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ENVIRONMENT, FISH AND WILDLIFE

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December 9, 2003

In reply refer to: KEW-4

Mr. Mark Walker, Director  
Public Affairs Division  
Northwest Power and Conservation Council  
851 S.W. Sixth Avenue, Suite 1100  
Portland, OR 97204-1348

200312 029

Dear Mr. Walker:

Thank you for the opportunity to comment on the Northwest Power and Conservation Council's (Council) Draft Artificial Production Review and Evaluation Report (Document 2003-17), dated October 7, 2003.

The Bonneville Power Administration (BPA) supports many aspects of the analysis described in the Draft Report. In addition to draft conclusions, the report also provides a useful summary of production reform issues generally, and an excellent overview of hatchery program and management practices and relationships throughout the Columbia basin.

As noted, the APRE is the most comprehensive review of hatchery programs in the Columbia Basin to-date. We commend the Council for undertaking this first-ever effort to comprehensively evaluate Columbia Basin hatcheries and for assisting BPA by completing the FCRPS Biological Opinion Phase I Hatchery and Genetic Management Plans (HGMP).

When considering implementation of the eventual recommendations that result from this review, BPA asks that the Council evaluate the relative priority of the outcomes or biological objectives associated with the hatchery reform measures proposed to achieve them. To the extent measures aimed at changing hatchery practices or operations could be implemented during the remainder of the current rate period, costs should be included in the ongoing review and prioritization of integrated program expense and investment during FY 2004 to 2006. We acknowledge the difficulty inherent in this task, and offer our continued assistance and support to accomplish it.

Thank you again for considering BPA's views. Additional specific comments are enclosed.

Sincerely,

Terry A. Larson  
Director for Fish and Wildlife

DEC 11 2003

Enclosure

ADREC/Comment on APRE Draft Report 2003-17/22-2003

**Bonneville Power Administration (BPA) Comments  
on the  
Northwest Power and Conservation Council's  
Artificial Production Review and Evaluation (APRE)  
Draft Report (Document 2003-17)  
October 7, 2003**

**General Comments**

- 1. Given the passage of time and the authors' evident pragmatism in shaping a workable response to Congress, an explicit restatement of the purposes of the APRE process might be warranted. We have some concern that the principal work product of the effort to-date, as described in the Draft Report, may not contribute fully to the achievement of all of Congress' objectives. The Final APRE Report would benefit from inclusion of the details of the full request to the region from Congress, and a more explicit description of the relationship of the completed hatchery surveys to the development of coordinated program policy and an evaluation of hatchery cost-effectiveness.**

In both the *Executive Summary* and the *Introduction*, the Draft APRE includes only a partial mention of some aspects of the Congressional request for the report, an omission that can be read to mischaracterize what Congress asked for. Specifically, Congress provided the context for the report and directed that it include the following:

- Due to budgetary constraints it is critical that federally funded programs, such as the hatchery programs for the Columbia River basin, spend limited Federal dollars wisely and in a cost-effective manner that maximizes the benefits to the fish resource.
- The Committee directs the Northwest Power Planning Council with assistance from its independent (sic) Scientific Advisory Board to conduct a thorough review of all federally funded hatchery programs operating in the Columbia River basin, including an assessment of the hatchery operation goals and principles of State, Tribal, and Federal hatcheries.
- Produce a formal recommendation for a coordinated policy for the future operation of federally funded hatcheries in the basin and how to obtain such a coordinated policy.
- National Marine Fisheries and the States of Oregon, Washington, and Idaho and Indian tribes in the basin should assist the Council in its review by providing information necessary to conduct a thorough review of federally funded hatchery programs.
- The Committee directs the Northwest Power Planning Council, to provide a final report to the Committee on the subject by October 1998.
- The Committee directs BPA to provide the necessary funding based on the Council's scope of work for the hatchery review.

The APRE Draft Report does not appear to follow the letter or intent of the request by Congress for a review of Columbia River Basin hatcheries. There was no mention of the first request from Congress in this report, i.e. cost-effectiveness. Of the six major requests made by Congress, only a survey of hatchery managers was performed to assess hatchery operation goals. There is no formal recommendation for a coordinated policy, or how to obtain one, as requested by Congress. It is difficult to see how the APRE survey of hatchery managers could adequately address the direction for a formal recommendation of a coordinated policy or how to obtain one. In particular, the failure to collect hatchery cost data undermines the development and implementation of the cost-effectiveness principle at the heart of Congress' direction and intent. The report to Congress is also more than five years late.

**2. Competing demands on available fish and wildlife program funding underscore the need for deliberate, systematic and collaborative integration of the APRE process recommendations with the ESA-driven HGMP requirements of federal agencies, and the future prioritization of hatchery reform efforts.**

We have concerns about the costs and the availability of adequate funding for APRE reforms for the BPA-funded hatchery programs implemented under the Council's Program, as well as for the substantial number of hatchery programs funded outside the Council's Program, many of them also financially supported by Bonneville. Principled and collaborative integration of BPA's ESA and Northwest Power Act obligations remains crucial to the region's success, and we need the Council's continued assistance and support in this mutual undertaking. Both the APRE and HGMP efforts are important to the future of hatchery management in the Basin. Under the current FCRPS biological opinion implementation schedule, the federal Action Agencies plan to prioritize and begin implementing hatchery reforms at federally funded hatcheries in the Columbia River Basin in 2004, as offsite mitigation under the FCRPS BiOp. The immediate need to coordinate our efforts is pressing.

The BiOp hatchery reform effort is more narrowly focused than the Council's APRE hatchery review and evaluation. Its objective is to reduce the negative impacts of Action Agency funded hatchery programs on ESA-listed populations of salmon and steelhead in priority ESUs. The Action Agencies' offsite mitigation program must meet performance standards by the BiOp check-ins in 2005 and 2008. The BiOp and the APRE hatchery reform efforts appear to be on a somewhat similar time schedule during a time of limited availability of additional Bonneville funding. We think it is important that, together with the Council, we work to define the appropriate balance and priority between these efforts, identify the priority APRE reform funding needs, and coordinate our implementation of the priority BiOp hatchery reforms as closely as possible with the Council's APRE process. Cost estimates of any reform actions proposed for implementation under the APRE should be developed as soon as possible for regional review.

- 3. The origins of a majority of the hatchery programs in the Columbia Basin are outside the Council's Fish & Wildlife Program. For those hatchery programs, existing mitigation agreements and other legal mandates (e.g., *US v. Oregon*) must be reviewed and probably modified before most of the social and economic changes proposed for discussion could be implemented.**

In *Chapter V. Discussion and Conclusions*, the APRE Draft Report poses several questions related to the economic and social goals of hatcheries. Those questions include:

- *Are current goals for fish stocks in the Columbia consistent with the current biological, economic, cultural values and legal requirements?*
- *Can anadromous production be better balanced to provide greater access to fish for communities upriver?*
- *Should less emphasis be placed on stocks produced primarily for commercial harvest?*
- *Should hatchery operators emphasize quality over quantity?*

The Council may be the appropriate body to address questions of this nature, and to attempt to reach regional consensus on the economic and social goals of Columbia Basin hatcheries.

However, current hatchery programs are implemented under a number of formal mitigation agreements and other legal mandates. For those hatchery programs outside the Council's Fish and Wildlife Program (the majority of hatchery programs in the Columbia Basin), the existing mitigation agreements and other legal mandates, e.g., *US v. Oregon*, must be reviewed and probably modified before most of the social and economic changes proposed for discussion could be implemented.<sup>1</sup> Any proposed changes would also need to be reviewed for impacts on ESA-listed stocks and consistency with NOAA Fisheries hatchery policy. If implemented, a shift of production to upriver areas or changes in stock emphasis, would likely result in a corresponding increase in costs to hatchery funding entities, including Bonneville. These costs must be identified, discussed, and evaluated along with the expected benefits of the changes.

- 4. The utility of the analysis in the Draft Report, and its applicability to Congress' APRE requests, might be improved by a more precise delineation between the objectives of the Puget Sound Hatchery Scientific Review Group (HSRG) process and the APRE. An expansion of the principles used to guide the APRE analysis may enhance the usefulness of the conclusions reached in the Final Report.**

The HSRG process is referenced frequently as a significant influence on the methodology employed and the conclusions reached in the draft APRE report.<sup>2</sup> However, despite the claimed similarities, it appears that the APRE has a substantively different mandate from Congress than

<sup>1</sup> As the report authors note: "Existing legal mandates, agreements, and legislation may need to be reviewed and changed to allow flexibility to use hatcheries in ways which reflect current scientific thinking and social priorities (at p. 63)."

<sup>2</sup> "The APRE based its approach to analysis and evaluation on that of the Hatchery Scientific Review Group in Washington State, which had been instituted in response to a similar Congressional request (at p. 56)."

does the HSRG. The influence of these differences on the way in which the APRE authors approached their analysis, and the usefulness of the APRE evaluation and conclusions in addressing each element of the request of Congress, warrants a closer examination.

This issue has its origins in the fact that the two primary authors of the APRE report, one of whom served as the Chair of the HSRG, are from the same consulting firm. We are not suggesting the existence of systematic bias or any conflict of interest. However, in its recommendations, the draft report conveys a sense that the authors did not fully consider that a different Congressional inquiry focused the needed analysis in preparing the APRE report, and the results of the APRE draft simply mirror the earlier HSRG outcomes.

While an excellent summary of the “landscape” of hatchery production programs and related management practices in the Basin, the generalized conclusions reported in the Draft may be too limited. The study applied the following three hatchery reform “principles,” previously deemed necessary for success in the earlier HSRG review process:

- *Establishment of Goals*
- *Scientific Defensibility*, and
- *Responsive and informed Decision-making*

to elicit a series of questions posed and answered by the authors in their analysis of the information generated by the APRE hatchery surveys. The application by the authors of these three principles structured or circumscribed the APRE analysis of the information received from fishery and hatchery managers.

We suggest that these principles might be too narrow in design to fully address the scope of the APRE request. We ask that in refining the draft analysis, a broader set of principles be considered in the Final APRE Report, that could serve to structure the analysis more broadly and incorporate more of the specific elements of Congress’ APRE request and purposes.

**Specific Page and Line Comments on the Council's Draft Report  
Artificial Production Review and Evaluation (APRE)**

**Page ii, paragraph 3:** "...however, the focus has changed to supplementation of wild populations." This assertion may be overly broad as a conclusion. While the role of supplementation as a mitigation and recovery strategy has grown in recent years, the statement may not be entirely correct as applied to the entire Columbia Basin, in light of the large number of segregated (non-supplementation) hatchery programs in the lower Columbia river. It should also be noted that supplementation, in general, is a subject of considerable disagreement and scientific debate within the region.

**Page ii, paragraph 4:** The APRE database appears to be a potentially valuable resource to managers and hatchery operators. What is the future of the APRE database? Will it eventually be possible to query the database to meet specific data sorting requests, for example to see how many hatcheries, and which hatcheries, answered yes/no to a particular question in the APRE Questionnaire? Will the database continue to reside at the consultant's website, or be moved to a more permanent and publicly accessible site?

**Page ii, paragraph 4:** At the end of the paragraph, the authors identify four major conditions against which the success of hatchery programs were judged. This paragraph also elaborates a working hypothesis for the APRE evaluation that suggests hatchery program effectiveness is a function of:

- internal program consistency
- external consistency with the goals and priorities of the environment, and
- an explicit recognition of risk.

In refining their analysis for the Final Report, we ask the authors to consider adding these attributes of their working hypothesis as an explicitly stated fifth condition against which the success of hatchery programs might be evaluated.

**Page iv, 1st bullet:** The report concludes that the monitoring and evaluation of hatcheries is inadequate, given the lack of information collected on typical fish statistics such as recruits per spawner, smolt-to-adult survival, escapement and total catch. Will the APRE process take on the task of improving hatchery data collection and reporting throughout the Basin? The BiOp reporting and monitoring and evaluation process will hopefully result in improved data from the BPA-funded projects/programs for storage in BPA's BiOp database, but the non-BPA funded programs, e. g., Mitchell Act programs, are not included. In its recent review of supplementation (ISAB 2003-3), the Independent Scientific Advisory Board made a number of recommendations for enhanced RM&E for hatchery supplementation programs. Are there plans for implementing these recommendations through the APRE implementation process?

**Page x, Acknowledgements:** At a minimum, it should be made clear in the final report that through BPA, Northwest ratepayers provide the funding for this effort.

**Page xi, Acronyms and Abbreviations:**

- “HGM” should be HGMP
- “Hatchery and Genetic Management Program” should be Hatchery and Genetic Management Plan.
- “Integrated Hatchery Oversight Team” should be Integrated Hatchery Operations Team

**Page 1:** “To make the review more comprehensive, the Council expanded the Congressional directive to include hatcheries supported by non-federal funds.” This could be changed to reflect that Congress intended to include the non-Federal hatcheries when they stated the scope of the review should include “an assessment of the hatchery operation goals and principles of State, Tribal, and Federal hatcheries.”

**Page 1:** “The Council’s Fish and Wildlife Program directs funding of projects by the Bonneville Power Administration (BPA)...” In adopting the *Columbia Basin Fish and Wildlife Program*, the Council recommends a suite of projects or measures for BPA implementation funding. The role of the Council in recommending an “approved” package of projects for Bonneville funding is an important expression of the regional priorities of the Tribes, States and Federal agencies, and of the level of effort necessary to implement the Council’s Program. However, BPA has also underscored the need to integrate the requirements of the Federal Columbia River Power System (FCRPS) Biological Opinions with the region’s fish and wildlife mitigation efforts under the Council Program, particularly with regard to the NOAA Fisheries biological opinion check-ins in 2003 and 2005.

While actual project funding decisions remain with BPA as an exercise of agency judgment and discretion in meeting its obligations, the Council’s role is of great importance in shaping implementation of the Fish and Wildlife Program, with the necessary integration of Biological Opinion requirements, through its thorough, collaborative, and scientifically robust public review process. In the majority of instances the Council’s and Bonneville’s judgments about project funding coincide. At other times, differences arise. As it has evolved and been implemented, the region’s rolling provincial review of projects proposed for BPA funding has worked to minimize those differences through collaborative and coordinated decision making.

**Page 5, paragraph 2:** “Recovery plans will be developed by the federal agencies....”  
Change to “Recovery plans will be developed by the responsible federal agencies, NOAA Fisheries and the USFWS ....”

**Page 5, paragraph 3:** It should be noted that an outcome of the APRE process is the production of Phase I HGMPs that, as part of the federal Action Agencies implementation of the FCRPS BiOp, will identify federal hatchery reforms directed at increasing survival of ESA-listed anadromous fish stocks in the Columbia Basin.

**Page 6, paragraph 3:** “The purpose of the APRE was to evaluate the benefits and risks of current hatchery programs ....” This paragraph discusses the intended scope of APRE, and would be a good place to reference the direction of Congress. The stated purpose does not

capture what Congress directed; an evaluation of cost-effectiveness is much different than a benefits and risks analysis. The bullets above could be incorporated and discussed here, or a short summary included such as: “The Council was directed to develop a coordinated policy for the Columbia Basin Federal hatchery program that is cost-effective, and that includes a review of all Basin hatcheries and examines how the policy would be implemented.”

**Page 13, paragraph 1:** *“The third (and present) phase of hatchery development in the Columbia River Basin began in the late 1970s....”* Suggest adding, “coinciding with poor ocean conditions” to the end of this phrase.

**Page 15, paragraph 1:** *“...any particular human populations.”* Please make the reference singular, or perhaps for clarity, be more specific.

**Page 16, last paragraph:** The forthcoming NOAA Fisheries Hatchery Policy may greatly influence how hatcheries are used in the future, particularly for conservation purposes. The potential impact of this Hatchery Policy should be acknowledged in the final APRE report.

**Page 29, last paragraph, lines 3 and 5:** Please change *“threatened”* to “ESA-listed.”

**Page 30, last paragraph:** *“... to increase the social benefits of artificial propagation programs ...”* Is increasing social benefits truly an acknowledged goal of NOAA Fisheries’ ESA regulatory authorities?

**Page 31, II.F Biological Context:** This section is potentially misleading. As discussed in the next comment, the authors seem to assume that some inherent problem exists with hatchery fish, inferring genetic impacts. They go on to detail hatchery practices that could lead to density and disease or other issues, along with genetic problems. There is reference to hatchery reform and supplementation strategies, but the overriding message seems to be that hatcheries are bad for wild fish. A correct message for this section would be that some hatchery management practices might be bad for some wild populations.

**Page 31, last paragraph, and continuing on page 32:** The introductory section on *“Ecological context,”* infers that a genetic component is at least partly responsible for negative effects of hatchery fish on wild populations. While this is possible, the paragraph misrepresents the impacts of the hatchery environment on fish. There is no definitive evidence of genetic change in fish reared in a hatchery for at least one, and probably two generations. Under the discussion of *“Intra-species effects,”* the authors list several established or hypothesized effects of hatchery fish. However, all of those listed are hatchery management issues, e.g. timing of release, density dependence in freshwater, and the influence of marine environments. The authors cite nothing inherently negative with hatchery fish, only possible errors in the management of hatchery programs or protocols.

**Page 32, 2 paragraph:** It should be pointed out that density is only a factor if density is limiting.

**Page 32, last paragraph:** The use of the estuary is greater for chum and *fall* Chinook salmon, not all Chinook salmon (*Salmon at Rivers End, NMFS*).

**Page 33, last paragraph,** continued on page 34: It is not clear what the authors refer to in the “Flagg et al. (2000)” report of “*predation rates by hatchery steelhead and Chinook ...ranging from 0 to 22 percent....*” Are 0 to 22 percent of wild fish consumed by hatchery fish?

**Page 38, paragraph 2:** The APRE Draft Report recognizes that the ocean and estuary may be limiting for some populations, but in this paragraph refers only to the risks to “nearby populations” in freshwater. How will the estuary and oceans potential for density dependence be addressed? Note that the HSRG report directly addresses density dependence in the marine environment.

**Page 38, paragraph 3:** Cost-effectiveness goals should be addressed here, or in a separate section.

**Page 39, paragraph 1:** “*Managers were not required to document the basis for their responses to the APRE questions.*” What was the basis for quality control? Was any of the information provided by the hatchery managers verified? The approach to gathering data used in the APRE process appears to be more of a survey of hatchery managers’ impressions than a scientific collection of data.

**Page 39:** “*Integrated Hatchery Oversight Team*” should be Integrated Hatchery Operations Team.

**Page 45, paragraph 1, last two sentences:** It should be clarified that the statement regarding 53 percent of hatchery stocks with an ESA-listed component does not mean that the hatchery stocks are listed.

**Page 53, paragraph 1:** “*Few hatcheries are funded from a single source, making tracking funding of artificial production programs in the Columbia River Basin difficult. Hatcheries often receive funds from several sources contributing to specific programs.*” One of the primary requests from Congress was to determine cost-effectiveness. The authors statement that it is difficult to track funding is difficult to reconcile with Congressional purposes. Why was specific financial information not more fully developed in the questionnaire? For example, ask the hatchery managers what their annual budgets are and the sources. Tracking the origins of the funds may be somewhat more difficult, but is also of lower importance. It may be more straightforward than anticipated or explained. The hatchery receives funds from NMFS. Did NMFS get the funds through Congress or from BPA?

**Page 53, paragraph 4:** “*The Mitchell Act ...also funds the Leavenworth National Fish Hatchery Complex ....*” The Leavenworth hatchery complex is actually funded by BPA, through a direct-funding agreement with the Bureau of Reclamation.

**Page 54, last paragraph:** *“For example, ...Corps-funded facilities in the Willamette River operated by the State of Oregon.”* BPA funds the Willamette River hatcheries (operated by ODFW) through a direct-funding agreement with the Corps.

**Page 55, Table IV-2:** Suggest adding “Type of” to the beginning of the table caption.