

May 19, 2009

MEMORANDUM

TO: Oregon Watershed Enhancement Board

FROM: Greg Sieglitz, Monitoring and Reporting Program Manager

**SUBJECT: Agenda Item K: Research Program
June 2-3, 2009 OWEB Board Meeting**

I. Introduction

This report provides an update for the Board on the Research Program and requests funding for additional research projects for the remainder of the biennium.

II. Background

OWEB offered its first open solicitation for research grants and awarded funding to nine projects in September of 2007. During 2008, the Board Monitoring and Research Subcommittee met to develop priority focus areas for the anticipated 2009 research grant cycle. A proposed approach to developing specific research priorities was presented to the Board at the September 2008 meeting. In September, the Board adopted the Monitoring and Research Subcommittee approach to revising the OWEB Research Priorities and to establish a process for soliciting research proposals in the spring of 2009.

At its January meeting, the Board adopted a modified approach, given the current budgetary uncertainty for the remainder of the biennium, and instructed staff to explore specific areas of research to bring before the Board in March. Staff then began working on revising the research priorities and establishing a process for soliciting research proposals in the spring of 2009. Staff presented several proposals for research funding in specific focus areas and three of these were funded at the March 2009 Board meeting. This report provides an update on those projects as well as additional information requested by the Board for one proposal and three new funding requests.

III. Update on March Research Awards

A. Climate Change: Water Availability

At the March 2009 Board meeting, the Board allocated \$175,000 in non-capital research funding to a water availability and climate change project pending due diligence work to be conducted by staff. This update provides information about the status of that due diligence. OWEB staff spoke to and met with Oregon Water Resources Department (OWRD) staff on several occasions following the March Board meeting. The purpose of those discussions was to ground-truth the draft water availability study, coordinate with OWRD on related studies, establish OWRD participation in the design and implementation, and to explore additional partnership opportunities. At the time of writing this staff report more detailed discussions

had not yet occurred. Staff will present updates on the results of these meetings at the June Board meeting.

B. Climate Change: Sea-level Rise

Another March 2009 Board action included the allocation of \$100,000 in non-capital research funding, pending additional staff work, for climate change and sea-level rise research. This summary provides an update on the staff work in March and April. OWEB staff participated in several conference calls with representatives from the states of Washington and California as well as the Oregon Governor's Natural Resources Office to discuss the draft proposal to the National Academy of Sciences (NAS) on a sea-level rise study for the entire west coast of the conterminous U.S. The State of California has been leading this effort under an Executive Order by Governor Schwarzenegger signed in November of 2008. Subsequent to the OWEB Board meeting in March, California met with the NAS and secured the necessary \$500,000 to conduct a study with a reduced scope, including the elimination of the concept of case studies. The case studies were an important aspect of the work presented to the Board.

OWEB continues to participate with the Oregon Governor's Natural Resources Office and appointees from the states of Washington and California at the time of writing this report. Additional details will be provided at the June Board meeting at which time we anticipate that the State of Oregon will have entered into an agreement with the State of California to implement the project or staff will be developing an alternative approach.

IV. Climate Change at the Local Level – Follow-up Information and Funding Request

At the June Board meeting, staff presented work conducted by the Climate Leadership Initiative (CLI) at the University of Oregon in the Rogue and Willamette basins. Staff proposed participating in similar work in the Umatilla and Klamath basins over the coming year through support of a research grant to the CLI. The discussion at the Board meeting included concerns raised about two primary factors that required additional background before the Board wished to enter into an agreement for this work.

Subsequent to the March Board meeting, staff had conversations with the CLI and explored the Board's concerns about reports lacking detail and participation by local groups. The CLI recognizes that more work is necessary following the production of one of the basin reports, such as the Rogue and Willamette examples. The CLI conducts "Climate Futures Forums" as a means and venue for initiating discussion around what the large regional scale climate models appear to indicate could occur at the basin level. These forums are designed to be the first phase of a two-phase approach to working with local communities. The second phase includes follow-up work with local planners and decision makers designed to construct more detailed actions that could be implemented to prepare communities for climate change. The CLI has initiated the second phase in the Rogue basin beginning with the Rogue Council of Governments. Staff also explored the participation of local watershed councils in the CLI efforts. The Willamette work was focused in the upper Willamette basin and all of the respective watershed councils participated. At the time of writing the staff report, the staff inquiries into the Rogue basin participation by local partners was not yet completed. On a related note, staff learned that the Oregon Water Resources Department has been involved in and supportive of the Upper Willamette CLI project.

The incorporation of climate change into local planning and actions is in its early stages and the CLI is helping move those conversations forward. As such, education and opportunities for conversation among local leaders are two important aspects that will be necessary to ensure future actions are supported. Representatives from the CLI will be available to answer questions at the June Board meeting.

Staff recommend funding the CLI to conduct climate model downscaling to the local basin and “Climate Futures Forums” in the Umatilla and Klamath basins. Staff propose the use of \$171,128 in Research Non-capital to support this work.

V. Update on Ecosystem Services Proposal

In March, the Board awarded \$165,000 for a request for proposals for ecosystem services marketplace research. Following the March meeting, the Monitoring and Research Subcommittee developed a draft Request for Proposals focused on soliciting contractors to assist OWEB in negotiating the marketplace of ecosystem services that have a likely connection to OWEB grantees and actions. The draft RFP was finalized by the subcommittee and posted on the State of Oregon Procurement website (ORPIN) in May. (Attachment A)

The research project consists of three primary objectives:

1. Develop a description of the current ecosystem services and the potential markets in Oregon that might be closely aligned with OWEB projects;
2. Conduct an evaluation of the contributions that OWEB land acquisition and restoration projects can provide in the ecosystem services’ marketplace; and
3. Create business application models that provide OWEB and its grantees an approach to participating in ecosystem service marketplace transactions.

At the time of writing this staff report the RFP process was not completed. Staff will update the Board on the status of this process at the June Board meeting.

VI. New Research Funding Requests

A. LiDAR – Research Capital Funding Request

During the 2007-2009 biennium, OWEB experienced an increase in the number of local groups requesting funding for Light Detection and Ranging (LiDAR) remote sensing applications for the purpose of project planning, design, and implementation. In 2008 and 2009, the Department of Geology and Mineral Industries (DOGAMI) led efforts around the state to acquire LiDAR imagery, in part, through \$1.5 million of Measure 66 research capital funding provide by the Legislature. As grant requests for LiDAR were received by OWEB from local entities, staff put them in contact with DOGAMI efforts which lead to increased efficiencies, lower cost projects, higher quality products, and larger areas flown.

The technological advances and decreasing costs of LiDAR imagery has enabled the mainstreaming of this tool and accessibility to local organizations has never been better. DOGAMI plans to continue their efforts in the 2009-2011 biennium but it remains to be seen whether the agency’s final budget includes funding limitation for LiDAR acquisition. Staff anticipate a continued interest in and need for LiDAR imagery expressed by local entities. Through the efforts of the Oregon LiDAR Consortium, led by DOGAMI, additional

significant progress can be made in flying portions of the state not presently covered by LiDAR imagery over the next two years.

Over the next two weeks, we should have a better understanding of what final agency budgets will look like for 2009-2011. If the final DOGAMI budget does not have sufficient funding for LiDAR, staff may present a funding proposal for the Board to fund this program with research capital funding.

B. Fish and Water Quality Monitoring

At the September 2008 Board meeting, the Board reserved \$225,000 for the purpose of evaluating fish passage and water quality improvement projects throughout the state. While fish and water quality monitoring top the list of monitoring investments made by OWEB, information is lacking about the collective improvements made to improving access to fish habitat, expanded fish distribution, and water quality.

OWEB received a proposal from researchers at Oregon State University during the October 2008 grant cycle to conduct an independent evaluation of habitat utilization by fish opened up as a result of OWEB fish barrier removal projects. This particular application was not funded at that time partially due to the size of the application, which requested more than 25 percent of the available funding. The applicant was encouraged to work with staff on a refined proposal to be considered as a research grant request.

A new set of proposals was submitted to OWEB by the researchers at Oregon State University that included a focused approach to evaluating fish passage projects. This work will complement the recently initiated work in the Grande Ronde, Rogue, and South Coast basins focusing primarily on the older Model Watershed and early OWEB fish passage work. The new proposal will be reviewed this month and recommendations on whether to fund the proposal will be provided by staff and the Monitoring and Research Subcommittee at the June Board meeting. Since the review by the subcommittee meeting will occur subsequent to the writing of this report, the staff recommendation will be presented at the June Board meeting. Staff intend that a future proposal solicitation will focus on the water quality effectiveness evaluations.

Because this is the last meeting of the biennium, and the desire is to move these program investments forward without losing time or momentum, staff recommend the Board award the \$225,000 reserve to continue the implementation of the fish and water quality monitoring projects enabling the expansion of the Grande Ronde and South Coast work to a statewide scope. Staff further propose the Director have the authority to distribute the funds to specific projects following consultation with the Subcommittee and/or Board.

VII. Effectiveness Monitoring

During the September 2008 Board meeting, a reserve of \$375,000 was established for the continuation of the OWEB Effectiveness Monitoring Program. In just the last two and one half years, the program has completed effectiveness monitoring on seven large categories of OWEB restoration project investments. These are:

1. Livestock exclusion riparian work (three seasons of monitoring);
2. Western juniper removal (two years of monitoring);
3. Small dam removal (entering second year of monitoring);

4. Irrigation efficiency improvements (three seasons of monitoring Malheur basin/two seasons Deschutes);
5. Conservation Reserve Enhancement Program (CREP) evaluation (two years of monitoring);
6. Intensively Monitored Watersheds (entering third year of monitoring John Day); and
7. Wetland restoration (entering first year of monitoring).

As described in Agenda Item #C3: Director's Update, staff also recently initiated work on both riparian planting and fencing projects in the Grande Ronde, Rogue, and South Coast basins to evaluate the status, condition, and performance of projects initiated more than eight years ago. Significant work remains to be done to continue existing program efforts and initiate new projects. The \$375,000 reserve will be a critical catalyst to maintain and build on the effectiveness monitoring program. Additional effectiveness monitoring that will continue with additional funding includes:

- A. Small dam removal monitoring continues at Marmot Dam on the Sandy River, Savage Rapids Dam on the Rogue River, and Brownsville Dam on the Calapooia River. Future projects include Gold Rey dam on the Rogue River and Sodom Dam on the Calapooia River.
- B. Western juniper removal continues to be a major area of project growth east of the Cascades in central and eastern Oregon particularly as planning grows associated with climate change and forest and rangeland fires.
- C. Intensively Monitored Watersheds (IMWs) continue in the coast range, southern, and eastern Oregon in the Trask, Hinkle Creek and Middle Fork John Day basins funded through OWEB research awards and NOAA funding secured through the Pacific States Marine Fisheries Service. IMW needs remain in central and northeastern Oregon to establish a complete representation of Oregon's regions and ecosystems.
- D. Continued wetland effectiveness monitoring will be an important complement to the EPA funding grant in the Willamette Valley as the work expands to other areas within the state where wetland restoration has occurred.

Staff recommend awarding the \$375,000 reserve to continue existing and initiate new effectiveness monitoring projects. This is the last opportunity for the Board to award the funds before the end of the current biennium, and the funds will allow program continuity into the new biennium. Staff recommend the Board delegate the distribution authority to the Director, who will consult with the Subcommittee and/or Board prior to distributing funds to specific effectiveness monitoring projects.

VIII. Recommendation

Staff recommend the Board:

- A. Approve up to \$171,128 in Research Non-capital to support the local planning for climate change in the Umatilla and Klamath basins through an Interagency Agreement with the Climate Leadership Initiative at the University of Oregon.

- B. Approve up to \$1 million in Research Capital for the acquisition of LiDAR imagery in numerous locations in Oregon and other research priorities articulated by the Monitoring and Research Subcommittee.
- C. Allocate \$225,000 of Research Non-capital and authorize the Director to enter into Grant Agreements, Interagency Agreements, and contracts to implement fish and water quality effectiveness monitoring projects throughout the state.
- D. Allocate \$375,000 of Research Non-capital and authorize the Director to enter into Grant Agreements, Interagency Agreements, and contracts to continue the implementation of the Effectiveness Monitoring Program.

Attachments

- A. Ecosystem Services Request for Proposals