

Progress Report

OWEB Research Grant, 208-8006-5780 (joint with Stan Gregory at OSU)

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December 30, 2009

Summary of Scope of Work

There are two over-arching parts for the UO component of this grant, both of which are highly collaborative with our OSU colleagues Stan Gregory and Randy Wildman:

Part A) Expand on the existing spatial framework of information to add new data on cold-water locations and fish usage of them to the geographic data on the Willamette historic floodplain; and

Part B) Organize and conduct a series of 'Willamette floodplain restoration lessons learned' mini-conferences in the south valley, mid-valley and north valley.

Requested information

1) Comparison of the actual accomplishments to the tasks and timeline established in the Statement of Work

- a) This portion of the work focuses on developing a tool for evaluating potential projects intended to achieve restoration of one or more ecological functions in and near streams in the Willamette River Basin of western Oregon. Cold water refuges and native fish richness are two of five key ecosystem services that are being mapped for the southern floodplain. Area of floodplain forest, volume of non-structural flood storage capacity, channel wetted area, and channel length relative to floodplain axis length are others that may be added as project resources allow. Since restoration projects under consideration depend on the physical and biological conditions of specific locations, the work relies on spatially explicit data and analyses to quantify the amount of each service at discrete locations in the floodplain. In order to carry out the analysis at a spatial grain sufficiently fine to serve the decision-making and monitoring objectives of intended users, we created a standard spatial reporting unit for a reach of the Willamette River from Eugene downstream to Albany. At present we have created the 100m spatial reporting units, populated it with quantities of the floodplain forest area, channel wetted area, and channel length for conditions, ca. 2000.

Since the last Progress Report (4/09), we have begun expanding the spatial framework of 100m reporting units to cover the entire river from Eugene to the Portland harbor. At present, this expanded framework is nearing the stage where it is ready for error checking. We anticipate completing error checking in early calendar 2010 and will then proceed to populate each 100m slice with information

on amount of floodplain forest and channel complexity ca. 2000. Our plan is to then create similar data using the Conservation scenario of the Pacific Northwest Ecosystem Research Consortium for the year 2050 as a comparative example of how much of each key ecosystem service would exist in each 100m slice under a restored condition. This will allow empirically-based comparisons of existing vs. restored conditions for factors shown by science to be critical to a healthy river.

b) Part B of the UO scope of work is complete.

2) Adjustment to the objectives

a) None to Part A of the project.

b) None to Part B.

3) Preliminary findings

a) While the work remains incomplete, it is clear that certain portions of the floodplain are much better equipped for restoration of only some of the 5 key ecosystem services, while other locations may offer the prospects of restoring significant amounts of all 5 services.

b) A number of meetings have been held with groups whose work pertains to floodplain restoration in the Willamette Valley to determine their interest in/support for use of these tools. General responses have been positive to strongly positive.

4) Expenditure reports through December 30, 2009

Salary:	\$72,709
Benefits:	\$34,722
Services and Supplies:	\$ 4920
Travel:	\$ 432
F&A ind. Cost:	<u>\$11,278</u>
Total to date:	\$124,062