

April 27, 2006

MEMORANDUM

TO: Oregon Watershed Enhancement Board

FROM: Ken Bierly, Deputy Director

**SUBJECT: Agenda Item I: Research Fund Project Requests
May 16-17, 2006 OWEB Board Meeting**

I. Introduction

This report requests permission to request expenditure limitation from the Emergency Board to fund two research projects from the Restoration and Protection Research Fund that have been peer reviewed and previously reviewed by the OWEB Board.

II. Background

The OWEB Board has facilitated the review of two research projects over the past three years. These projects have been through a peer review process involving at least the Independent Multidisciplinary Science Team (IMST). The Umpqua Coho Pedigree Study, which is a 12 year project, was reviewed in 2001 by NOAA Fisheries and was first funded by OWEB in 2002. The IMST convened a workshop on the Oregon Hatchery Research Center to provide a scientifically credible basis for the operations of the center. Given this background, these two requests meet the spirit and intent of substantive process developed for future research proposal review. (See Agenda Item F.)

A. Umpqua Coho Pedigree Study

In January 2002 the Board was presented with a detailed discussion of the "Conservation Hatchery Improvement Program" (CHIP) developed under the Oregon Plan for Salmon and Watersheds. This effort was developed to evaluate and identify the role of hatcheries in salmon recovery and management. The concept recognized that there would likely be a continuing role for hatcheries in salmon recovery; however it recognized that additional information was needed to use them in a manner that would not degrade wild stocks.

OWEB was directed by a budget note in its 2001-2003 budget to evaluate and consider funding for CHIP projects. OWEB worked with Oregon Department of Fish and Wildlife (ODFW) staff to solicit proposed CHIP projects and have them peer reviewed. Three proposals were submitted and reviewed. The Umpqua Coho Pedigree Study was identified as having the greatest likelihood of success and direct applicability to the use of hatchery fish for conservation purposes.

The objective of the Umpqua Coho Pedigree Study is to conduct an experimental supplementation project for coho salmon in the Calapooya River, a tributary of the Umpqua River. The research would evaluate the contribution of multiple-generation hatchery versus first-generation (wild type) hatchery coho released as unfed fry and smolts. Genetic analysis of smolts leaving and adults returning to the system will evaluate the effects of hatchery fish on naturally spawning populations and compare the reproductive success and survival of hatchery fish released into the wild. The project proposed capturing and developing a genetic pedigree for three generations of coho.

The total project was identified as costing \$2,946,000 and lasting through 2013. Funding has been awarded incrementally each biennium. The project has been annually funded with Pacific Coastal Salmon Recovery Funds and Measure 66 Restoration and Protection Research Funds.

This proposal is to request expenditure limitation of \$103,387 of non-capital research funds for ODFW and \$143,948 (\$100,000 of capital research funds and \$43,948 of non-capital research funds) for Oregon State University (OSU) from the Restoration and Protection Research Fund through the Legislative Emergency Board. This proposal supports project costs through the end of the biennium.

To date, the research program has documented the genetic pedigree of one full cycle of coho. The research has perfected DNA extraction, identified screening loci, tested markers for hatchery and wild stocks, documented survival rates by genetic parentage, and identification of inbreeding effects. The ongoing work will be able to evaluate outbreeding depression (effects of hatchery fish breeding in the wild), effective population size, and comparative survival of hatchery management practices (release of unfed fry v. smolts). Attachment A contains additional information about the Umpqua Coho Pedigree Study proposal.

B. Oregon Hatchery Research Center

During the 2003 legislative session, the Legislature appropriated \$1,125,000 from the Restoration and Protection Research Fund and \$4,000,000 of Measure 66 capital funds for the construction of a hatchery research facility in the Alsea Basin.

There are three primary goals for the operation of the Hatchery Research Facility. First, research at this facility will seek to better understand the mechanisms that may create differences between hatchery and wild salmon and steelhead. Second, research will develop approaches to manage those differences to meet fishery and conservation objectives. Third, the research facility will help Oregonians to better understand the role and performance of production hatcheries in supporting and protecting Oregon's native fish. The facility will be operated as a research facility and not as a production hatchery.

To ensure this new facility was designed and programmed to meet the conservation needs for salmon recovery, ODFW requested the IMST to "provide a scientifically credible basis for the operation of the...facility." The IMST held a two-day workshop on October 21 and 22, 2003. The result of the workshop was a report to ODFW that was used to guide the program development of the Hatchery Research Center.

(http://www.dfw.state.or.us/OHRC/materials/IMST_report.pdf)

The request before the Board is to support the use of capital research funds to finish the outfitting of the research facility for a total of \$154,000. ODFW has an additional \$94,000 to match these funds to complete the needed equipment purchases. More detailed information regarding this proposal is contained in Attachment B.

III. Discussion

These two funding requests have been peer reviewed and address important needs for the Oregon Plan for Salmon and Watersheds as they relate to the utilization of hatchery fish in recovery of salmon stocks. The primary reason to advance these requests is the fact that they both have been through a previous scientific peer review process, and in the case of the Umpqua study, the request is part of long-term research project.

IV. Recommendation

Staff recommend the Board direct staff to:

1. Request expenditure limitation from the Emergency Board for \$254,000 of capital and \$147,335 of non-capital from the Restoration and Protection Research Fund to support the Umpqua Coho Pedigree Study and the Hatchery Research Center research projects; and
2. Develop the appropriate agreements with ODFW and OSU to implement the proposed research projects, contingent upon receiving expenditure limitation from the Emergency Board.

Attachments

- A. Umpqua Coho Pedigree Study – ODFW and OSU Proposals
- B. Oregon Hatchery Research Center Equipment Proposal