

Grande Ronde Model Watershed Program Economic Assessment

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August 2001

Introduction

The Grande Ronde Model Watershed Program (GRMWP), founded in 1992, was one of the first watershed councils in Oregon. It encompasses the Grande Ronde Basin, which is located in the northeast corner of Oregon. Since its formation, the GRMWP has focused most of its effort on watershed restoration projects, through funds from the Bonneville Power Administration. The Oregon Watershed Enhancement Board also funds watershed projects in the Grande Ronde Basin. Many of these projects are coordinated through the GRMWP and have been approved by the GRMWP.

The Grande Ronde Model Watershed Program is also interested in promoting economic stability. One of the goals in the Program's charter states: "Protect the customs, culture, and economic stability of the citizens of the Basin, the Nez Perce and Umatilla Tribes, and the citizens of the United States of America." Thus, the GRMWP has a vested interest in assessing how restoration projects in the Basin affect the local economy.

This document details an economic assessment conducted on BPA and OWEB funded projects in the Grande Ronde Basin. The economic assessment examined the amount of income generated from these projects for local and non-local contractors and assessed whether materials were bought locally or outside of Union and Wallowa counties. It also characterized watershed restoration work by specific work types.

Project Funding

Projects funded by BPA and OWEB are awarded to a *grantee*, which then implements the project according to an approved project plan. They have the choice to either do the work themselves or contract out the work to a *contractor*. Grantees must be agencies, such as the U.S. Forest Service, ODFW or Public Works Departments. Therefore, if a private landowner is the project implementer, they must receive the funds through an agency, usually the local Soil and Water Conservation District.

Background on the Economic Impacts of Watershed Restoration

Watershed restoration has three types of economic impacts:

- market values associated with the restoration of impaired ecosystem services (improved water quality, flood control)
- non-market values (increased biodiversity, higher amenity values in restored ecosystems)
- the restoration industry itself (Doremus 2000).

This assessment has focused on the restoration industry. By understanding the industry, future projects can be adapted to have greater economic benefits to local communities. The ecosystem management industry (which includes watershed restoration work) is defined as work that:

- Enhances components and functions of natural ecosystems
- Protects, maintains, and/or restores the integrity and diversity of biological structure
- Manages natural ecosystems for social, economic, and environmental purposes; and
- Performs studies to enable informed decisions on protection, restoration, and management of ecosystems (OEI/EWP 2001)

With the timber industry declining in Oregon, rural economies have suffered. Communities traditionally dependent on the timber and wood products industries have experienced increased unemployment and a shift away from goods-producing industries. However, ecosystem management work may provide an opportunity to re-train and employ displaced timber workers. In western Oregon, displaced timber workers have re-entered the workforce through watershed restoration training and work programs, such as Jobs In The Woods. While over \$10 million dollars have been spent on watershed restoration in the Grande Ronde Basin by BPA and OWEB since 1992, the effects of these dollars on the local economy have not previously been assessed.

At present, restoration work is too little a portion of total employment to be noticeable when looking at Standard Industry Classification (SIC) codes. Because standard methods of looking at trends and data for labor are inadequate for assessing the restoration (ecosystem management) workforce, there is a need for the level of detail employed in this assessment to capture the local restoration industry.

The opportunity for projects funded through GRMWP to meet both ecological and economic objectives can be met through focusing on hiring local contractors and purchasing local materials. When local contractors receive the work and materials are purchased locally, the level of sustainability and self-sufficiency of communities is increased. Dollars stay in the local economy, multiplying their effect. Thus, by employing local contractors and buying materials locally with BPA and OWEB funds, there is a considerable opportunity to be assisting the sustainability of local communities.

Methods

This assessment looked at a sample set of BPA and OWEB projects to determine the economic impact on local communities and to capture the restoration workforce in the Grande Ronde Basin. Currently, all restoration projects funded by BPA and OWEB and coordinated through the Grande Ronde Model Watershed Program are entered into a database at the GRMWP office. A sample set of projects was chosen from this database. Projects assessed in this study were chosen based upon the following criteria: projects that received approval from the GRMWP, projects that had been completed with a final report filed, and projects that were funded in FY 1997-1999. There were a total of 50 projects that met this criteria, 20 funded partly with OWEB dollars and 35 funded in part with BPA projects. Thirty projects were examined from FY 1997; 18 from FY 1998; and 2 from FY 1999.

Accounting information from the project files and invoices was entered into a Paradox database linked to the existing GRMWP project database. BPA and OWEB funded projects both involve cost sharing with other funding sources, including in-kind services and materials from landowners. However, only BPA and OWEB dollars were tracked in this assessment, due to time constraints. All OWEB and BPA dollars were accounted for in detail.

Each budget item was entered according to a work type, in order to view which types of projects and work were being funded. Work types were broken out according to both the nature of the work and how the work was done. For example, helicopter noxious weed control was separated

from other noxious weed control methods, because of the added expense of the helicopter. **Figure 1** lists the work types used in this assessment. Work types that will be funded more often in the future are identified (pers. comm., Lyle Kuckenbecker).

When possible, pure labor, materials, and equipment costs were broken out for each item entered. Contractor information was entered, including the location of the contractor. Where possible, the location of material purchases was recorded, to track whether materials were being purchased locally on average. Contractors were contacted to gather further information on work types and labor costs.

Results

For the sample projects, OWEB, BPA, and BOR dollars were summed by work type. **Figure 2** shows the total dollars funded for each work type. Large woody material placement is the work type that received the most funding overall and from BPA, while water quality analysis received the most funding from OWEB. Funding priorities vary from year to year.

Figure 2

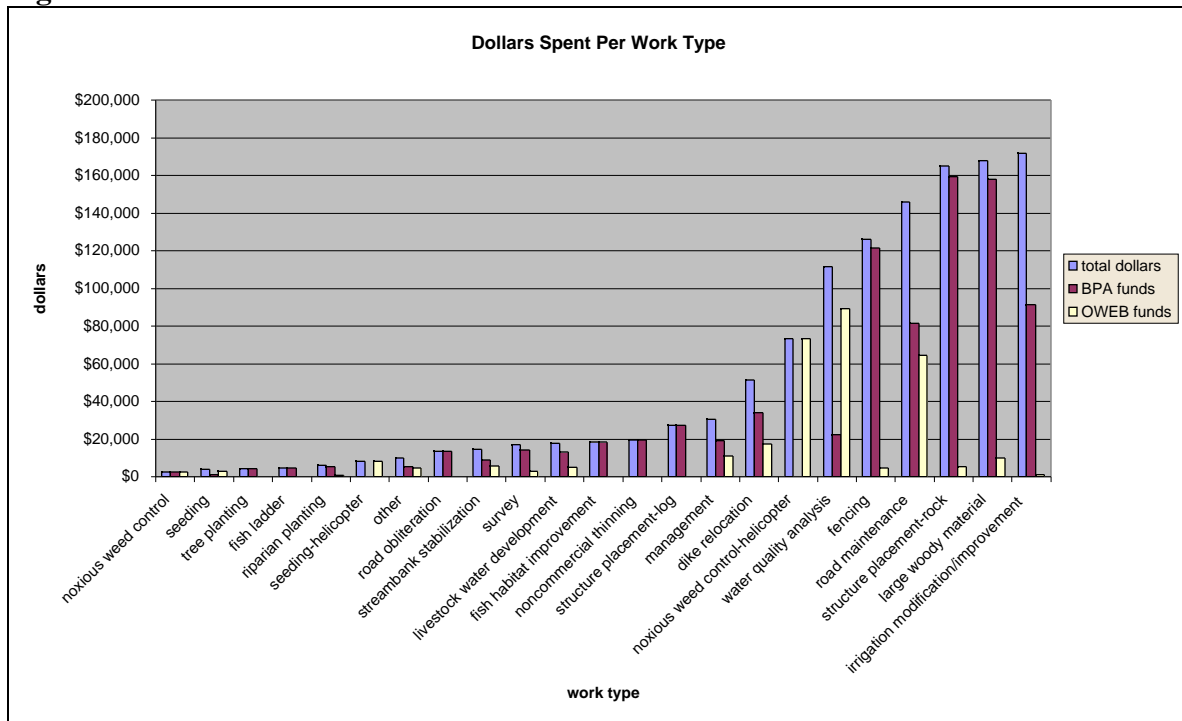


Figure 1: Work Types

Work Types	Code	Increased Future Funding
Reforestation		
Tree Planting	TP	
Stand Improvement		
Prescribed Burn	PB	Yes
Thinning (Non-commercial)	NCT	Yes
Terrestrial Survey/Monitor		
Watershed Assessments	WA	Yes
Wildlife Surveys	WS	
Vegetation Surveys	VS	
Aquatic Survey/Monitor		
Stream Survey	SS	
Water Quality Monitoring	WQ	
Watershed/Habitat Enhancement-heavy equipment		
Streambank Stabilization	STB	
Pond Construction	PC	
Wetlands Creation	WC	Yes
Dike Relocation	DR	
Helicopter LWD Placement	HLWD	
Heavy Equipment LWD Placement	ELWD	
Noxious Weed Control (Helicopter)	HNWC	
Seeding (Helicopter)	HSD	
Structure Placement - Rock	SPR	
Structure Placement - Wood	SPW	
Reconfigure Stream Channel	RSC	Yes
Fish Ladders	FL	
Fish Screens	FS	
Watershed/Habitat Enhancement-by hand		
Fencing	RF	
Noxious Weed Control	NWC	
Riparian Planting	RP	
Education/Outreach	EO	
Agriculture/Irrigation		
Livestock Water Development	LWD	
Irrigation Improvement/Modification	IRI	Yes
Roads		
Road Maintenance	RM	
Road Obliteration	OBL	

Table 1 shows the amount of dollars contracted out by work type. The majority of projects are at least in part contracted out. In fact, every project in the sample set where work was done on land or in-stream was in part contracted out. Notice that work types involving little contract work include riparian planting, road maintenance, water quality analysis, and management. Some of this is because BPA and OWEB dollars are funding materials while work is being done in house by the grantee. Other times, it is because these work types are generally more material intensive, versus other work types that are more labor and equipment intensive. This is not definitive, as some work types are only represented by a few projects and it is not known who did the work (contractors or grantees in-house) for some budget items.

Table 1

Work Type	% Unknown	% Contracted	# Projects
Fish Habitat Improvement	100%	0%	1
Fish Ladder	100%	0%	1
Seeding-Helicopter	0%	0%	1
Noxious Weed Control	0%	0%	1
Other	54%	0%	3
Water Quality Analysis	26%	0%	3
Management	0%	9%	16
Road Maintenance	58%	16%	10
Noxious Weed Control-Helicopter	0%	28%	2
Riparian Planting	22%	31%	5
Streambank Stabilization	61%	39%	3
Livestock Water Development	9%	57%	5
Dike Relocation	34%	66%	2
Fencing	8%	83%	8
Structure Placement-Rock	6%	85%	9
Survey	12%	88%	4
Large Woody Material	8%	91%	6
Irrigation Modification/Improvement	1%	99%	4
Noncommercial Thinning	0%	100%	1
Road Obliteration	0%	100%	2
Seeding	0%	100%	2
Structure Placement-Log	0%	100%	1
Tree Planting	0%	100%	2

Table 2 shows the types of expenditures by work type. It was not possible to separate every dollar into pure labor, materials, and equipment, so there are additional combination categories. This table shows some important distinctions between work types. For example, dollars expended for road maintenance are 93% materials, thereby limiting the potential of this work type to be providing additional labor. With noxious weed control-helicopter, a significant part is materials, but equipment and labor are still prominent. On the other hand, management is entirely labor.

Table 2

Work Type	%labor	%materials	%equipment	%materials + labor	%labor + equipment	%labor + equipment + materials	Total
fish habitat improvement	0%	0%	0%	0%	0%	100%	100
fish ladder	0%	0%	0%	0%	0%	100%	100
seeding-helicopter	0%	100%	0%	0%	0%	0%	100
other	0%	97%	0%	0%	3%	0%	100
noxious weed control-helicopter	0%	67%	0%	0%	28%	5%	100
dike relocation	0%	47%	7%	0%	0%	46%	100
irrigation modification/improvement	0%	3%	0%	0%	0%	97%	100
noncommercial thinning	0%	0%	0%	0%	0%	100%	100
structure placement-log	0%	0%	0%	0%	0%	100%	100
tree planting	0%	0%	0%	0%	0%	100%	100
large woody material	1%	0%	0%	0%	13%	86%	100
road maintenance	1%	93%	3%	0%	2%	1%	100
streambank stabilization	4%	0%	4%	0%	0%	92%	100
structure placement-rock	8%	5%	7%	0%	16%	65%	100
survey	8%	12%	0%	10%	0%	71%	100
seeding	15%	30%	23%	0%	32%	0%	100
road obliteration	36%	0%	35%	0%	29%	0%	100
livestock water development	41%	25%	14%	0%	21%	0%	100
fencing	41%	15%	0%	0%	36%	8%	100
riparian planting	43%	38%	18%	1%	0%	0%	100
water quality analysis	51%	19%	0%	9%	0%	22%	100
noxious weed control	100%	0%	0%	0%	0%	0%	100
management	100%	0%	0%	0%	0%	0%	100

Table 3 breaks out contracted dollars by locality. Local contractors are defined as contractors located in the county where the work takes place. Regional contractors are located in either Union or Wallowa counties. Non-regional contractors are not located in either county. While these definitions are for the purpose of identifying local contractors, it is important to note that many of the non-regional contractors in these projects were from nearby counties. Also, as the grantee of a project was not necessarily located in Union or Wallowa counties, their concept of hiring local workers would differ from these definitions.

Table 3

Locality	Percentage of Dollars Captured
Local (contractor is from same county as where work is done)	67%
Regional (contractor is from Union or Wallowa county)	8%
Non-regional (contractor is not from Union or Wallowa counties)	25%

Table 4 shows the amount of dollars contractors are awarded from BPA and OWEB dollars, by locality. Local and regional contractors, in addition to receiving the majority of the contracts, are also receiving higher average value contracts. Note that all contracts less than \$500 were removed from this calculation.

Table 4

Value of Contract	Local	Regional	Non-regional
Minimum	\$700	\$28,725.84	\$1,280
Maximum	\$120,750.00	\$34,040.66	\$19,500
Average	\$16,735.19	\$30,883.25	\$5,902.74
Total Projects	38	2	10

For pure materials, 57% were purchased in Union or Wallowa Counties and 8% were purchased outside of the region. For 35% of the materials, it was unknown where they were purchased. This was due to lack of access to invoices and information for certain projects. The majority of non-regional materials were usually materials not available in Union and Wallowa Counties, such as computer software or water quality equipment. A large portion of the locally purchased materials was raw materials such as rock and logs.

Discussion

In the projects sampled, local contractors are receiving a majority (75%) of the contracts and total dollars. The majority of materials (57%) are also being purchased locally. While this sample set is not entirely representative of the projects funded by BPA and OWEB, it does indicate that overall projects funded through the GRMWP are probably being contracted primarily to contractors in Union and Wallowa counties. With all of the land-based projects in the sample set at least partly contracted out, it can also be inferred that there is a substantial amount of funds from OWEB and BPA dollars being contracted for work in the Grande Ronde Basin. Thus, dollars funded through the GRMWP for restoration projects are staying in Union and Wallowa counties, adding to the resiliency of local economies.

Work done within floodplains and streams is subject to limited work windows, due to ESA listed salmonids in various streams and rivers in the Basin. This can limit the ability of restoration work to contribute permanent work positions. Work windows do not limit work types that are not within floodplains, such as noxious weed control, watershed assessments, and water quality analysis.

How contracts are awarded depends on the grantee of the funds. If the grantee is the U.S. Forest Service, the contract must meet set guidelines. However, if the grantee is a private landowner in conjunction with the local Soil and Water Conservation District, the landowner does not necessarily use a bidding practice to determine which contractor will do the work. Interestingly enough, the Wallowa-Whitman National Forest has changed its contracting methods since the sample set of projects was funded to assist local contractors. Future analysis of Forest Service contracts funded through the GRMWP should be compared to this assessment to see if there is a notable difference.

All work types except tree planting and noncommercial thinning were awarded to local or regional contractors. While tree planting only had two representative projects and noncommercial thinning one, this shows a possible difference between local and mobile workforce capacity and competitiveness to complete these types of work. As thinning was identified as a work type receiving more funding in the future to achieve fuels reduction objectives, this merits further exploration to determine local competitiveness for thinning contracts.

Based on conversations with local contractors and grantees of projects, there is local capacity and competitiveness for the work types represented in the sample set of projects, aside from tree planting. Work types that provide more local opportunity include work that requires specific knowledge, like local soil compaction rates. Local contractors with expertise in work types that require specific knowledge are at an advantage and their knowledge is reflected in higher rates (pers. comm., Sarah Hendrickson, Union SWCD). Work types that are more likely to be contracted outside of Union and Wallowa counties are generally more technical, requiring specific engineering knowledge.

Work types that are projected to receive increased funding in the future include watershed assessments, prescribed burning, and stream channel reconfiguration (pers. comm., Lyle Kuchenbecker). As there were no examples of these work types in the sample set of projects, additional research in the future as to the locality and competitiveness of contractors should be undertaken.

References

Beltram, James, et al. "Scope and Future Prospects for Oregon's Ecosystem Management Industry." Draft Report. Organization for Economic Initiatives, Inc. and Ecosystem Workforce Program. June 2001.

Doremus, Jessica. "Watershed Restoration: Economic Development for Humboldt County?" Humboldt State University, April 2000.