Northwest Power and Conservation Council

July 6, 2004

MEMORANDUM

TO: Council Members

FROM: Bruce Suzumoto

SUBJECT: Council decision to release the Artificial Production Review and Evaluation (APRE) issue paper for public comment

A draft APRE issue paper (attached) has been completed. The paper articulates hatchery reform recommendations based on the findings of the APRE basinwide report and other hatchery review processes. Staff will discuss the issues and recommendations contained in the paper and seek Council approval to release the document for public comment.

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851 S.W. Sixth Avenue, Suite 1100
Portland, Oregon 97204-1348

Telephone: 503-222-5161
Toll free: 800-452-5161

Fax: 503-820-2370
Web site: www.nwcouncil.org

Northwest Power and Conservation Council

DRAFT

ARTIFICIAL PRODUCTION REVIEW AND EVALUATION

ISSUE PAPER

Northwest Power Planning and Conservation Council

July 6, 2004

I. A Vision for the Basin

In 1997, Congress requested that the Northwest Power and Conservation Council review all federally funded hatchery programs in the Columbia River Basin and develop a set of coordinated policies to guide the future use of artificial production. The Council set a deliberate course to respond to this major initiative, beginning with the Artificial Production Review (APR). With the help of the Independent Scientific Advisory Board, the APR conducted a scientific review on the state of artificial production in the basin and produced a set of guidelines for hatchery practices, ecological interactions and genetics. The APR also engaged regional stakeholders and hatchery operators in a series of workshops where hatchery reform recommendations and policies were discussed and developed. At the end of the process the APR concluded that "[t]he region needs action and leadership to implement new artificial production policies, to decide whether and where to use artificial production, and to ensure that future artificial production funding is contingent on reforms being made. These decisions need to be made for each subbasin and implemented as part of a broader strategy to meet regional fish recovery goals."

While the APR concluded that an updated and comprehensive hatchery policy framework was critically needed, it recognized that significant changes would be possible only after a deliberate and thorough examination and evaluation of the current system. This evaluation was completed in the second phase of the Council's response to Congress -- Artificial Production Review and Evaluation (APRE) (Council Document 2003-17). As part of the effort the APRE examined 227 individual salmonid hatchery programs within the U.S. portion of the basin. The process reviewed each program's stated purpose, evaluated how well the program met its intended objectives and outlined potential risks in operating the program. The APRE then compiled the program information into comprehensive provincial and basinwide overviews of artificial production. From this broader perspective several conclusions emerged. The APRE concluded that:

- Hatcheries are limited in what they can accomplish.

- The social, economic, and ecological purposes on which the current hatchery programs were established have changed and will continue to change.

- Hatcheries will continue to play a part in recovery and management of fish in the Columbia River and elsewhere.

- Hatcheries require reform to align their policies and practices with current social priorities and scientific knowledge, to determine hatchery performance, and to operate in a business-like fashion.

In recent years many efforts have been made by hatchery operators to improve and update their programs to meet current conservation objectives. These efforts have included implementing a variety of operational changes and facility modifications. While this work should be applauded, much more needs to be done. In fairness, one of the greatest challenges in effecting change is that most hatchery programs were created under legal mandates and requirements that stress

different priorities than exist today. In many cases this has produced conflicting objectives, i.e. harvest versus conservation, and has resulted in creating imperfect solutions to the inevitable problems that arise. The legal mandates and agreements that helped to create the existing hatchery system must be reviewed to determine how much flexibility they contain to meet today's regional priorities.

The review and evaluation efforts of the APR and APRE demonstrate that artificial production programs need to be viewed in a new way. Many of the basin's hatchery programs were developed decades ago under a different set of needs, social conditions and mandates. Most of today's hatchery production still seeks to produce fish for out-of-basin and mainstem harvest goals. While these remain legitimate goals they need to be better balanced with current priorities. More recently, conservation of the environment, ecosystems and species has become important national and local priorities. Indian spiritual and cultural values have been legally recognized. Fishery economics have changed due to rising costs, conflicts with conservation goals and competing sources of salmon such as aquaculture. Finally, the emphasis on locally led and supported fish and wildlife planning efforts have broadened the base of stakeholders in fish and wildlife restoration, and in doing so, created a new constituency for hatcheries that is very different from before.

A new paradigm for hatchery usage must be considered. The new paradigm within which artificial production must fit requires that species and population diversity are emphasized and local needs are considered. Salmonid populations should be returned as closely as possible to their historic range, distribution, and diversity through a variety of means including habitat protection and restoration and the appropriate use of hatcheries.

The policy development for the use of artificial production in the basin must be guided by the Council's basinwide vision statement that appeared in the 2000 Columbia River Basin Fish and Wildlife Program. The statement, which follows, establishes the context for salmon recovery and encompasses hydropower, harvest, and habitat, as well as hatcheries. The Council's vision is echoed in watershed-level mission and vision statements throughout the basin including the Oregon Plan for Salmon and Watersheds and the Washington Salmon Recovery Plan.

> *The vision for this program is a Columbia River ecosystem that sustains an abundant, productive, and diverse community of fish and wildlife, mitigating across the basin for the adverse effects to fish and wildlife caused by the development and operation of the hydrosystem and providing benefits from fish and wildlife valued by the people of the region. This ecosystem provides abundant opportunities for tribal trust and treaty right harvest and for non-tribal harvest and the conditions that allow for the recovery of the fish and wildlife affected by the operation of the hydrosystem and listed under the Endangered Species Act.*

This issue paper is based on the concept that all activities must proceed from a clearly articulated vision leading to identification of issues and attendant recommendations. The paper delineates hatchery related issues and recommendations derived from the fish and wildlife program's vision, and will be followed by the development of strategies and a strategic plan, definition of goals and objectives, and finally, formulation of fundable tasks.

Many processes and mechanisms are already in place that can be used to move toward the re-alignment of and change to hatchery programs. These existing mechanisms include federal programs such as NOAA Fisheries' Hatchery Genetics Management Plans (HGMP) and the National Environmental Policy Act responsibilities of both NOAA Fisheries and the U.S. Fish and Wildlife Service. It is the Council's intent to pursue hatchery reform in cooperation with the federal agencies, fish and wildlife co-managers and regional stakeholders.

Many of the issues and recommendations described below are not new. They have been highlighted in previous hatchery reviews and many were primary findings and recommendations of the APR process. The difference now is that through the APRE there is more detailed information on individual hatchery programs and basinwide hatchery practices. The new information gives us the tools to make better decisions and a greater ability to make specific changes and a better basis for prioritizing actions. Likewise with the recent completion of subbasin plans, the region now has an opportunity to develop meaningful provincial and basinwide goals through the aggregation of subbasin plans and other regional objectives. Finally it should be noted that this issue paper does not describe how specific recommendations will be carried out. Once APRE recommendations are finalized, a plan to implement the recommendations will be developed jointly by the Council, NOAA Fisheries, Bonneville, co-managers and other regional stakeholders.

II. Issues and Recommendations

Issue 1: In order to meet the harvest and conservation needs reflected in the vision, major changes to many hatchery programs are required.

Today's hatchery programs must:

- Be integrated with habitat restoration and enhancement efforts articulated through new locally developed subbasin plans.
- Emphasize within Columbia Basin and subbasin harvest objectives to a much greater degree.
- Align with a sustainable recovery strategy at the province/ESU and basin scales that meets legal mandates and ensures benefits to local communities.
- Be consistent with sound science while appropriately balancing acceptable risks with intended benefits.

The changes above are required to shift hatchery policy toward consistency with the overall vision for fish and wildlife in the Columbia Basin. Discrepancies between the Council's vision statement and current hatchery goals and objectives can be analyzed by comparing existing hatchery goals and operations with these requirements. Attention can then be turned to addressing the disparities between the sets of goals.

Regional priorities addressing both risk reduction and increases in benefits need to be established. Subbasin plans will be a primary source of regional goals and objectives. These goals and objectives will be analyzed to determine regional priorities that have been based on how well a species or population is performing in terms of abundance, productivity, distribution,

and diversity. Stock-specific priorities must take into account conservation mandates (including ESA), treaty and trust responsibilities, the Council's Fish and Wildlife Program, and subbasin plans. Key stocks at risk need to be identified and treaty/trust harvest opportunities by species and subbasin must be reviewed in order to determine in which subbasin and for which species treaty harvest opportunities are declining, limited, or non-existent. The ultimate goal, of course, would be to have all stocks healthy enough to provide harvest opportunities for all users of the Columbia River and the subbasins.

Recommendations

1.1 The Council, NOAA Fisheries, and the Bonneville Power Administration should facilitate a regional discussion that clearly identifies basinwide goals and priorities for salmon and steelhead.

1.1.1 Clearly articulate measurable goals consistent with the basinwide vision.

1.1.2 Identify the disparities between the current status of stocks and harvest levels and the basinwide goals by examining the basin, the ecological provinces, the subbasins, the stocks and species at risk.

1.1.3 Establish priorities at the subbasin level to close the gap between the current situation within the basin and the basinwide vision.

1.1.4 Assure that goals are consistent with legal mandates and a sustainable recovery strategy.

1.2 Use the regional subbasin planning effort to design and implement long-term strategies (consistent with the basinwide vision) to reduce disparities among production policies of existing hatcheries

1.2.1 Determine the role of hatcheries in subbasin planning.

1.2.2 Determine the priority hatchery actions needed to reduce the disparities.

Issue 2: Promptly implement hatchery reforms.

The identification of hatchery reform actions delineated under Issue 1 will result in both short- and long-term priorities. Some priorities must be accomplished immediately and their implementation should not be delayed. While these short-term reforms are being accomplished, work should continue on setting the stage for achieving long-term priorities.

Prioritization criteria for hatchery reform must be tied closely to the vision statement and must be based on a determination of the greatest cost-effectiveness and certainty of biological benefits. Areas of need would be prioritized based on populations in greatest jeopardy or those slowest in recovery. Prioritization can occur through the subbasin process and can draw on NOAA

Fisheries' latest hatchery status review. The criteria should emphasize improvement of hatchery broodstocks and their relationship to natural spawning populations. It must be applied to at-risk, natural spawning populations most in need of improved performance, as defined by ESA. Targeting immediate hatchery reforms on the most at-risk natural populations will benefit all socio-economic sectors in the basin. Effort would continue to be focused on the immediate and short-term actions until the long-term actions are identified, prioritized, and ready for implementation

The prioritization process and outcome should undergo scientific and policy scrutiny and should be reviewed on a periodic basis to assure that it reflects the most current research findings, cost benefits, and implementation methods. The review should result in a list of hatchery reforms that could be refined and implemented as budgets allow. Whatever short-term reforms are proposed, however, should maintain a clear connection to natural populations and habitat.

Recommendations:

2.1 Adopt prioritization criteria to immediately reduce hatchery risk to weak, natural stocks.

2.1.1 Reduce risks through broodstock management, i.e. using local broodstocks, integrating natural-origin fish into broodstocks and/or reducing excessive straying.

2.1.2 Reduce risks through addressing acute needs at facilities, such as fish passage, disease, and water quality problems.

2.2 Develop and implement an action plan reviewed by the stakeholders and derived from recommended subbasin plan and Hatchery Genetics Management Plan actions.

Issue 3: Establish a results-oriented, performance-based management system to guide hatchery reforms.

Hatchery reforms aimed at reducing ecological and biological risks and maximizing benefits can be accomplished through a results-oriented, performance-based management system. A results-oriented, performance-based system will result in improvement of population viability where it is most needed. This type of system requires that the desired results be defined and must be consistent with the vision statement and legal mandates. Performance management that is oriented to achieving mandated results is a way of assuring success and accountability. It is accomplished through development of a strategic plan that describes goals and objectives, performance standards, and how the standards relate to the goals and objectives. The plan will also describe factors outside its influence that may impact its application and/or outcome.

The standards established under the strategic plan define the level of performance to be achieved by program activities. Application of the standards must be objective and measurable.

Measurement of success will likely be defined through performance indicators that are characteristics such as trends in abundance and harvest.

The results-oriented, performance-based management system will rely upon hatchery program reviews. The APR document recommended formation of an *ad hoc* "oversight team to oversee the implementation of artificial production reform." The Council recommends that the oversight team be expanded into a panel that would have the responsibility to review the performance of hatchery programs on a periodic basis. The panel should include scientists, the hatchery manager, agency representatives, the funding entity, and the operating entity. Reviews can be conducted at the provincial and basinwide levels as well as the subbasin level, and can be coordinated with other on-going reviews.

The goal is to create a transparent and self-governing regional decision-making process, facilitated by the Council, which can serve more than one need. Panel deliberations would be tied to decisions that need to be made in any program, such as funding or operational changes, and would aid in recognizing and facilitating changes. Effort would be focused on changes that are needed to meet program goals. The periodic review could assure that hatchery programs meet the requirements of the Council's fish and wildlife program, ensure that progress is being made toward ESA goals, allow the public to understand the benefits and risks of individual hatchery programs, and assure funding entities that their investments are being used to meet mitigation obligations cost-effectively.

Data and information flowing to and from the review process would be gathered on a website available to all interested parties and linked to future regional databases. This would result in more efficient record-keeping, assuring that data and information is current and accessible. It also would assure that the type of data collected is timely and addresses both benefits and risks. The system would allow planners and managers to communicate with one another as well as with the public and would contribute to the transparency and self-governance of the process.

Recommendations:

3.1 Establish periodic hatchery program reviews for all subbasins where progress toward resource goals is evaluated and program changes are directed.

3.2 Structure the program review process as a results-oriented, performance-based management system.

3.2.1 Formulate a set of questions, linked to measurable performance indicators and standards, whose answers will determine the success of hatchery programs.

3.2.2 Establish a panel of experts, representatives of which would attend the periodic reviews, whose role would be to provide advice, contribute to the subbasin reports, ensure consistency across the basin, and identify research needs.

3.2.3 Create an internet-based system for efficiently and effectively disseminating data and information needed for the review process and to generate the subbasin review report.

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