



Oregon

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MEMORANDUM

TO: Oregon Watershed Enhancement Board
FROM: Ken Fetcho, Effectiveness Monitoring Coordinator
Renee Davis, Deputy Director
SUBJECT: Agenda Item E – Funding Request for Upper Middle Fork John Day
Intensively Monitored Watershed
October 25-26, 2016 Board Meeting

I. Introduction

This report provides an update regarding the Upper Middle Fork John Day River Intensively Monitored Watershed (IMW) and requests the Board approve \$18,897 for ongoing monitoring activities of the IMW.

II. Background

The Upper Middle Fork John Day River IMW is designed to evaluate the implementation of watershed restoration projects over a large geography and a 10-year study period, with the intent of describing the collective benefits provided to salmon and steelhead populations, habitat, and water quality. IMW partners include the Oregon Department of Fish and Wildlife, North Fork John Day Watershed Council, Confederated Tribes of Warm Springs Reservation, Oregon State University (OSU), University of Oregon, and Washington State University.

Since the 2007 inception of the IMW, the Board has provided additional funding in support of critical aspects of this large monitoring study. These funds complement contributions from the Pacific States Marine Fisheries Commission (PSMFC) and have been necessary to meet the monitoring needs of this large-scale monitoring project. The Board's investment has allowed priority monitoring work to occur that helps answer important watershed-scale questions that are being addressed by the study objectives. Examples of activities funded with past Board investments include:

- Geomorphology and groundwater monitoring;
- Water-quality sampling using fiber optic cables;
- PacFish/InFish Biological Opinion (PIBO) landscape-scale systematic surveys; and
- Spatial and temporal analyses of macroinvertebrate results.

At its July 2016 meeting, the Board approved receipt of funding in the amount of \$291,000 that had been provided by the PSMFC to OWEB in support of the IMW. The funds will support the vast majority of ongoing monitoring activities from October 2016 through September 2017. This time period comprises the tenth year

of the IMW. The PSMFC funding will provide the resources needed for the partners to continue to perform priority monitoring activities, in addition to focusing a significant amount of time on analyzing and compiling their research into a comprehensive synthesis report for OWEB, PSMFC, and NOAA Fisheries, which provides the PSMFC pass-through funding.

III. Funding Request for 2016-2017

A modest amount of funding, which will complement the PSMFC funding, is requested from the Board in support of OSU's work during the 2016-2017 period. The funding will support OSU's multiple roles in the project: monitoring a set of reaches for temperature dynamics during the low-flow season with fiber-optic cables; monitoring floodplain phreatic (i.e., aquifer) elevations; assisting in flow measurement in the mainstem river and selected tributaries; monitoring micro-meteorological conditions along the IMW reaches; and managing and interpreting data collected in these efforts. Specific information about OSU's scope of work is found in Attachment A.

IV. Recommendation

Staff recommend the Board award up to \$18,897 from the Programmatic Effectiveness Monitoring for the Open Solicitation line item in the spending plan in support of Oregon State University's work as part of the Upper Middle Fork John Day Intensively Monitored Watershed, and delegate authority to the Director to enter into appropriate agreements, with an award date of October 25, 2016.

Attachments

- A. Oregon State University 2016-2017 Scope of Work for the Upper Middle Fork John Day IMW

Attachment A

Upper Middle Fork John Day Intensively Monitoring Watershed (IMW) 2016-2017 OSU SCOPE OF WORK

Oregon State University

During the period of October 1, 2016 to September 30, 2017, the scope of work is dedicated to wrapping up this 10-year project. The primary activities surround filling critical data gaps and synthesizing the datasets from OSU with the work done by the larger IMW team. The OSU team will continue to visit the Oxbow Conservation Area for data downloading from all wells and well-depth data loggers. Data downloading also will occur at the three weather stations run by OSU that are located in the Upper Middle Fork John Day River Basin. These data, along with complete datasets that span the entire project, will be published on the IMW's Egnyte data site.

The OSU team has filled several roles in the project: monitoring a selected set of reaches for temperature dynamics during the low-flow season; monitoring floodplain phreatic elevations; assisting in the measurement of flow in the mainstem John Day River and selected tributaries; monitoring of micro-meteorological conditions along the IMW reaches; management for the data collected in these efforts; and interpretation of these data.

Synthesis efforts will be the core of two parallel graduate theses that will be completed during this period. Brendan Buskirk, M.S. candidate, will develop a synthesis of all of the distributed temperature sensing (DTS) temperature data for the duration of the project. In addition, he will employ the special data collected in the summer of 2016 regarding bed permeability of the mainstem to explain the notably low hyporheic exchange seen in the river over the past 8 years. Mark Rogers, Ph.D. candidate, will focus on synthesis of the macro-invertebrate data with the stream morphology and fish growth data, as well as stream temperature, to validate a physiologically based model of environmental controls on salmon growth.

Also during the year, the team will participate in monthly teleconference calls and the biannual face-to-face meetings. Administratively, the team will continue to provide quarterly reports and biannual website updates, and commit to providing a final completion report for the project.