



Oregon

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MEMORANDUM

TO: Oregon Watershed Enhancement Board

FROM: Tom Byler, Executive Director
Renee Davis-Born, Ecosystem Services Coordinator

**SUBJECT: Agenda Item O: Ecosystem Services Update
January 20-21, 2010 OWEB Board Meeting**

I. Introduction

This report provides an update about two ecosystem services initiatives with which OWEB is involved and additional efforts in the area of ecosystem services markets. The first part of the report is a progress update on the Ecosystem Services LLC project supported with OWEB Research funds. The second portion of this report is a status update about activities of the Senate Bill 513 Ecosystem Services Markets Working Group, which is staffed by OWEB. The third item is an update about work underway by the Willamette Partnership and others related to ecosystem market development.

II. OWEB Research Project on Ecosystem Services

OWEB has begun to investigate how traditional OWEB restoration and acquisition projects may provide ecosystem services and how these investments may converge with ecosystem services markets. At the March 2009 meeting, the Board approved \$165,000 of Measure 66 Research non-capital funds for an Ecosystem Services Module within the agency's Research Program. As the Board learned at the September 2009 meeting, a Request for Proposals process resulted in OWEB contracting with Ecosystem Services LLC (ESS) and Ecotrust to evaluate how ecosystem services markets may connect to restoration and conservation actions funded by OWEB. The contract's scope focuses on carbon-offset ecosystem services, but takes into account co-benefit ecosystem services that result from carbon-related projects. This project will benefit the OWEB Board and staff, local partners, and restoration and conservation practitioners by assessing the alignment between ecosystem services markets and OWEB funded projects, and by describing pathways by which local entities may participate in the ecosystem marketplace.

The research project by ESS and Ecotrust includes three phases of work:

- 1) Phase I – Identify current ecosystem services markets and potentially eligible OWEB funded projects that have carbon-offset and co-benefit ecosystem services.
- 2) Phase II – Evaluate the market opportunities for ecosystem services credits emerging from OWEB funded projects.
- 3) Phase III – Develop up to two pilot projects, focused on carbon offsets and co-benefit ecosystem services, for market transactions.

Phase I is complete and consisted of a historical survey of past OWEB projects and their potential carbon offset and co-benefit ecosystem services values. Given the focus on carbon, ESS included both forest carbon projects (e.g., riparian plantings) and soil-carbon projects (e.g., rangeland management improvements and changes in agricultural practices). Other criteria applied include: a) projects with a net gain in carbon sequestration; b) restoration projects funded between January 2008 and July 2009; c) acquisition projects funded between January 2005 and June 2009; and d) projects greater than 10 acres in size.

A total of 39 restoration projects met these criteria. ESS then reviewed the amount and quality of data available for each of these projects and categorized each project as having either “low” or “high” amounts of key data needed for estimating carbon sequestration levels. While none of the project descriptions contained enough analytical data to meet the rigorous standards required for market-based projects, ESS was able to estimate carbon offset tonnage by making standard assumptions where needed.

The projects rated “high” (a total of 12) are estimated to sequester a total of 275,500 tons of CO₂ equivalent (the standard unit of measurement for sequestration) over a 50-year project timeframe. This value translates into approximately \$2 million in potential market value, based on a representative per ton price of \$7.50. This price is likely a conservative estimate given the range of \$0.10 per ton for low-quality carbon paid by the Chicago Climate Exchange to \$30 per ton for high-quality carbon in the regulated European market.

A total of 19 acquisition projects met these criteria. The projects rated “high” (a total of 16) are estimated to sequester a total of 620,000 tons of CO₂ equivalent over a 50-year project timeframe. This value translates into approximately \$4.65 million in potential market value, again based on a representative per ton price of \$7.50.

While the Phase I review provides an estimated monetary value for carbon sequestration emerging from a subset of OWEB funded projects, it does not assume that OWEB is preparing to enter the market or that these values should be considered a revenue source for grantees or OWEB. Policy issues such as these will require input and deliberation by the OWEB Board and potentially could be discussed as part of the SB 513 Working Group process. In their final report, ESS will describe characteristics of restoration and acquisition projects that have high likelihood for market viability and the co-benefit ecosystem services that emerge from such projects. They also will make recommendations to the agency about approaches to increase the potential for OWEB funded projects to result in carbon offsets.

Phase II includes several activities that will evaluate market opportunities for OWEB funded projects. ESS will provide an overview of current voluntary markets for carbon offsets and both voluntary and regulatory-based markets for co-benefit ecosystem service credits and describe the requirements of these markets (e.g., standards, monitoring requirements, etc.). They also will describe emerging market opportunities in Oregon. The contractor is in the process of completing a survey of all members of the supply chain, ranging from landowners and managers and project developers to third-party verifiers, environmental registry experts, and regulatory agencies. The survey is intended to describe potential barriers to project development and identify information and resources that are necessary for a project to result in successful carbon transactions.

Phase II will culminate in a “Supply Chain” event that will bring together Board and staff from OWEB, local partners and landowners, agency and NGO staff, and representatives of the “demand side” of ecosystem services markets. At this event, which will be held in April of 2010, participants will share lessons learned from actual Oregon-based carbon transactions, discuss tools for quantifying and monetizing several ecosystem services in a market-based setting, and identify resources and collaborations required to accelerate the practical monetization of carbon offsets and opportunities for future projects.

Phase III consists of two pilot projects focused on carbon offsets and co-benefit ecosystem services to demonstrate what steps are necessary to create market-ready projects. One pilot, a forest based land acquisition-project, will provide practical information about how to project proceeds from inception to completion. The site identification, project feasibility, and project design phases have all been completed and the final transaction is now being negotiated between a state agency, who will be holding title to the land, and a wholesale purchaser of carbon offsets representing the state’s utilities. When completed in April of 2010, the transaction will result in a mixed use of conservation, recreation, and forest management for 580 acres of coastal temperate forest. Approximately 50 percent of the purchase price will be provided by the sale of carbon offsets generated by changing the future management of the property from its current industrial timber harvest cycle.

A second pilot concept has focused on soil-based carbon sequestration projects, which primarily would occur in Oregon east of the Cascades. The ESS and Ecotrust team, in consultation with scientists and practitioners working in this field, are developing a research plan that will address unknowns about how different rangeland management approaches influence soil-carbon offset potential. This plan will identify specific tasks, including field testing of new, lower cost protocols for quantification and verification or monitoring that use remote-sensing technology. When implemented, this research will lead to better understanding of how to maximize soil-carbon sequestration while maintaining working rangeland landscapes, and may offer cost-effective alternatives for monitoring that result in increased market viability for soil-carbon projects. At least one federal agency has expressed interest in supporting this research in the future.

Staff will brief the Board about project status again at the March 2010 meeting. Project findings will be presented to the Board at the June meeting, with the final report due in mid-June 2010. The report will capture information about OWEB projects and insights gained from the pilot projects, will identify carbon-offset services and potential market opportunities in context of the agency’s mission and programs, and will provide a “roadmap” sketching out the steps necessary to take a carbon-offset project from inception to market transaction. These products will increase the agency’s understanding of the potential for ecosystem services markets to enhance restoration and conservation opportunities in Oregon by generating revenue for such activities.

III. Senate Bill 513 Ecosystem Services Markets Working Group

Senate Bill 513 (SB 513) charges the Sustainability Board with convening an Ecosystem Services Markets Working Group (Working Group), and names OWEB to provide staff support to this group. At the June 2009 meeting, the Board awarded \$290,000 in 2007–2009 Research non-capital funds to cover costs associated with staffing and contracted services to support implementation of SB 513, contingent upon final passage of SB 513 by the Legislature and signature by the Governor. SB 513 passed out of the Legislature on June 5, 2009, and was

signed into law by the Governor on July 23, 2009. The Working Group is charged with articulating the need for and advancing policy recommendations to create a framework for integrated ecosystem services markets in Oregon that produce positive ecological and economic outcomes.

On August 21, 2009, the Sustainability Board approved the proposed approach for the implementation of SB 513. In addition to the Working Group, which is comprised of individuals who are knowledgeable about and active in improving the ecological effectiveness of ecosystem services markets, an Ad Hoc Group has been convened to advise and help frame policy issues that will be addressed by the Working Group. Staff finalized membership of both groups (Attachment A), then worked with Oregon Consensus staff to contract for facilitation assistance for the SB 513 process. The contract was awarded to Kearns & West, which also facilitated the Counting on the Environment project that developed an ecosystem credit accounting system. In addition, staff developed an Interagency Agreement with the Institute for Natural Resources (INR) at Oregon State University to provide policy-analysis support to the SB 513 process. INR has extensive experience with ecosystem markets, including leading a process in 2008 to identify policies and strategic actions needed to develop an integrated ecosystem marketplace in Oregon.

On November 2, 2009, the Ad Hoc Group met for the first time. Discussion at the meeting focused on high-level policy issues that are important for the Working Group to address during their deliberations. The Ad Hoc Group suggested that the role of government is an especially important issue for the SB 513 process to articulate, and proposed four potential roles for government in the development of ecosystem services markets: 1) Developing shared goals; 2) Developing standards; 3) Providing technical expertise; and 4) Serving as a market maker. The Ad Hoc Group underscored the importance of ensuring that products from the SB 513 process increase the understanding of ecosystem services markets to legislators, state agency staff, landowners, and interest groups. The Ad Hoc Group suggested that the Working Group should build upon existing efforts underway in the state with the intent of positioning Oregon as a model for development of ecosystem markets.

The Working Group convened its first meeting on December 3, 2009. At the meeting, group members agreed upon the process and principles to guide their work over the next 12 months. The Working Group also discussed the absence of small landowners and some federal agencies, and decided to consider the addition of a limited number of new members to address these gaps. Members offered their input about what the state should aim to achieve with an ecosystem marketplace with the intent of creating a goal statement that will guide the group's work. The Working Group then proposed a framework for the final report that will articulate a vision and principles for development of integrated ecosystem services markets in Oregon, describe obstacles that have limited progress toward achieving this vision, and articulate opportunities and solutions to address these challenges (including short, medium, and long-term policy recommendations). Participants suggested several case studies that would exemplify both impediments that currently exist and areas where agencies and ecosystem marketplace practitioners are making progress.

The Working Group will hold its next meeting on January 27, 2010, and will hold seven additional meetings between February and October of next year. Staff will continue to update the Board about progress by the SB 513 Working Group at future meetings. It is anticipated that the Working Group will provide its final report and policy recommendations to the Sustainability

Board for review and approval in November 2010. The Sustainability Board will then submit the report to the Legislature by January 1, 2011. In the months ahead, staff may suggest OWEB submit a legislative placeholder for policy recommendations developed by the Working Group. Staff will revisit this question with the Board at the March meeting.

IV. Other Ecosystem Services Markets Efforts – Willamette Partnership

The Willamette Partnership, through its Counting on the Environment program, developed an Ecosystem Credit Accounting system that was released in August 2009. The system is intended for use by resource managers and regulated entities in the Willamette Basin that are interested in using an ecosystem credit accounting system for multiple ecosystem services, including wetlands, salmon habitat, upland prairie, and water quality. To date, 27 state and federal natural resource management agencies and non-profit organizations have agreed with the principles and content of this system.

The program now has moved into a two-year pilot phase, which will test version 1.0 of the accounting system through the use of pilot projects. Several projects underway or in development include the Gales Creek Project in the Tualatin River Watershed that will produce wetland, salmon habitat, and water temperature credits, and three projects in conjunction with the Freshwater Trust in Johnson Creek and the Marys and Mohawk Rivers that will result in temperature and salmon credits. These and other pilot projects will provide important lessons learned that will be used to refine the Ecosystem Credit Accounting system for future application.

The Willamette Partnership has several other projects underway related to development of an ecosystem marketplace. Its staff are in the process of developing additional currencies for habitat/biodiversity, nutrients (i.e., nitrogen and phosphorus), and sediment to supplement those currencies available in version 1.0 of the Ecosystem Credit Accounting system. They are in the process of developing technology tools, such as a web-based crediting platform and a working credit registry, to support use of the accounting system. The Willamette Partnership, in collaboration with several soil and water conservation districts, is offering trainings to local groups, landowners, and agency staff interested in using the accounting system. OWEB staff will stay in regular communication with the Willamette Partnership and others to track progress of these ecosystem services markets efforts and determine whether and how the agency might partner to advance this work.

V. Recommendation

This is an informational item. No Board action is requested at this time.

Attachment

- A. List of SB 513 Group Members

SB 513 Ecosystem Services Markets

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