED \*  
INSTITUTE FOR FISHERIES RESOURCES \* NATIONAL WILDLIFE FEDERATION \*  
NORTHWEST SPORTFISHING INDUSTRY ASSOCIATION \* NW ENERGY COALITION  
\* PACIFIC COAST FEDERATION OF FISHERMEN'S ASSOCIATIONS \*  
SAVE OUR *WILD* SALMON \* SIERRA CLUB \* TROUT UNLIMITED**

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**Comments on ISAB Report: Review of Flow Augmentation: Update and Clarification** (ISAB 2003-1)

Dear Mr. Walker:

On behalf of American Rivers, the Save Our Wild Salmon Coalition, and the below-signed organizations, we submit the following comments in response to the Independent Scientific Advisory Board's (ISAB) report, *Review of Flow Augmentation: Update and Clarification*, dated February 10, 2003. We appreciate the opportunity to comment, and note that these comments supplement those submitted by members of the Save Our Wild Salmon Coalition on February 7<sup>th</sup> regarding the Northwest Power and Conservation Council's proposed mainstem amendments.

In our previous comments, we explained in detail the legal and scientific reasons why the Council should not eliminate spring and summer salmon migration flow targets and should not adopt proposed new operations that would further reduce flows that already often do not meet the Biological Opinion (BiOp) flow targets. The discussion in our previous comments of the Council's legal obligations with respect to executing its responsibilities to protect salmon and steelhead are not changed by the ISAB's latest report. Our comments here are limited to the new scientific information provided by the ISAB.

Before presenting our substantive comments, we wish to acknowledge the ISAB's effort in preparing this report. We were pleased to see that the ISAB went beyond the Council's narrow questions to address flow targets and the operational changes set forth in the proposed mainstem amendments in a broader and more appropriate context, one that is consistent with sound scientific principles.

At bottom, the ISAB's report establishes that: (1) the best available scientific knowledge supports the BiOp spring and summer flow targets based on the fact that there is an inverse flow-survival relationship for yearling and sub-yearling chinook and steelhead in the lower Snake River at flows below the flow targets; (2) the Council should reject the proposal to eliminate the BiOp flow targets from its Fish and Wildlife Program; (3) the Council should reject proposed operational changes that would reduce flows when flow targets are not met; (4) the Council

should immediately initiate studies, as recommended by the ISAB, to ascertain whether flow fluctuations related to power operations at the four lower Snake River dams and Idaho Power's Hells Canyon Complex are detrimental to listed salmon and steelhead, and, if so, to identify measures that would eliminate that harm; (5) the Council should immediately recommend that the relevant agencies negotiate a new interagency agreement to limit the duration and frequency of flow fluctuations in the Hanford Reach in order to adequately protect salmonid fry; and (6) the Council should reject the use of barge transportation as a substitute for meeting Snake River flow targets and should call for more water to be made available from the upper Snake River basin to meet the flow targets.

- **The ISAB's report substantiates the BiOp flow targets; the Council's Fish and Wildlife Program should include flow targets of 100 kcfs to protect yearling chinook and steelhead and at least 50 kcfs to protect sub-yearling chinook.**

We will not repeat the ISAB's well-reasoned explanation of the evidence supporting the existence of a flow-survival relationship at flows below the BiOp flow targets. The fact is that the evidence demonstrates such a relationship. The fact that the flow-survival relationship may not be linear because flows above the flow targets, according to the ISAB, do not seem to confer a significant additional survival benefit is interesting but not material to the specific issues raised in the Council's proposed Mainstem Amendments.

The material fact is that a flow-survival relationship does exist that is consistent with the BiOp flow targets. The Council, as a matter of law, is required to adopt a mainstem program consistent with the best available scientific knowledge. Accordingly, it should reject the proposal to eliminate the BiOp flow targets from the Council's Fish and Wildlife Program. In fact, the Council should increase the spring flow target in the Snake River to 100 kcfs (the BiOp calls for flows of between 85 kcfs and 100 kcfs depending on runoff volume forecast) consistent with the ISAB's findings.

- **The ISAB's report supports the rejection of operational changes in the proposed Mainstem Amendments that would decrease flows when BiOp flow targets are not met, and the inclusion of operational measures that would increase the probability of achieving the 100 kcfs and 50 kcfs flow targets.**

The ISAB found that: "The 'broken stick' model reveals that there is a strong effect of flow on survival of yearling chinook and steelhead when average weekly flows in the Snake River are below the 100 kcfs breakpoint..." (p. 13). The ISAB also proceeded to state in its response the one of the Council's questions: "Decreases of 10% in spring and summer flows are not likely to have deleterious effects on reach survival in the lower Snake River, provided that the remaining flows are maintained at or above an approximate breakpoint of 100 kcfs for spring migrants. Below approximately 100 kcfs, steady levels of flow or other management alternatives may be needed to avoid deleterious effects." (p. 27, emphasis added).

Apparently the ISAB was either provided inaccurate information regarding the frequency with which the 100 kcfs spring flow target is currently met or the ISAB misunderstood the information provided by the Council, because this last statement is somewhat inconsistent with the following language on page 31 of the report: “The spring reductions in flow under the Council’s proposed plan would generally occur at levels higher than the postulated breakpoint. Thus, no discernible effects on survival of spring migrants would be predicted ...” . The problem with this second statement is that, in fact, the 100 kcfs spring flow target is often not met, particularly during low-flow years – a point we made previously to the Council in both our oral and written comments. Thus, as acknowledged by the ISAB, the evidence of a flow-survival relationship below 100 kcfs supports the conclusion that further reductions in flow below 100 kcfs would be harmful.

Thus, consistent with the best available scientific knowledge, the Council should reject its proposed changes to spring operations in the Snake River and propose new operations or other measures (e.g., water acquisition) that will result in achieving the 100 kcfs target a greater percentage of the time or at least missing it by a smaller margin than is presently the case. In making this proposal, we note that the Council’s obligations under the Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act) to protect fish and wildlife are not the same as those of federal agencies under the Endangered Species Act, and compliance with the ESA does not equate to compliance with the Northwest Power Act’s directives.

The case for rejecting the Council’s proposed changes in summer operations in the Snake River is at least as strong. The ISAB found that: “Plots of weekly survival of fall chinook versus average weekly flow during outmigration suggest a breakpoint somewhere between 40 and 50 kcfs.” (p. 13). In addition, the ISAB stated: “the proposed summer reductions in discharge would often occur below the postulated breakpoint. Thus, discernable reduction in survival of fall chinook underyearlings would be anticipated from the Council’s action.” (p. 31). Indeed, the Council’s proposed summer Snake River operations would further reduce flows during the heart of the juvenile fall chinook migration despite the fact that the 50 kcfs flow target is virtually never met under current BiOp operations. Accordingly, the Council should propose operational changes or other measures (e.g., water acquisition) that will increase summer flows in the Snake River to achieve the flow targets, unless and until it can be demonstrated that reductions in survival below the flow targets can be prevented using alternative means.

- **As recommended by the ISAB, the Council should immediately call for studies to determine whether and to what extent power operations at Idaho Power’s Hells Canyon Complex and at the four lower Snake River dams are likely to reduce survival of juvenile salmonids.**

The ISAB has provided a new hypothesis that could explain why juvenile salmonid survival decreases below the flow targets: power shaping operations at Idaho Power’s Hells Canyon Complex and at the lower Snake River dams. The ISAB postulated that it may be the case that flows could be reduced to some extent below the flow targets with little detriment to juvenile salmonids if power shaping operations were reduced and a more stable hydrograph achieved. (Appendix 3).

The ISAB was careful to point out – and it bears repeating here – that this is only a hypothesis that appears to be supported by the available evidence. The ISAB stated clearly that studies should be undertaken to prove or disprove this hypothesis. Until this hypothesis can be proved correct, there is no justification for eliminating flow targets or adopting operations that would further reduce flows below 100 kcfs in the spring and 50 kcfs in the summer. The ISAB accurately stated that the burden of proof is on those who seek to change existing operations to establish that such changes would not jeopardize ESA-listed species or adversely modify critical habitat. (p. 31)

Due to the location of the Hells Canyon Complex and the large storage capacity of Brownlee Reservoir, Idaho Power exerts significant control over flows in the lower Snake and Columbia Rivers. In 1996, BPA entered into an energy exchange agreement with Idaho Power to facilitate Idaho Power’s cooperation with the BiOp flow augmentation requirement. Through this energy exchange agreement, BPA reimbursed IPC for any energy losses it incurred as a result of its participation. This agreement lapsed in 2001, and the result is that Idaho Power does not release or shape federally acquired water from the upper Snake to benefit salmonids, but instead shapes flows to maximize power revenues.

The Hells Canyon Complex license expires in 2005, and Idaho Power must file its license application in July 2003. Idaho Power has thus far refused to study alternative flow regimes downstream of the Complex that would improve conditions for anadromous fish. Moreover, the existing license includes a “reopener” provision that allows FERC to modify the existing license in the interest of salmon protection (Article 35). In 1997, American Rivers and other conservation organizations filed a petition with FERC seeking consultation with the National Marine Fisheries Service regarding the impacts of the Hells Canyon Complex operation on listed salmon and steelhead. To date, FERC has refused to initiate formal consultation with the National Marine Fisheries Service as required under the Endangered Species Act.

The ISAB’s report clearly states that Hells Canyon Complex operations may be harming listed salmon and steelhead by fluctuating flows downstream of Hells Canyon dam. (p. 19-20). The Northwest Power Act requires FERC to use its authority to adequately protect, mitigate, and enhance fish and wildlife, including related spawning grounds and habitat, affected by the Hells Canyon Complex in a manner that provides equitable treatment for fish and wildlife as well as power generation. 16 U.S.C § 839 4(h)(11)(A)(i).

Accordingly, the Council should include in its mainstem amendments a recommendation that FERC immediately require Idaho Power Company to evaluate, in cooperation with federal, state and tribal fisheries managers, alternative operations at the Hells Canyon Complex that will reduce downstream flow fluctuations, and to include in the current<sup>1</sup> and any new license operation constraints that minimize harm to salmon and steelhead. In urging the Council to take

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<sup>1</sup> The importance of amending the existing license to adjust flows bears emphasis. Hydroelectric dam relicensings under the Federal Power Act often take many years beyond the termination of the existing license to complete. For example, the Cushman hydroelectric project in Washington has been operating on annual licenses since the mid-1970s. In years subsequent to termination of the existing license, annual licenses are issued with the same terms and conditions of the expired license. For this reason, it is imperative that the Council not postpone flow adjustments.

this action, we note the following directive to the Council in Section 4(h)(1)(A) of the Northwest Power Act: “Because of the unique history, problems, and opportunities presented by the development and operation of hydroelectric facilities on the Columbia River and its tributaries, the program, to the greatest extent possible, shall be designed to deal with that river and its tributaries as a system.”

Finally, the ISAB’s report also points out the need to immediately begin evaluating whether flow fluctuations below the lower Snake River dams caused by daily load-following operations are contributing to reduced flow survival below the flow targets. (p. 4-7). Thus, the Council should amend the mainstem plan in its Fish and Wildlife Program and direct the federal dam operators to conduct such evaluations in cooperation with federal, state and tribal fisheries agencies and, when the results of those evaluations are complete, to adjust load-following operations as necessary to reduce salmon and steelhead mortality through the lower Snake River.

- **As recommended by the ISAB, the Council should include in its Fish and Wildlife Program a call for a revised inter-agency agreement to protect juvenile fall chinook in the Hanford Reach by reducing the duration and extent of flow fluctuations.**

The ISAB has evaluated the existing programs to protect spawning, rearing, incubation, and emergence of fall chinook in the Hanford Reach and concluded that they are inadequate. The ISAB focuses primarily on what it identifies as an interagency agreement intended to supplement and improve the existing Vernita Bar Agreement. According to the ISAB, there are several omissions in that supplemental agreement, including a failure to limit the duration and the frequency of flow fluctuations. Those omissions allowed for hydropower project operations that killed more than 2 million fall chinook in 2001.

The success of any fall chinook protection program depends on a coordinated effort by the federal agencies that manage the hydropower projects located upstream of the Hanford Reach. The FERC-licensed mid-Columbia hydropower projects, the Bureau of Reclamation’s Grand Coulee dam, and the Army Corps of Engineers’ Libby and Hungry Horse dams all are instrumental in shaping the flow regime in the Reach. Nonetheless, neither the Bureau of Reclamation nor the Corps of Engineers are signatories to the Vernita Bar Agreement or the 1999 interagency agreement. And, in fact, the supplemental agreement to which the ISAB refers is not a formal agreement, but rather reflects a voluntary effort undertaken primarily by Grant County PUD who owns and operates the Priest Rapids Project, located just upstream of the Hanford Reach. While Grant County PUD exerts significant control over flow fluctuations in the Reach, adequate protection of fall chinook in the Hanford Reach requires a formal, mandatory agreement that involves all the dam operators.

The Northwest Power Planning Act requires federal agencies responsible for managing, operating, or regulating hydroelectric projects on the Columbia River and its tributaries to use their respective authorities to adequately protect, mitigate, and enhance fish and wildlife, including related spawning grounds and habitat, affected by such projects in a manner that provides equitable treatment for fish and wildlife as well as power generation. 16 U.S.C. § 839b(h)(11)(A)(i). The FERC licenses for two of the mid-Columbia projects – Grant County’s

Priest Rapids project and Chelan County's Rocky Reach project – expire in the next several years. Their current licenses as well as those of the projects not currently undergoing relicensing contain “reopener” clauses that allow FERC to modify the existing licenses to protect fish and wildlife. The relicensing process and/or the “reopener” provisions provide a means by which FERC can ensure the projects are operated in a manner consistent with the recommendations of the Council.

Accordingly, the Council should include in its mainstem amendments a directive that the federal dam managing agencies, including FERC, the Bureau of Reclamation, and the Army Corps of Engineers, enter into an interagency agreement that calls for a more stable flow regime in the Hanford Reach to better protect juvenile fall chinook than that currently being undertaken by Grant County PUD. The agreement should expressly address the omissions noted by the ISAB, including a reduction in the extent and duration of flow fluctuations, and should be developed in consultation with the federal, state, and tribal fishery agencies. The Council should direct FERC to incorporate the provisions of such agreement in any existing or new licenses for the mid-Columbia projects licensed pursuant to the Federal Power Act.

- **Barge transportation is not an acceptable substitute for meeting the flow targets, and the Council's Fish and Wildlife Plan should call for additional water from the upper Snake River basin to meet the flow targets.**

One of the arguments advanced by proponents of reducing flows in the Snake River is that reducing flows is not problematic because out-migrants can be removed from the river and transported in barges without harm. The best available scientific information does not support such a conclusion, and the ISAB's report makes clear that it does not address this issue. (p. 32).

However, previously issued ISAB reports do address this issue, and state that the transportation program is not a long-term solution. In *Response to the Questions of the Implementation Team Regarding Juvenile Salmon Transportation in the 1998 Season* (ISAB #98-2), the ISAB stated: “It is impossible to reconcile a maximum transport approach to salmon recovery with protection of the remaining diversity of salmon and steelhead populations in the Snake River basin.” (emphasis added). In the same report, the ISAB also stated: “The available evidence does not support taking the majority of emigrants of any stock into transportation.” These findings are consistent with Dr. Coutant's statement at the Council meeting last week that barging of Snake River fish is an option only in an “ambulance sense.”

Unfortunately, in recent years a growing percentage of Snake River fish were transported, including the vast majority of sub-yearling chinook. This is unacceptable, as the ISAB has clearly stated. Yet there is no end to transportation in sight, particularly for sub-yearling migrants, because there do not appear to be any solutions. This fact is of grave concern and cries out for the Council's leadership to obtain more water from upstream storage reservoirs in the Snake River basin, including Idaho Power's Brownlee reservoir. This water should be provided so that water from the upper Snake can be used before it becomes too warm (i.e., in the spring and early summer) and cool water from Dworshak can be used for summer and early fall releases. The mainstem amendment to the Fish and Wildlife Plan should address this need.

In conclusion, we wish to emphasize a key distinction the Council must make with respect to the ISAB's findings. Issues regarding how survival is reduced below the flow thresholds identified by the ISAB must not be confused with the issue of whether there is a flow-survival relationship justifying the BiOp flow targets and management actions designed to achieve those flow targets. The ISAB's central finding is that the best available scientific information demonstrates conclusively, for Snake River fish, that survival decreases significantly below the spring and summer flow targets. The Council's Fish and Wildlife Program, as a matter of law, must be consistent with that finding. Thus, unless and until new information comes to light establishing that flows lower than 100 kcfs in the Snake River in the spring and 50 kcfs in the Snake River can be maintained without reducing salmon and steelhead survival, the Council's Fish and Wildlife Program must require operations and other measures to achieve the target flows.

Thank you the opportunity to comment and for your consideration.

Sincerely,

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