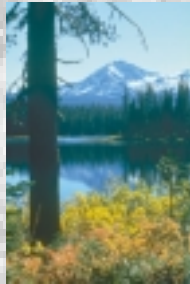


IMPROVING
JOBS, COMMUNITY,
AND THE
ENVIRONMENT:

*Lessons from the
Ecosystem Workforce
Project*

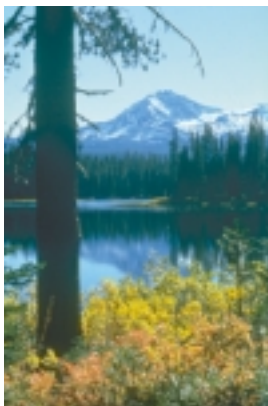


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SEPTEMBER 1998

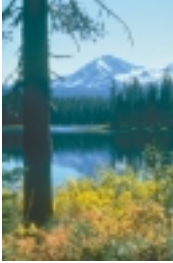
IMPROVING JOBS,
COMMUNITY,
AND
THE ENVIRONMENT:
Lessons from the
Ecosystem
Workforce Project



The Ecosystem Workforce Project is a joint project of the University of Oregon Labor Education and Research Center and Oregon State University Extension Service. Major funding was provided by the Northwest Area Foundation.

LABOR EDUCATION AND
RESEARCH CENTER
UNIVERSITY OF OREGON
SEPTEMBER 1998





Contents

I. Introduction & Overview	4
Introduction	4
Scope and Mission of the Ecosystem Workforce Project	6
Executive Summary	8
Acknowledgments	10
II. Strategies and Partners	12
Activities	13
Table 1: Significant EWP Events, 1994-1998	14
Table 2: Participating Partners, 1994-1998	15
III. Results	16
Quality Workforce	16
Ecosystem Management	21
Healthy Communities	24
IV. Key Lessons	28
Work Design Changes: Testing the stewardship approach	28
Influencing Market Forces: Plenty of work, but no jobs	29
Collaboration: Community-based strategies	30
Cultural Change: Old dogs learning new tricks	31
Voice and Visibility	33
V. Next Steps	34
VI. Letters from Ecosystem Workforce Partners	39



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Labor Education and
Research Center

1289 University of Oregon
Eugene OR 97403-1289

(541) 346-5054

<http://www.uoregon.edu/~lerc/index.html>

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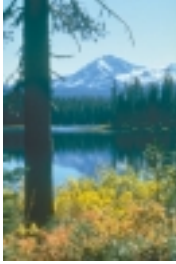
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APPENDICES

Appendix A: Overview:	
The Ecosystem and the Work Force, 1996	47
Appendix B: Training Documents	
1. Ecosystem Workforce Project Curriculum Summary	55
2. An Institutionalized Model for Developing an Ecosystem Workforce (IMDEW)	56
Appendix C: Policy Documents	
1. Memorandum of Understanding	66
2. Joint Letter from Governor of Oregon, BLM, and Forest Service	71
Appendix D: Ecosystem Workforce Project Evaluator's Final Report, EWP	74
Appendix E: <i>The High-Skill Approach to Ecosystem Management: Combining Economic, Environmental, and Social Objectives</i>	84
Executive Summary	85

I Introduction



I've logged for years without knowing what a riparian zone was. Things have to change.

"TEACHING OLD LOGGERS
NEW TRADES: OREGON
LOGGERS LEARN A NEW ETHIC
IN FORESTRY,"
*THE CHRISTIAN SCIENCE
MONITOR,*
2 JUNE 1995

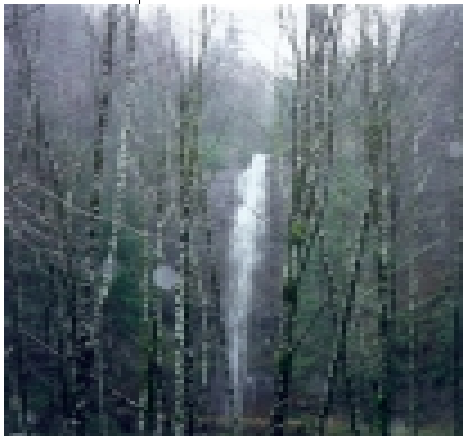
The forests of the Pacific Northwest have always played a critical role in the region's economy and society. But by the 1990s, global and national forces brought dramatic change. New technology, public policy decisions to limit timber harvests, and international competition contributed to a precipitous decline in timber-related jobs. The impact on rural communities was devastating.

In 1993, the Northwest Forest Plan (NFP) and the Northwest Economic Adjustment Initiative (NEAI) were created to drive the shift to an ecosystem management paradigm and to respond to the needs of rural timber communities during this transition. The Watershed Restoration/Jobs-In-The-Woods component of the NEAI created the opportunity to establish a solid link between economic (jobs-related) and environmental objectives.

The Ecosystem Workforce Project (EWP) was initiated in 1994 to demonstrate how this link could be forged. Its key premise was that communities can meet economic and environmental objectives only with a clear focus on creating quality jobs for the community. Thus the twin goals of healthy forests and quality jobs became the hallmark of the EWP. Funded by a three-year grant from the Northwest Area Foundation, the EWP evolved as a partnership-driven effort to coordinate a series of demonstration projects that would test this belief.

The fundamental goal seemed clear, if not simple: redesign forest and watershed work so that it provides good jobs that help sustain the community. In actuality, this goal represented a huge shift from the situation in 1993: a highly cost-competitive marketplace that produced high turnover, low-wage jobs which rarely drew from the local community's labor pool.

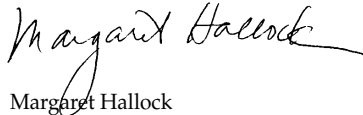
The EWP pursued its quality jobs objective on many fronts and at many levels. Discussions among decision-makers in the federal and state land management agencies pushed for policy change, while community-based training projects pursued on-the-ground results. Each community-based project—numbering four to seven each year—was guided by a local steering committee that identified the forestry work to be done, recruited the trainee crews, and facilitated all aspects of the project. Nearly all of the projects focused on watershed restoration and forest management work on federal lands, and much of the effort was concerned with work design, contracting, and procurement issues. Technical and organizational support was available from the EWP staff, and quarterly forums provided networking and opportunities to exchange information among the different project sites.



The lessons learned from the EWP are crucial for several continuing discussions:

- **identifying how to develop quality jobs**
- **standardizing emerging ecosystem management practices**
- **ensuring rural community sustainability**
- **helping federal agencies meet local community needs**

This report highlights several key lessons from this four-year “experiment”—lessons which can inform policy discussions at all levels as well as business practices in the developing ecosystem management industry. It tells the story of how rural communities, in partnership with state and federal agencies, can create quality ecosystem management jobs.



Margaret Hallock
Principal Investigator, Ecosystem Workforce Project
Director, Labor Education and Research Center

What an opportunity to help spread what knowledge I had from years in the woods and to absorb valuable information from ecosystems as a total outlook... The first year in Tillamook I had 12 workers, old and young, all coming from mill or logging backgrounds. We did jobs for BLM, ODF, the Forest Service, ODF&W, and the SWCD. We got a wide variety of skills from these different agencies. We worked in streams and in the coastal mountains—down low where the ocean tide affects the stream dramatically. I could honestly say that I was involved in something I believed in.

TERRY SMITH,
CREW LEADER
SOUTHERN
WILLAMETTE ECOSYSTEM
WORKFORCE PROJECT

Scope and Mission of the Ecosystem Workforce Project

The Ecosystem Workforce Project (EWP) was created to demonstrate that workers from timber communities could be trained and employed in ecosystem management work in a way that would benefit the community and the ecosystem itself. From 1994 to 1998, the EWP established and supported work-based training programs in eight Oregon communities, training over 150 workers and involving scores of partners. Parallel work was undertaken in the policy arena, as the EWP led or supported change efforts both within the federal agencies and in the legislative process. We dubbed this the “sandwich approach:” combining on-the-ground demonstrations of the feasibility of a quality jobs strategy with high-level policy discussions to affect ecosystem management work design and contracting policies.

The EWP began in the context of a shift in the objectives of federal land management agencies from traditional (resource extraction) forestry to a broader goal which combined sustainable resource management and sustainable communities. A key element of this shift was to define “ecosystem management” to include social, economic, *and* environmental objectives and thereby shape the impact of ecosystem management decisions on the local community in terms of these *interdependent* objectives.

The contribution of the EWP to this shift was our focus on quality jobs. We believe that the forest and watershed jobs that remain should be family wage jobs that help support the community. In 1993, preliminary investigation showed that the average annual wage in reforestation was about \$6000 per year. Jobs were often short-term and punctuated with spells of unemployment when workers had to travel the region to find enough work.



We sought a different path and worked to create *quality* jobs that

- pay at least \$10 per hour plus health benefits;
- provide employment for longer periods, ideally throughout the season; and
- are skilled and safe.

Our focus on quality jobs was a good fit with the emerging field of ecosystem management. The work that needs to be done in the woods is not a set of separate, unrelated tasks that can be prescribed by professionals and carried out by unskilled workers. Rather, ecosystem management is a complex and adaptive process requiring skilled workers who understand the ecosystem objectives and can analyze and solve problems in the field—workers who are more akin to “applied ecologists” than treeplanters.

The strategy of the EWP was to create quality jobs by influencing both the supply and demand sides of ecosystem management. On the supply side of the labor market, our demonstration projects provided training and employment for dislocated workers, improving their skills through classroom and field work. This training was well-received and effective, producing a potentially steady supply of ecosystem management workers.

As the training delivery was addressing the supply side, EWP work increasingly focused on the demand side of the labor market equation. These trained, skilled graduates needed good jobs—*quality jobs*—which were yet to be the norm in this industry. Our efforts shifted to discovering ways that ecosystem management work could be designed and contracted to provide longer-duration, higher-skilled, family wage, *quality jobs*.

We organized our work and evaluated its results in three areas:

- **establishing a quality workforce**
- **providing high-quality ecosystem management jobs**
- **improving community health**

Our overall orientation was “action research”—interventions and activities based on analysis and feedback. We evaluated our work from the beginning, with the help of Gerry Brodsky of Public Knowledge, Inc., who provided us with regular, interactive feedback and reports. These reports allowed us to measure our progress and kept us aligned with our stated objectives. Brodsky’s final report is included in Appendix D.

These projects are giving Oregonians who have lost timber industry jobs a chance to develop the kind of ecosystem management skills that are increasingly in demand. The projects also demonstrate to land management agencies that paying people family wages and providing training is a cost-effective way to get restoration work done.

GOVERNOR JOHN KITZHABER
 “JOBS IN THE WOODS
 PROGRAM STARTS IN
 TILLAMOOK COUNTY,”
 NEWPORT NEWS-TIMES,
 13 MAY 1995

Executive Summary

The Ecosystem Workforce Project intended to train and employ displaced timber workers and improve the quality of jobs in the emerging ecosystem management industry.

The heart of the EWP was eight community-based projects (some multi-year) that offered training and jobs to dislocated timber workers. These projects completed a wide variety of work, mainly on public lands managed by the U.S. Forest Service and the Bureau of Land Management. From stream surveys to bank stabilization, workers in these projects took on the tough and varied work needed in Oregon's watersheds, and they learned the science and practice of ecosystem management.

The EWP was a partnership effort. Education specialists provided the curriculum and training, land management agencies designed project work and new procurement arrangements, community representatives provided guidance, and state and federal agencies coordinated innumerable operational details and focused attention on policy issues.

We organized our work and assessed results in three key areas:

QUALITY WORKFORCE

The EWP developed and validated a skill-based education program that combined classroom and field training. The training was designed to produce "applied ecologists" who could solve problems on the ground. We established a new apprenticeship and occupational category now recognized by state and federal agencies.



The eight community-based projects graduated a cadre of over 150 trained ecosystem management apprentices in four years. They worked at jobs that paid over \$10 per hour and were employed for a longer duration than the average for workers in this industry.

ECOSYSTEM MANAGEMENT

The EWP occurred in the context of a radical shift in land management objectives, from traditional resource management to "ecosystem management," which combines economic, ecological, and social objectives.

The *quality jobs* approach to ecosystem management is a viable, proven strategy that can help federal agencies meet these interdependent goals.

Land management agencies can save time and money in planning and supervision by using longer-term contracting arrangements and designing work for a high-skill workforce. The EWP and related efforts helped initiate experiments within land management agencies to design work as bundled contracts, and to explore the possibilities of stewardship contracting alternatives.

It is one thing to upgrade the skills of workers; it is another thing to provide good jobs for them. There is a human cost to programs that raise expectations. Participants in the EWP were pioneers in a new and unstable industry, and many were unable to find jobs upon graduation. However, there are new signs that the shift to ecosystem management and a quality jobs approach is taking hold in federal land management agencies, which holds promise for employment of future ecosystem management workers.

HEALTHY COMMUNITIES

Most of the communities involved in the EWP have taken the first steps toward developing a local ecosystem management industry, with the involvement of land management agencies, private landowners, workers, and contractors. Building the infrastructure of collaboration was no small feat, and at times took heroic effort on the part of key individuals.

These communities are now more capable of participating in the management of their local natural resources for economic as well as ecological benefits. In Oregon, communities will look more and more to local watershed councils for leadership on creating and sustaining workable ecosystem management partnerships.

* * *

The work of the EWP continues. The network of communities dedicated to the quality jobs approach will be strengthened with continued investment in the technical assistance, advocacy, and training that have been the EWP activity for four years. The context will shift from demonstration projects to watershed council projects, but the effort and goals remain the same: to provide skilled jobs for workers that can also sustain rural communities and contribute to quality ecosystem management.

The EWP offers a new and viable model that can help communities meet these multiple objectives, and many federal and state agencies have signed on to a quality jobs platform as part of their work. The EWP will continue to contribute by providing on-the-ground, realistic, and proven solutions.

Acknowledgments

Many partners made this project possible, not only in terms of financial support but also by providing unwavering commitment to the workers, ecosystems, and communities.

First among the contributors are the Northwest Area Foundation and Program Officer Tripp Somerville, who has been our champion and an important contributor to our work for the last four years. Early funding was also provided by the Oregon Economic Development Department.

The EWP Team was convened early on to direct and guide the project. Charles Spencer at the Labor Education and Research Center (LERC), University of Oregon, energetically coordinated the project for four years, with Nancy Arbogast providing facilitation and staff assistance. Charles Spencer and Flaxen Conway of Oregon State University Extension Service worked with Bob Warren of the Oregon Economic Development Department to launch the initial community-based demonstration projects in 1994 and 1995. Flaxen Conway and Mike Cloughesy of Oregon State University Extension Service led the effort to create a comprehensive curriculum and training delivery for emerging ecosystem management workers.

EWP Team

Mike Cloughesy

Extension Forester
Oregon State University Extension Service

Flaxen Conway

Community Outreach Specialist
Oregon State University Extension Service

Margaret Hallock

Director, Labor Education
and Research Center
University of Oregon

Brad Leavitt

USDA Forest Service
Willamette National Forest

Ron Ochs

Watershed Restoration/JITW Coordinator
USDA Forest Service
Pacific Northwest Region 6

Bob Rheiner

Economic Manager
Oregon/Washington Bureau
of Land Management

Charles Spencer

Coordinator,
Ecosystem Workforce Project
Labor Education and Research Center
University of Oregon

Beverly Thacker

JITW Regional Coordinator
Oregon Economic Development
Department

Bob Warren

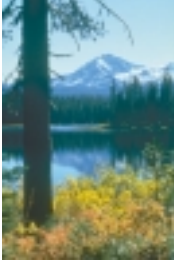
Regional Coordinator
Regional Development Division
Oregon Economic
Development Department

The EWP's local and regional partners number in the hundreds, but the following organizations merit special recognition for their support and contributions, without which the EWP could not have succeeded:

Applegate Ranger District Rogue River National Forest Ashland	Oregon Economic Development Department Salem
Bureau of Labor and Industries Apprenticeship Training Division Portland	Oregon Human Development Corporation Salem
Bureau of Land Management Oregon State Office Portland	Pierce, Inc. Tillamook
Bureau of Land Management Districts Medford, Salem, Coos Bay, and Eugene	Pinchot Institute for Conservation Washington, D.C.
Cardinal Services Coos Bay	Rogue Community College Ashland
Community Services Consortium Newport and Florence	Rogue Institute for Ecology and Economy Ashland
Coquille Watershed Association Coquille	South Coast Business Employment Corporation Coos Bay
E&S Environmental Restoration, Inc. Corvallis	Southern Willamette Private Industry Council Eugene
Government Contract Acquisition Program (GCAP)	Sweet Home Ranger District Willamette National Forest Sweet Home
Governor's Watershed Enhancement Board (GWEB) Salem	United Brotherhood of Carpenters and Joiners of America Portland and Washington, D.C.
Illinois Valley Ranger District Siskiyou National Forest Ashland	U.S. Forest Service Pacific Northwest Region 6 Portland
The Job Council Ashland	Willamette National Forest Eugene
Lane Community College Eugene	Willamette Valley Restoration Mollala
Management and Training Corporation Tillamook	Zigzag Ranger District Mt. Hood National Forest Rhododendron
Northwest Forest Contractors Association Eugene	

II

Strategies and Partners



Our ambitious goals—producing a skilled workforce, quality jobs in the emerging ecosystem management industry, and promoting community stability—involved layers of activities and a web of partnerships. But there was a central strategy for each goal:

GOAL	STRATEGY
<p>Quality Workforce: <i>Our goal is to have high-skill, high-wage, “certified” ecosystem management workers employed in the local ecosystem industry doing a variety of ecosystem management work.</i></p>	<ul style="list-style-type: none"> • Target the supply side of the labor force by upgrading the skills of workers. • Develop and test a new curriculum for ecosystem management workers and establish an apprenticeship program combining work and learning.
<p>Ecosystem Management: <i>Our goal is to have watershed-based, multi-tasked, multi-season ecosystem management work (quality jobs) as a primary focus for public land management agencies and private landowners.</i></p>	<ul style="list-style-type: none"> • Help land management agencies re-engineer how work is conceptualized, planned, and contracted. • Work with these agencies to design ecosystem management projects that create quality jobs for local skilled workers.
<p>Healthy Communities: <i>Our goal is for communities and community-based organizations to advocate for quality workforce outcomes as part of natural resource management.</i></p>	<ul style="list-style-type: none"> • Help community organizations engage in building the ecosystem management industry in a way that provides economic as well as ecological benefits. • Build a network of community organizations which actively participate in decisions about public land management and who make quality jobs and training a key part of this activity.



Activities

To bring these strategies to life, we began by building an infrastructure of collaborative partnerships in selected communities. Representatives from state and federal agencies, educational institutions, and the communities formed local steering committees to launch the new projects and guide the training programs. EWP staff provided the research, technical assistance, facilitation, and networking that proved to be the “glue” that held these cumbersome activities together.

The heart of the EWP lies in the creation and support of the eight on-the-ground demonstration projects established across Western Oregon over the last four years. Beginning with a small pilot project in Sweet Home in 1994, community project sites developed as follows:

1994	1995	1996	1997	1998
<ul style="list-style-type: none"> • Sweet Home (pilot) 	<ul style="list-style-type: none"> • Sweet Home • Rogue Valley • North Coast • Waldport (Mid-Coast) • Oakridge • Roseburg 	<ul style="list-style-type: none"> • Sweet Home • Rogue Valley • North Coast • Mid-Willamette • South Coast • Newport (Mid-Coast) 	<ul style="list-style-type: none"> • Sweet Home • Rogue Valley • North Coast • Mid-Willamette • South Coast • Southern Willamette 	<ul style="list-style-type: none"> • Sweet Home • Rogue Valley • Mid-Willamette • South Coast

Each project employed 5-16 trainees for 6-18 months. On average, the crews attended one day of structured training per week and four days of field work. Where possible, structured training directly preceded related field project work. The dynamics of coordinating the field work, training, equipment, bidding, and contract management provided an important learning experience for the trainees and the steering committees. (See Appendix A for an overview of the 1996 projects.)

A significant amount of EWP effort went into creating and maintaining these projects. In addition to this community-based work, we convened regional forums to network the separate projects and link to similar efforts in Washington and California. These forums drew 40-80 participants from across the state and region to discuss the current status of each project, brainstorm solutions to local challenges, and form task groups to formally address obstacles or opportunities. These day-and-a-half forums were typically held in Eugene; the agenda included presentations, work sessions, feedback discussions, and informal networking opportunities.

Finally, high-level policy advocacy and coordination across agencies created the third significant focus of our efforts. Table 1 presents a summary of the milestone events that marked our progress along the way.

Table 1:
Significant EWP
Events,
1994–1998

1994	<ul style="list-style-type: none"> • Pilot Demonstration Project in Sweet Home, partially funded by a state economic development grant • Northwest Area Foundation funding begins • The first statewide EWP Forum held in Eugene (60 attendees)
1995	<ul style="list-style-type: none"> • Expansion to six local demonstration projects • Curriculum designed by a collaborative team of educators, scientists, and industry and agency representatives • Apprenticeship program established • Revolving Loan Fund established in Tillamook • The second EWP Forum held in Beaverton (144 attendees) • Regional networking begins with California and Washington projects
1996	<ul style="list-style-type: none"> • Six local demonstration projects • Sweet Home awards first “Best Value” contract • EWP training offered to Hire the Fisher crews • Two-year local economic development grant awarded to Mid-Willamette project • Ecosystem Management Worker Joint Apprenticeship and Training Council (JATC) is formed • JTPA recruitment guide published • State economic development grant funds Job Placement Specialist and EWP Forums • Three EWP Forums held
1997	<ul style="list-style-type: none"> • Five local demonstration projects • Memorandum of Understanding signed between ten federal agencies and the State of Oregon clarifying social and economic objectives as part of ecosystem management • State economic development funds support a community-based workforce assessment in the South Coast area • Ford Foundation grant awarded to research the impact of the high-skill approach to ecosystem management • Three EWP Forums held; March Forum draws federal agency representatives from Washington, D.C.
1998	<ul style="list-style-type: none"> • Four local demonstration projects • Department of Labor approves a new “ecosystem management worker” occupational code • State economic development grant funds efforts to assist watershed councils in contracting for quality “results” and quality jobs • Forest Service, BLM, and Governor of Oregon sign a letter urging that “quality jobs” be established as a criteria for all contracts by 2002 • One EWP Forum held, along with a symposium on study of the impact of a high-skill approach to ecosystem management

Participating Partners

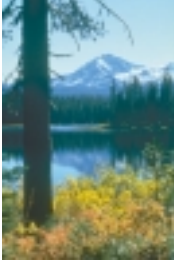
Representatives of over 50 organizations played significant roles in the EWP, taking a partnership approach to decision-making and the project management process. They were a key factor in producing successful EWP outcomes and useful lessons.

Federal Agencies	Bureau of Land Management Forest Service	Medford, Coos Bay, Salem, Eugene, and State Office Region 6, Willamette, Rogue, and Mt. Hood National Forest
Private Industry	E&S Environmental Restoration, Inc. Habi-tech Northwest Forest Contractors Association Pierce, Inc. Public Knowledge, Inc. Shiloh Forestry Skookum Reforestation	Corvallis Florence Eugene Tillamook Salem Eugene Eugene
Education	Chemeketa Community College Clatsop Community College Lane Community College Oregon State University Extension Service Rogue Community College Southwest Oregon Community College Tillamook Bay Community College	Salem Astoria Eugene Eugene, Covallis, Gold Beach Medford Coos Bay Tillamook
Labor Unions	United Brotherhood of Carpenters Western Council of Industrial Workers	Portland Sweet Home, Roseburg
State Agencies	Bureau of Labor and Industries, ATD Government Contract Acquisition Program Governor's Watershed Enhancement Board Oregon Coastal Zone Management Agency Oregon Department of Forestry Oregon Economic Development Department	Portland Statewide Salem Tidewater Sweet Home, Tillamook Salem
Community-Based Organizations	Rogue Institute for Ecology and Economy Willamette Valley Reforestation, Inc. Labor Economic Action Project	Ashland Mollala Coos bay
Watershed and Conservation Organizations	Coquille Watershed Association Lincoln County SWCD Siuslaw SWCD Siuslaw Watershed Council Tillamook SWCD Umpqua Basin Watershed Council	Coquille Newport Mapleton Florence Tillamook Roseburg
JPTA Providers	Oregon Human Development Corp. Community Services Consortium So. Willamette Private Industry Council The Job Council Management and Training Corp. South Coast Business Employment Corp.	Woodburn Newport, Lebanon Eugene Medford Tillamook Coos Bay
Regional Partners	Department of Natural Resources Watershed Resource Training Center Redwood Community Action Agency Columbia-Pacific RC&D	Olympia, WA Hayfork, CA Eureka, CA Aberdeen, WA

**Table 2:
Participating EWP
Partners,
1994–1998**

III

Results



The EWP produced concrete results in all three areas of activity—quality workforce, ecosystem management, and healthy communities.

Quality Workforce

To create a “certified” workforce, the EWP spent a significant amount of energy and resources to develop, deliver, and institutionalize ecosystem management training. The nature of the work (high-skilled, diverse, stable, and providing a family wage) was also of primary importance. Each of the eight community-based projects was a vehicle to demonstrate how to link training, project work, and compensation.

Curriculum development

In 1996, the Oregon State University Extension Service convened a committee of 18 representatives from industry, education, agencies, and communities to create a 25-module training curriculum that covers science, technical, and business topics appropriate for the ecosystem worker. (See Curriculum Summary, Appendix B-1.) The curriculum includes competency standards, instructor guides, and references. It was revised in 1997, and is available in Spanish and English.

Ecosystem Workforce Project (EWP) Curriculum Summary

Watershed Processes and Ecology

Forest Ecology

Forest Management

Wildlife Habitat Management

Watershed Management, Restoration, and Enhancement

Safety and Technical Knowledge

Basic Fire Suppression and Safety

Land Measurement and Survey

Stream Measurement and Survey

Worker Health, Equipment Operation, and Safety

Forest Resource Protection and Regulation

Business Development and Management

Interpersonal Skills

Contracting Skills

Technical Business Skills

Apprenticeship

In 1995, the EWP was instrumental in the process that registered a Joint Apprenticeship and Training Committee (JATC) for Ecosystem Management Workers with the Bureau of Labor and Industries. This committee, comprised of eight employer and employee representatives, oversees apprenticeship standards and policies, certifies apprentices and journeymen, and adjusts the supply of qualified ecosystem management workers to the demand of the labor market. Each of the eight local training projects enrolled their worker-trainees in the apprenticeship program, and the EWP continues to be active on the JATC. The number of participating employers continues to grow as the JATC actively recruits industry leaders who see a future in multi-disciplinary ecosystem management work.

Partners across the region are attempting to create similar apprenticeship certification that will be recognized throughout Washington, California, and Oregon.

Trained workers

EWP's community-based projects graduated a cadre of over 150 trained ecosystem management apprentices from 1994 to 1998. Trainees completed an average of 200 classroom hours and 1000 field training hours, and received a certificate of completion upon graduation. A 1997 follow-up study identified the current employment status of 123 graduates:



We have followed the Forest Plan to make sure that the jobs we come up with will provide family wages and benefits equivalent to what we are losing, and that they maintain the viability of our communities.

VERLE STEEL
WESTERN COUNCIL OF
INDUSTRIAL WORKERS
"LABOR HELPS DEFINE
THE SHAPE OF
JOBS IN THE WOODS,"
THE INITIATIVE,
JULY 1994

- 39 were working for registered apprenticeship program employers (31 of these continued to work in community-based training projects).
- 34 had worked in the industry in the past 12 months, not necessarily doing ecosystem management work.
- 50 were considered discouraged and had left the industry. (See further discussion below.)

Wages and work duration

EWP demonstration projects show that paying a \$10-\$13/hour wage with benefits for ecosystem management work is possible within the existing federal agency management and budgeting framework. Oregon employment data for 1993 showed average weekly earnings in the forestry services industry (SIC 851) were \$482, roughly comparable to the trainees' earnings, but that these workers were employed an average of only 12 weeks a year. There must be enough paid work available in a year to keep skilled workers in the workforce, and this makes duration of ecosystem management projects a critical issue.

Our community-based projects were able to bundle work together to secure 6-12 months of employment for each crew, a significant success attributed to the efforts of dedicated steering committee members and our partners in the agencies.

Job placement coordinator

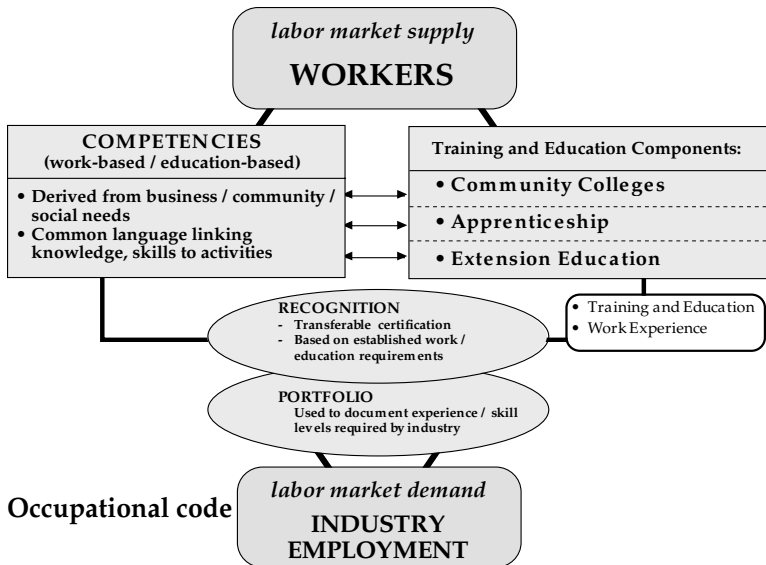
Finding jobs for project graduates in this emerging industry was an important and challenging objective. In 1997, the Oregon Economic Development Department provided a two-year grant to the Rogue Institute for Ecology and Economy to hire a full-time specialist to establish effective links between trained workers and emerging public and private job opportunities. Working closely with EWP staff, Placement Coordinator Jake Crabtree:

- referred program graduates to potential employers;
- initiated the Eco-Tech Newsletter for employers and workers;
- consulted with watershed councils on work design, procurement, and the availability of high-skill workers;
- made presentations at several conferences and forums;

- established regular contact with the press and local legislators; and
- began networking with contractor associations for job placement opportunities.

Institutionalizing training and education

In 1996, an EWP-initiated task group met to develop a model for ecosystem management training that is worker-centered and links community college courses, extension education, and apprenticeship training. They proposed a system of common skill and competency standards, and a way to foster recognition across several accreditation systems. Their resulting proposal, an “Institutional Model for Developing an Ecosystem Workforce (IMDEW),” is based on the philosophy that *healthy communities and healthy environments go hand-in-hand, and quality jobs are part of healthy communities*. IMDEW emphasizes outcome-based learning with clear competencies that can be met by a mix of experience and training. The model also creates links between the EWP curriculum, current and anticipated community college programs, and other non-credit learning opportunities (such as training for watershed council members and landowners).



I want to keep working in the woods and I want to stay in Sweet Home. The government is changing the way it handles the forests around here, and my best bet is to learn to do the work land managers will want done in the coming years.

1995 SWEET HOME
CREW MEMBER

“ECOSYSTEM MANAGEMENT
OPPORTUNITIES FOR WORKERS
AND CONTRACTORS,”
BUSINESS VIEWPOINT,
JUNE 1995

In early 1998, the Department of Labor approved an EWP request for a new Dictionary of Occupational Titles code for Ecosystem Management Workers. This brings national recognition to ecosystem management as a new occupational category, distinct from others which have a narrower skill and education requirement. National recognition will accelerate development of additional education and training resources and sharpen the focus of labor market data collection on this emerging industry.

Impact on workers

There is no denying that the most significant economic, environmental, and social impacts were felt by workers themselves. For some, the wages, training, and opportunity to work outdoors in tandem with federal agency staff was an economic and social benefit that will long outlast the EWP. Unfortunately, many graduates have not found a developed ecosystem management industry awaiting them. Our hope is that forestry practices will continue to evolve, utilizing the best practices learned in the EWP and creating more and more quality ecosystem jobs.



Ecosystem Management

Our success in training and bundling work projects is strong evidence that a quality ecosystem management workforce can be created. Sustaining that workforce, however, requires more demand for these high-skill workers. The EWP explicitly targeted work design and procurement changes within the Forest Service and BLM that would demonstrate the benefits of a high-skill (quality jobs) approach.

Work design and procurement

The EWP concentrated its efforts on federal land management because the Forest Service or BLM manages approximately 60% of the forested land in Oregon. More importantly, the NEAI and its multi-agency partnership approach to transitions in timber communities provided the opportunity to engage in powerful creative problem-solving and innovation with these federal land management partners.

Due in part to the advocacy of the EWP, both the Forest Service and the BLM project managers now have more internal support for the kind of innovative and outcome-based project design that will support a quality jobs approach to ecosystem management. In some cases, this required a reinterpretation of existing regulations; in others, line officers were able to create new agreements, broaden and bundle project tasks, add new contract language, and work across ownership boundaries to meet ecosystem management goals. For example, the Sweet Home Ranger District's experience with adding quality jobs criteria to ecosystem management contracting provides a model for watershed councils and other Forest Service and BLM districts in Oregon.

***“The High-Skill Approach to Ecosystem Management:
Combining Economic, Environmental, and Social Impacts”***

In 1997, the Ford Foundation funded a one-year EWP study to assess the impacts of selected JITW projects that followed the quality jobs approach. Gerry Brodsky of Public Knowledge, Inc. (who was also the external evaluator for the EWP), interviewed project participants and analyzed responses to assess the economic, environmental, and social impacts of the high-skill model. His research concluded that there are significant economic benefits to the land management agencies—mainly in terms of administrative savings and increased quality of work—when work is designed for a high-skill workforce. Excerpts from this report can be found in Appendix E, and the entire report is available from the Labor Education and Research Center at the University of Oregon.

High-quality project work completed

EWP projects accounted for approximately 10% of the JITW dollars spent in Oregon each year. The projects generally yielded high-quality results. According to “The High-Skill Approach” study:

“There is evidence that the quality of the ecosystem restoration work is higher in this approach due to workers’ ability to make judgments and assessments to meet overall objectives.”

The projects in Oregon employed 50-80 workers (trainees and project coordinators) every year and completed a significant amount of ecosystem management work. The total dollar volumes of work completed over the past three years is shown below:

<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>TOTAL</u>
\$1.5M	\$1.4M	\$1.9M	\$4.8M

Industry development

Low-bid contract awards, abuse of undocumented workers, and unpredictable forestry practices have made contracting in the forest industry highly competitive and resistant to outside influence. In the private sector, industrial land owners usually have long-standing agreements with preferred contractors and little incentive to enhance that relationship (with the high-skill approach) or seek alternatives.

The EWP offered these contractors a collaborative, pro-active approach to the ecosystem management changes that were inevitable. The response was unenthusiastic at first, but over the course of four years, several contractors began to warm to the benefits of a highly-skilled, motivated workforce. Some initial skeptics have since hired project graduates, attended EWP Forums, and joined the apprenticeship committee. While measurable industry development will take many years, the EWP has provided an opportunity for contractors to begin the discussion and take the first steps.

Multi-agency initiatives

State and federal agency partners working with the EWP recognized the need to build a multi-agency approach to linking economic, ecological, and social objectives that would continue beyond the Northwest Economic Adjustment Initiative. This discussion led to an agreement among ten federal natural resource management agencies and the State of Oregon to include the concept of quality jobs and healthy communities in their ecosystem management mission. This decision is documented in a Memorandum of Understanding (see Appendix C-1) which also created a Partnership Group that meets monthly to monitor and discuss progress toward quality jobs goals.

In addition, the EWP was a catalyst for a collaborative effort for quality jobs launched by representatives of the BLM, Forest Service, Oregon Economic Development Department, contractor community, labor, and the Governor's office. The result is an agreement by the Forest Service and BLM that, by the year 2002, all procurement and other management actions will incorporate local social and economic needs, including quality jobs. A joint letter from Governor Kitzhaber, Forest Service Deputy Regional Forester Bob Williams, and BLM State Director Elaine Zielinski calls on state resource management agencies to use the agreement as a model to set local quality job goals and benchmarks. (See Appendix C-2.)

To operationalize this goal, Forest Service Region 6 and Oregon BLM line officers responsible for directing local land management units will meet to discuss how to create quality jobs and how to make this "business as usual" for the Forest Service and BLM.

The Forest Service and BLM are committed to make quality jobs a priority... But we also know that we are a long way from making this approach "business as usual." Linking the community and landscape objectives of ecosystem management will require major cultural and institutional change.

ROBERT RHEINER,
ECONOMIC MANAGER
OREGON-WASHINGTON
OFFICE,
BUREAU OF LAND
MANAGEMENT

Healthy Communities

Oregon communities were tremendously affected by the environmental crises, technological changes, public policy decisions, and fundamental economic changes of the 1980s. Many have begun to regain strength and, in some cases, are finding ways to participate in local resource management. The quality jobs approach of the EWP offers them a tool for pursuing locally-determined goals for a healthy and prosperous ecosystem.

Collaborative partnerships

The EWP made a significant contribution to the development of community partnerships by forming local training project steering committees. These partnerships drew together representatives from locally-based educational institutions, labor, state agencies, federal land management agencies, environmental organizations, and other community groups. They worked together to ensure the success of the selection, training, project work, and placement of crew participants. Examples of the scope of work for these committees include:

- **securing agreements with the Forest Service and BLM to provide paid ecosystem management work experience for trainees;**
- **providing recruitment, support, and job placement for participating workers;**
- **developing training plans and recruiting instructors; and**
- **developing organizational systems to assure project success.**



Regular local meetings and the EWP Forums provided critical on-going communication, problem-solving, and networking opportunities for these steering committees.

Links with the Hire the Fisher program

In 1996, the EWP offered its curriculum to crews from the Hire the Fisher (HtF) program (funded by the National Oceanographic and Atmospheric Administration to assist dislocated fishers in coastal communities). These workers attended classes with trainees at the South Coast and Newport EWP projects. Challenges included assessing which courses in the EWP curriculum were appropriate for the HtF workers, how to secure funding for course materials, and scheduling the logistics of a combined training. Bridging the EWP and HtF programs gave each trainee group access to a different occupational perspective to watershed restoration and resulted in apprenticeship program enrollment for HtF graduates. This link kept the EWP program informed on the potential impacts of the anticipated Salmon Initiative and its implications for future work. Most importantly, it helped stimulate the discussion of the quality jobs agenda among watershed councils and soil and water conservation districts.

Including diverse local populations

Each year, training projects recruited a diverse group of local workers: women, people of color, and a wide range of ages and backgrounds. Latinos, especially, were a critically important population. As an estimated 90-95% of tree planting and pre-commercial thinning workers in Oregon, Latino workers offer a broad and solid base on which the ecosystem management industry can develop. In addition, their skills and contributions have historically been marginalized from the mainstream, creating a sharply segmented labor market (to the detriment of the entire community). The Mid-Willamette and Rogue Valley Steering Committees in particular actively recruited Latino trainees and worked to provide additional support, such as Spanish and English language instruction and translation of the EWP curriculum into Spanish.

Expanded ecosystem management opportunities

At almost every local project site, some trainees chose to pursue an independent contractor's license upon graduation. Several single-owner ecosystem management companies started, and a few business partnerships formed among program graduates. In two cases, long-established forestry contractors hired graduates specifically to expand their ability to bid on ecosystem management work.

In addition, more local watershed councils now realize that their ecosystem and community objectives cannot be met with volunteers alone. High-quality, durable ecosystem management requires a workforce which can do skilled work, and this is likely to increase watershed council demand for trained, local ecosystem management workers.

Stimulating investment in communities

The synergy of the steering committees and sharing lessons across the region through the EWP Forums led several sites to seek additional funding sources. The Oregon Economic Development Department was a major supporter, providing funding for:

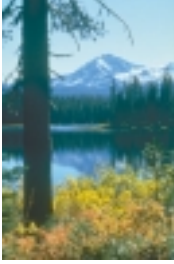
- a job placement specialist
- a labor and service contract market assessment project in the South Coast to inform the local watershed council as they plan projects that provide sustainable jobs for local residents
- a Revolving Loan Fund in Tillamook to help program graduates with business start-up costs
- technical assistance for watershed councils on planning and bidding for assessment, treatment, and monitoring work
- quality EWP Forums which brought together EWP partners from around the state

Ecosystem workforce network

The connections that have been established among the many EWP partners will endure long after any single effort has concluded. Relationships have been built among community members who previously had little or no opportunity to work together (e.g., JTPA providers and federal land management agencies, community colleges, and watershed councils). Many of these rural communities are now “on the map” of state, regional, and federal economic development organizations. Many of our partners in ecosystem management met or built relationships at local steering committee meetings or at the quarterly EWP Forums, which have been the primary gathering place for information exchange about on-the-ground ecosystem management work in Oregon. These networks will continue to share best practices not only on watershed restoration, but on community-based partnerships, quality jobs, and the ecosystem industry.

IV

Key Lessons



They weren't asked just to "fix it," as the old way would have them do. First, they had to assess the damage ... and come up with a proposed plan and budget to rehabilitate the area. They had to apply a broad new overview of forest management ... With workers having higher skills, there will be less need for administrative follow-up.

BILL LAFFERTY,
ASSISTANT
DISTRICT FORESTER
SWEET HOME ODF
"JOBS IN THE WOODS,"
WORKFORCE QUALITY
COUNCIL REPORT,
1996

It is reasonable to experience obstacles, set-backs, and problems in any project of this magnitude. In pursuing goals that integrate economic, environmental, and social objectives, we encountered stumbling blocks with several tiers and facets. Our collaborative approach enabled us to overcome many of these, and provided insights for focusing on the core challenges that persist. Below we summarize the key lessons and issues that demand continued attention and action.

Work Design Changes: Testing the stewardship approach

The scope of ecosystem management work follows the geographic lines of the watershed; it is based on landscape needs that change from year to year. Ownership and institutional boundaries are irrelevant to streams, erosion, and fish; in order for ecosystem management work to be effective, it cannot start and stop at a fence line, be chopped up in stand-alone tasks, or designed for short-term goals.

Federal agencies, private land managers, and local communities (including watershed councils, contractors, and workers) better serve the ecosystem and their communities by organizing this work to meet long-term, socio-economic objectives, as well as interdependent ecological goals. Long-term stewardship contracts which establish a "watershed memory" with the contractor group have the obvious benefit of continuity for assessment and treatment of the land. This has begun in some areas of the Forest Service and BLM as "experimental" or at least "non-traditional" practice, but has far to go before it is "business as usual."

The EWP and related efforts helped initiate discussions and experiments within the land management agencies to design ecosystem management work as bundled contracts and to explore the possibilities of stewardship contracting alternatives. The evidence clearly shows that agencies can accrue administrative savings when work is bundled and designed for a high-skill crew. While the pace of change may seem slow and painful, there are clear indicators (such as new contracting models and management policies) that a long-term, comprehensive approach to ecosystem management is being seriously pursued.

Influencing Market Forces: Plenty of work, but no jobs

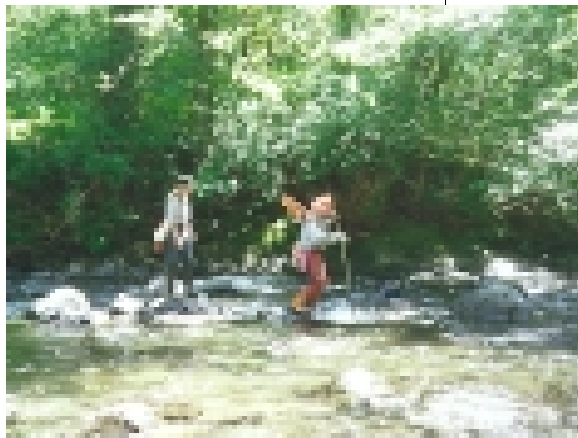
There is a tremendous need for watershed restoration and continuing management of public and private lands. Thus, there appears to be plenty of work and considerable public funding anticipated. The question is whether this work will be organized for quality jobs and carried out by a high-skill workforce.

Until the ecosystem management industry is more developed, the demand for trained workers will continue to lag behind the supply. Indeed, as we have seen with the majority of graduates, many have left the industry either because there were no immediate opportunities in ecosystem management or there were better opportunities in other fields.

The EWP advocates for change on the “demand” side of the equation: more quality jobs would be available if certified workers were recognized, preferred, and valued. This would be accomplished if the federal land management agencies (as the largest land managers in Oregon) were to include “trained workers” or similar quality jobs indicators in their contract award criteria. In fact, this has been done with positive results in several solicitations for bid in the Willamette National Forest. Were this to become the dominant practice, the need for trained workers would increase and so would the benefits to the agencies.

I'm looking for something with long-term potential because I don't want to get laid off anymore. This program has a lot to offer the right person who has the ambition and the drive.

CREW MEMBER, SWEET HOME
 “1995 JOBS IN THE WOODS
 TRAINEES FIX HABITAT,”
 THE OREGONIAN
 3 APRIL 1995



Collaboration: Community-based strategies

Strong, local partnerships are critical to sustaining community health, but these groups are not likely to appear spontaneously. The EWP steering committees provided a context in which local partnerships could develop; in some cases, these committees will endure or merge with other community-based efforts. The renewed awareness of workforce issues and the new working relationship fostered by these local steering committees will be a long-term resource for sustained community health—especially in small, rural communities.

Established and emerging watershed councils may offer the most promising anchors for future community-based ecosystem project management. While their focus in the past has been primarily on the landscape, we are beginning to see a broadening of their goals to include the health of the entire ecosystem: local economy, ecology, and community. We welcome this shift and look to the Governor's Watershed Enhancement Board (GWEB), Soil and Water Conservation Districts, and each individual watershed council to assure that quality jobs are a basic component of the work they coordinate.

Cultural Change: Old dogs learning new tricks

While the debate continues about the pros and cons of evolving land management practices, the impact of that debate on the internal workings of an organization—the “corporate culture”—is often overlooked. The EWP experience has shown that interpersonal relationships, communication channels, trust, and respect norms within and across organizations are often more important than the rules and regulations that seemingly govern practice. Where strong relationships have been built, progress has been clear and incremental; where individuals have been reluctant to discuss, innovate, or share authority, progress has been limited.

Community-based change

Within any community, a diversity of interests is present and critically necessary for progress and growth. By the same token, aligning the objectives of diverse interest groups takes time and energy. In some small, rural communities this may challenge the current political and social structure. New organizations, such as watershed councils or worker groups, may struggle to find the most effective means of joining the community leadership. Ecosystem management, when it has an agenda for creating quality jobs, presents a new framework for organizations to engage in strategies for local economic, ecological, and community health.

Change in the land management agencies

The current Forest Service and BLM mission statements include a commitment to make ecosystem management responsive to community needs. Bringing that mission to life requires much more than documentation and directives. It will take commitment at every level of the organization—a cultural shift which will require energy, resources, and time.

These demonstration projects give us the chance to try new contracting processes and put inter-agency agreements in place that get rid of the red tape. In the long run, we'll be able to design more and more of our work in ways that support the communities we live in.

BRAD LEAVITT
 "ECOSYSTEM MANAGEMENT
 OPPORTUNITIES FOR
 WORKERS AND
 CONTRACTORS,"
 BUSINESS VIEWPOINT,
 MAY/JUNE 1995

In the last four years, JITW and the EWP have offered many opportunities for staff at all levels of the BLM and Forest Service to experiment with ways to link agency policy with economic, ecological, and social outcomes. At the highest management levels, inter-agency agreements clearly show a top-level commitment to change. Some innovators have responded by creating new ways to apply current regulations or suggesting experimental exceptions to policy. Others have been reluctant to move forward—perhaps not because they disagree with the principles, but because of uncertainty about the durability of this new direction. Still others are opposed to the high-skill approach and favor alternatives they feel may reach the same objectives.

Resistance to change is a universal organizational characteristic—the more traditional the industry, the deeper the cultural roots. The federal land management agency culture might be described as “traditional, but changing.” Local community organizations must be willing to work alongside Forest Service and BLM staff to help shepherd the integration of a new ecosystem management paradigm. This is likely to require a forum for dialogue and access to the land management process. This could include tours, conferences, planning sessions, and evaluations. The more exposure the land management agency staff and the local community members have to each other, the higher likelihood of support for the shared vision of community-based ecosystem management.

Cross-cultural (multi-agency) issues

Because each land management agency interprets the concept of ecosystem management separately and each functions under different authorities, the decision-making structure is different. This can be frustrating when the assumptions applied to one federal organization cannot be applied to the other.

Again, the EWP played a role in helping the Forest Service and BLM address the need to create an infrastructure for collaboration. In the 1997 Memorandum of Understanding discussed above (Appendix C-1), the directors of operations in Oregon for the Forest Service and BLM recorded their intent to work together to smooth cross-agency barriers to collaboration on ecosystem management. This goal will require attention and maintenance in the years to come—hopefully a natural component of internal self-monitoring. In the absence of that, the responsibility falls to the local ecosystem management industry (watershed councils, worker and employer groups, and other community-based organizations) to ensure that agencies' commitment to collaborative efforts remains strong.

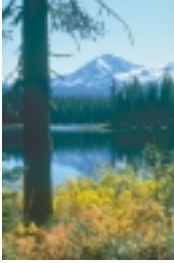
Voice and Visibility

It has been a struggle for the EWP to pursue agency and industry change and, at the same time, adequately document and disseminate our experience. To be sure, much documentation has been collected (videos, slides, photographs, newspaper clippings, internal and external reports, and presentation outlines) and catalogued with the EWP coordinator. Yet funding for conference travel, presentations, publications, and the like have been neglected in favor of action-research. A concerted and fully-funded advocacy campaign of the EWP approach has yet to be launched.

As a beginning, several steering committee partners have stepped forward to assemble presentations that could be delivered by quality jobs advocates. The next task is to bring the message to specific audiences: politicians, local community groups, contracting industry managers, private landowners, and watershed councils. This report contributes to the effort to “tell our story,” but it is by no means the final chapter.

V

Next Steps



The EWP has been a powerful experiment that has demonstrated the necessary conditions for linking economic, environmental, and social outcomes through ecosystem management. The quality jobs approach to ecosystem management offers a viable model to target these objectives simultaneously. While all of the necessary structures are not yet fully in place, the first steps have been taken and the next steps identified.

Quality Workforce

The EWP has provided a strong foundation from which to advocate for quality jobs and high-skill ecosystem work. But progress depends on a well-maintained infrastructure, especially in terms of worker training and certification.

Continuing training projects

Two community-based training projects are continuing in 1998: Mid-Willamette Valley and Rogue Valley. The infrastructure and agency support that has been built in these communities can provide ecosystem management training for local workers for many seasons to come. In addition, the EWP will continue to assist with innovative contracting models being developed in the Rogue, Willamette, and Siuslaw National Forests, and in the Eugene and Salem BLM districts.

Apprenticeship

Establishing an ecosystem management apprentice program was a significant achievement in that it links the EWP efforts to an established and respected training system. But only an active, vocal, and visible JATC will be able to make the apprenticeship program a strong and stable component of the ecosystem management industry. The EWP will continue to play an advocacy role, and we encourage employers, agencies, and workers to stay actively involved.



Education and training

Oregon State University will lead the efforts to sustain and grow the EWP curriculum and delivery system as the IMDEW project moves ahead. (See Appendix B-2.)

Ecosystem Management and Quality Jobs

Debate continues on whether ecosystem management is a whole new industry or an evolution of traditional resource management. In either case, it is subject to the economic forces of the marketplace; the quality jobs approach can be a catalyst for balancing supply and demand for workers.

Land management agencies

What the EWP and its Forest Service and BLM partners have produced in Oregon has tremendous implications for federal land management across the country. Community-based partnerships, combined Forest Service and BLM contracting, and a well-developed ecosystem management industry are models that would serve the agencies' missions in any national forest or district. The challenge is for top-level management to stay focused on how to operationalize their mission to establish and preserve the health of rural communities by creating and sustaining quality jobs.

Legislative input

The likelihood of continued success for the high-skill and quality jobs approach in Oregon depends on how well the policy structures adopted in Washington, D.C., match the local efforts here in the Pacific Northwest. Advocates from the State of Oregon continually bring the message of quality jobs to the state and federal political leadership. Adding the voices of aligned national organizations, such as the Seventh American Forestry Congress, the Pinchot Institute for Conservation, and the Ford Foundation, will strengthen the base of support and resources that are needed to institutionalize the quality jobs approach.

Pushing the projects into the private sector will take more work on everyone's part. Workers need to develop a broad set of skills to become... "applied ecologists." Contractors have to be able to compete on the basis of work quality, rather than low cost, in order to pay workers family wages. The land management agencies have to formalize processes to package contracts into longer-term jobs, and they have to institutionalize the goal of employing local workers along with the goal of restoring watersheds.

"ECOSYSTEM MANAGEMENT OPPORTUNITIES FOR WORKERS AND CONTRACTORS," BUSINESS VIEWPOINT, MAY/JUNE 1995

The Governor's Watershed Enhancement Board (GWEB)

As a major funding agent for restoration work in Oregon, GWEB has a responsibility to include community and economic health in the definition of a healthy ecosystem. Historically, watershed councils funded by GWEB have depended heavily on the use of volunteer community members or prison labor to complete restoration work, which keeps costs low. While using local volunteers can increase awareness of watershed health among community members, it misses the opportunity to ensure reliable, durable restoration work, increase the skill levels of local workers, and pay wages which would stimulate the local economy.

GWEB has recently added language to their grant application process that allows projects the option to use paid local labor, but it does not go far enough. More leadership, commitment, and training is needed from GWEB to help local watershed councils expand their missions to include community and economic health in their ecosystem goals, and to suggest that providing quality jobs is one approach that works.

Natural resource agencies

The Oregon Department of Forestry (ODF) and Oregon Department of Fish and Wildlife (ODF&W) have been partners in the EWP efforts, but have not been able to match the range of work and bundling of contracts offered by the federal agencies. These state agencies have shown a commitment to the quality jobs approach to ecosystem management by signing the 1997 Memorandum of Understanding, but we strongly encourage ODF and ODF&W to step up their efforts to design and contract ecosystem management work with a quality jobs approach in mind.

Economic development

The Oregon Economic Development Department has been instrumental in providing leadership and generating significant funding to support EWP training, program development, and related initiatives. Communities in Oregon will continue to look to state agencies for assistance in developing quality ecosystem management jobs, and we will continue to ensure that economic development coordinators are well-informed about local communities' needs (through forums, reports, and newsletters) so that they can continue to be a source of support and leadership.

Promoting Healthy Communities—Next Steps

The community infrastructure necessary to capitalize on the opportunities in ecosystem management has begun to develop in some communities. Continuing strong and stable leadership will be critical as local organizations and constituencies continue to build local support for the quality jobs approach.

Connecting with watershed councils

As community-based organizations, watershed councils can be the focal point for local ecosystem management efforts, especially since they will be coordinating more and more of the restoration work in Oregon. Some watershed councils already agree that the ecosystem includes the economic and social health of the people who live in the watershed, and a few of these have made specific and significant commitments to creating quality jobs in their communities. Other watershed councils will have an opportunity to hear about the collaborative, quality jobs approach at upcoming meetings and annual conferences sponsored by partners at GWEB and in the Forest Service and BLM. In addition, our partners in the Oregon State University Extension Service have launched the Watershed Stewardship Education Program to serve the continuing education needs of watershed councils and landowners.

Contractors

Currently, a handful of established and emerging management contracting firms are becoming champions of the developing ecosystem industry. Several firms have been awarded Forest Service and BLM contracts in part due to a stated commitment to worker training; these firms have provided real-life examples of how this approach can actually work in private industry.

The current challenge is to translate the experience of these innovative contractors into “best practices,” benchmarks, and “how to” guidance for the industry at large. This will require working with contractors and contractor associations as well as land management agencies to document the successes and address the challenges.

Labor

Unions built by timber workers have had a strong interest in the fate of thousands of their members who lost their jobs in the timber industry transitions of the last decade. The Western Council of Industrial Workers of the United Brotherhood of Carpenters argued early on for a quality jobs approach to ecosystem management, even though there are no union employers doing watershed restoration work in Oregon. They are involved at the local level (on three different steering committees), on the JATC, and at the policy level in Washington, D.C., and their continued involvement will ensure that the worker-focused approach does not become diluted as the industry develops.

The EWP has demonstrated that quality jobs and healthy communities are part of quality ecosystem management. The emerging ecosystem industry can be a high-skill industry if public and private groups maintain the advocacy and collaboration fostered by the Ecosystem Workforce Project.

As the Northwest Area Foundation grant sunsets, dedicated EWP partners are as committed as ever to building on our experience since 1993. We will continue to promote quality jobs, standardize emerging ecosystem management practices, and advocate for rural community sustainability.

Letters from Ecosystem Workforce Partners

Louise Solliday
Governor's Advisor
Governor's Watershed Enhancement Board

It is gratifying to look back and see the progress of the Ecosystem Workforce Project since its beginnings at the end of 1993. And it is exciting to look forward to the next phase in the long-term effort to build a quality jobs approach to watershed restoration.

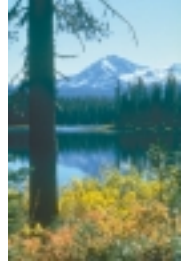
I was an early advocate for making the destiny of workers in timber communities an integral part of planning for watershed health. Together with partners from labor and watershed protection advocates, I argued for making the Jobs-in-the-Woods promise a reality. In the early days of the Oregon Community Economic Revitalization Team we recognized our challenge and opportunity: to restore key watersheds while providing family wage jobs and training for displaced timber workers.

We knew that market forces do not work in a vacuum. We knew dynamics in the existing service contract labor markets would work against that vision. And we knew that policy and administrative action would be needed to support the move to well-paying, stable jobs that lead to quality results in assessment, treatment, and monitoring in the watersheds. This is why we formed the EWP.

The EWP has provided several lessons. First, the Project showed, early on, the importance of just "making it happen" on the ground—providing training in forest and stream ecological science and related technical skills, and linking that training with paid work experience. The results were impressive. With approximately 10% of the \$14-16 million JITW expenditure per year, the community-based projects demonstrated that the high-skill approach works. There are clear benefits for land managers in efficiency and effectiveness when we follow this approach.

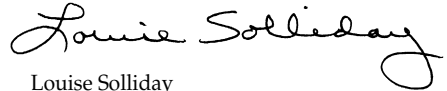
Second, the Governor's Watershed Enhancement Board (GWEB) can apply this lesson in its work with Oregon's watershed councils. GWEB has decided, in part because of the compelling results of the EWP, to include workforce objectives in their funding criteria for watershed councils. This is a good start, but we will continue to need committed workforce champions to share the lessons across the state. The watershed councils have a tremendous challenge to build voluntary collaborative action plans and to make substantial progress in salmon habitat and water quality improvements. Too often the importance of quality jobs and a sustainable community economic framework is missed. The reports on the lessons of the EWP will be a valuable contribution.

VI



Finally, through consistent efforts from an impressive array of quality jobs advocates—in the agencies and in the communities—we now have some valuable institutional resources to make the needed connections. The Watershed Memorandum of Understanding signed by Oregon and ten federal agencies provides a commitment to work collaboratively to ensure that local watershed councils and other community-based organizations have the resources and assistance they need to successfully integrate social, economic, and ecological objectives at the watershed level. Together with the Oregon Plan for Salmon and Watersheds, this provides a unique opportunity to employ a trained ecosystem workforce in quality jobs.

I salute the bold and resourceful workers who took the risks to help create a new industry, and the steering committees who made the training programs work. You are all pioneers, and we will continue to look to you as important partners in Oregon's watershed agenda.



Louise Solliday
Governor's Watershed Advisor

Bob Rheiner
Economic Manager
Oregon-Washington Bureau of Land Management

When I agreed in 1994 to be a part of the Ecosystem Workforce Project Team, it was because I saw an opportunity to determine how federal land management agencies can work together with communities in defining the social, economic, and landscape aspects of ecosystem management. Though I could not anticipate all the obstacles we have met and solutions we have worked on together, I am pleased to say I was right about that opportunity.

In many ways, the work of the community-based training projects and the study of the high-skill approach to ecosystem management give us in the agencies and our partners in the communities a big piece of the road map for the future. We have learned a lot about what it means for the agencies to be responsible for community as well as landscape outcomes. Our work together has shown that linking these objectives is possible.

Perhaps the most important lesson we learned is that the goal of quality jobs can be accomplished without significant legislative changes. The work design alternatives and procurement options are available now. What we do need is common understanding, a vision of the interconnectedness of environmental, social, and economic dynamics, and the institutional will to make progress on all these fronts.

The Forest Service and BLM are committed to make quality jobs a priority. The recent letter signed by the Governor of Oregon, the BLM State Director, and the Forest Service Regional Forester provides a clear call to state and federal agencies to make quality jobs one of the criteria in designing and contracting work in Oregon's watersheds. But we also know that we are a long way from a system-wide understanding of what that means—a long way from making this approach "business as usual." Linking the community and landscape objectives of ecosystem management will require major cultural and institutional change. For this reason, we need *champions* of long-term watershed health and of the workers in timber-dependent communities, and committed *change agents* within the agencies and among our institutional and community partners.

We look forward with some urgency to expanded awareness (in the communities and agencies) of the importance of focusing on workforce outcomes. The gains made to date will not be sustained unless we move quickly to disseminate and apply the lessons of the EWP. Workers cannot wait for stable employment opportunities; community partners cannot sustain their efforts without results. We need rapid progress to retain the skills, energy, and commitment in our rural communities.

Our partnership with the Ecosystem Workforce Project and Oregon Economic Development Department helped expand the opportunities for collaborative work among agencies and at the district and local levels. Together, we must expand our education and advocacy for the quality jobs approach within watershed councils, other local organizations, and the state and federal agencies. This is the challenge of the coming years, and it is reassuring to know that together we have built the foundations for that process.

A handwritten signature in black ink that reads "Bob Rheiner". The signature is written in a cursive, flowing style.

Robert Rheiner
Economic Manager
Oregon-Washington Office
Bureau of Land Management

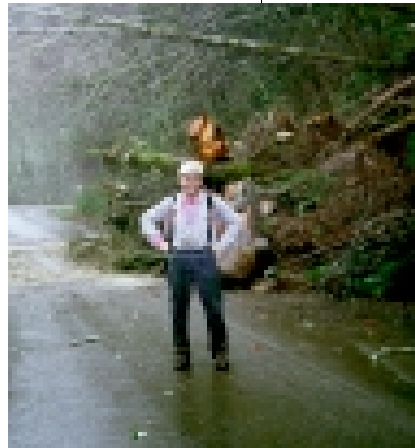
Terry Smith
Crew Leader
Southern Willamette Ecosystem Workforce Project

Hi—My name is Terry L. Smith. I have been interested in the outdoors as far back as I can remember, always living in the back country or rural areas. My father was a logger, and so were both my grandfathers. We lived in logging camps in remote areas of Northern California in the early sixties and I would go to work with my dad every now and then. In 1977, when I graduated from high school, I already had a job working for Crown Zellerbach doing, of course, logging. I worked through the heat of summer and freezing cold of winter, lugging around objects weighing half my own weight. But I was proud. I had become a logger just like my dad. I lost my father when I was 13, but still I had something to prove, whether to myself or thinking my father knew in some way.

I did everything on the rigging. I started setting chokers, and I've probably set about a million of them. Then I pulled rigging for a spell. That's the same as setting chokers except you get to blow whistles on an electronic device strapped to your side. There are about 20 different whistle signals—real confusing for a green horn. I handled high explosives, rigged tall trees, and ran every piece of equipment I could. I worked for Crown Zellerbach for several delightful years. Then they shut down.

That's when I went gyppo logging. Crown Zellerbach was a union outfit with good benefits. Gyppo's are not so much into benefits. So I bounced all over the state: logging, running yarders, falling trees, or tending hook. This went on for 13 years, and I was getting tired of chasing jobs and logging tiny trees.

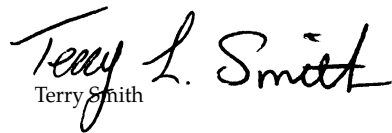
This is when I applied for the JITW program and got hired as crew supervisor right off. What an opportunity to help spread what knowledge I had from years in the woods and to absorb valuable information from ecosystems as a total outlook. The first year in Tillamook I had 12 workers, old and young, all coming from mill or logging backgrounds. We did jobs for BLM, ODF, the Forest Service, ODF&W, and the SWCD. We got a wide variety of skills from these different agencies. We worked in streams and in the coastal mountains—down low where the ocean tide affects the stream dramatically. I made a lot of friends in these agencies and met some people I might never have had the chance to meet otherwise. I could honestly say that I was involved in something I believed in.



The people at the Management and Training Corporation (the JTPA provider in Tillamook) were so helpful with tools or anything concerning safety and the Forest Service in Hebo was fantastic. The crew and I did several jobs for the Forest Service that season—from stand-exams to culvert replacement and road de-commissioning, there was a lot of work and a lot of knowledge to be gained from it. The year was about to end when I was offered the crew lead position in the South Valley EWP. Here we hired a six-man crew and did all of our work for the BLM, including noxious weed control, manual slashing with chain saws, native plant seed collection, bald eagle habitat release, stream restoration, spawning steelhead counts, stream transects, timber sale layouts, and wildlife tree creation. During these projects, we were trained by people with degrees, so I learned more and more each year. What a glorious experience I have had.

My crew here in Eugene graduated at the end of March (1998), ending a spectacular journey for them and myself, although the job really isn't done; in my mind it shall always continue. I want people to understand our delicate ecosystem and things we all can do to help stabilize it for future generations. I am proud to say I may have helped even one bird or one fish or a particular plant species that is native to the area I am working in. I love the outdoors.

Currently, I am working on my third small contract for the BLM, and I'm going out to look at another one soon. How far it takes me I won't know until my life ceases. Thank you all very much.


Terry Smith

Appendix A: Page 47
Overview: The Ecosystem and the
Work Force, 1996

Appendix B-1: Page 55
Ecosystem Workforce Project
Curriculum Summary

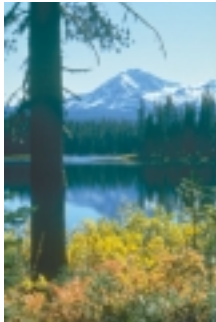
Appendix B-2: Page 56
An Institutionalized Model for
Developing an Ecosystem
Workforce (IMDEW)

Appendix C-1: Page 66
Memorandum of Understanding

Appendix C-2: Page 71
Joint Letter from the
Governor of Oregon,
BLM, and Forest Service

Appendix D: Page 74
Ecosystem Workforce Project
Evaluator's Final Report, EWP

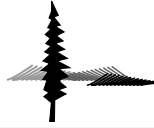
Appendix E: Page 84
*The High-Skill Approach to
Ecosystem Management: Combining
Economic, Ecological, and Social
Objectives*



IMPROVING JOBS,
COMMUNITY,
AND
THE ENVIRONMENT:
Lessons from the
Ecosystem
Workforce Project

Oregon's 1996 Ecosystem Workforce Projects

BUILDING A SUSTAINABLE HIGH SKILL/HIGH WAGE ECOSYSTEM MANAGEMENT INDUSTRY



Labor Education and Research Center, University of Oregon
and the Oregon State University Extension Service,
Under a grant by the Northwest Area Foundation

Overview: The Ecosystem and the Work Force

The Ecosystem Workforce Project (EWP) is designed to help create a deep change in the way our forests are managed and the kinds of work that is available in the woods. In the past two years, the EWP has supported eight community-based projects in Oregon that provided training and ecosystem management work experience for dislocated timber workers. At the same time, we have been working closely with federal land management agencies to develop innovations in their procurement practices to produce win-win results for both the agencies and communities they serve.

The training projects summarized in this overview relied primarily on federal agency projects made available through the Jobs in the Woods (JITW) program. Institutional innovations (which are discussed in other documents available through LERC) were the result of collaborative efforts of the Ecosystem Investment Team (EIT), a key part of the Northwest Economic Adjustment Initiative.

EWP's long-term goals are:

- **Quality workforce:** Creating a cadre of certified ecosystem management specialists employed locally in quality jobs.
- **Ecosystem management:** Shifting to watershed-based, multi-task, longer duration forest management work, and initiating change in procurement practices that will support a quality workforce.
- **Healthy communities:** Assisting communities to take on ecosystem management as part of their economic base and become stewards of the resource.

Our on-the-ground successes in 1996 were:

- Training an additional 42 EWP graduates (total is now 109).
- An ecosystem management curriculum tied to skill standards for a new apprentice occupation, in English and Spanish.
- Job placement activity that links project graduates to jobs.
- New contracting and procurement models
- A Memorandum of Understanding among federal agencies and the state of Oregon to develop policies that balance social, economic, and environmental objectives.
- The beginnings of a "Tool Kit" showing how to effectively work with federal agencies on ecosystem management innovations and create collaborative projects.
- Steering Committees linked with watershed councils or other local organizations in the South Coast and Rogue Valley.
- Establishment of a Latino project in the Mid-Willamette Valley.
- Development of a quarterly forum gathering designed to link project participants from across the state to share information, network, and plan action steps.

As the projects developed, it became obvious that no single model of ecosystem management would be the cure-all; the solution for each community was different. Projects have been developed in eight communities in the 1994-96 seasons, each with different challenges and successes. Several are summarized in this report.



Contents

Program Overview.....pages 1 and 2
Oregon Project Sites.....pages 3 – 5
Hire the Fisher Projects.....page 6
The Regional Picture.....7
The Future of EWP.....8
About LERC.....8

Appendix A Overview: The Ecosystem and the Work Force, 1996

Our Partner Organizations

The successes we have seen over the last three years have only been possible through the partnerships that have emerged from the process. Most of the work done to date is a result of strong collaboration among state and federal government organizations, academic institutions, and non-profit agencies. These include:

- Community colleges
- Federal land management agencies
- Non-profit environmental group
- Private employers
- State agencies
- Community groups
- Organized labor
- Private employment services
- State universities
- Watershed councils



The Training

An extensive training curriculum was developed in 1995 and continues to adapt as the ecosystem industry matures. In 1996, the entire 14-part curriculum was translated into Spanish. Currently, several academic institutions and the state apprenticeship division are working together to connect the curriculum with formal (degree) courses of study. Some of the course components are:

- Watershed Process and Ecology
- Forest Ecology
- Forest Management
- Land measurement/survey
- Wildlife Habitat Management
- Stream Measurement and Survey
- Government Contracting Skills

Combining Training with Work Experience

The variety and duration of forest work done at each site depended on the local ecosystem and the project work available through the federal land management agencies. Typically, crews complete work on a variety of projects bundled together to last several months. The types of project task involved in ecosystem management include:

- ★ Stream surveys (physical and biological)
- ★ Riparian area planting and maintenance
- ★ Riparian thinning and release
- ★ Road decommissioning/culvert upgrading
- ★ Erosion control
- ★ Creation of fish and wildlife habitat
- ★ Species inventory and data analysis
- ★ Timber stand exams
- ★ Thinning
- ★ Noxious weed control
- ★ Trail relocation, conservation, repair
- ★ Fencing

Mid-Willamette Ecosystem Workforce Demonstration Project



Highlights

This project group was critical in bringing diversity issues into focus. It was the Mid-Willamette project that successfully transitioned the EWP project work into a bilingual program. Training was conducted in both English and Spanish, and many of the documents—including the entire course curriculum—were translated into Spanish and are now available to other crews across the state.

Project Work and Training

Work and training began in July 1996 and \$133,000 in ecosystem work will be completed by September 1997. Crews completed an average of 150 classroom hours in addition to the field work. The crew was comprised of 12 Latino men, ranging in age from 20-47 with some thinning and planting experience.

Community Partners

The Willamette Valley Reforestation, Inc. (WVR), a non-profit community-based organization dedicated to forestry training and community development, served as the project's employer of record. WVR joined with several other agencies to form a local Steering Committee to oversee the project:

- BLM—Salem
- City of Salem
- Labor Education and Research Center
- Mount Hood National Forest
- North Santiam Watershed Council
- Oregon Department of Forestry (ODF)
- Oregon Human Development Corp.
- Oregon State Extension Service

North Coast Ecosystem Workforce Initiative



Highlights

1996 was the second year of the North Coast project. The Steering Committee was committed to breaking down some of the “on the ground” barriers to employment and income that face program graduates as workers in a new industry. Local partners were successful in developing a revolving loan fund designed to loan start-up funds to program graduates who intend to become ecosystem management contractors. Loans of up to \$10,000 each are available to cover the initial costs of equipment, payroll, bonding, etc.

Project Work and Training

The 1996 project year ran from May 15, 1996 through June 1997. Initially, 17 workers were hired (16 men and one woman), aged 21-55. Nine worker trainees continued for the entire year, completing \$450,000 in ecosystem work on BLM and USFS land. Each trainee completed approximately 184 hours of classroom training, in addition to the fieldwork.

Community Partners

- BLM—Salem
- Management and Training Corporation
- Oregon Department of Fish and Wildlife
- Oregon Department of Forestry
- Pierce Inc.
- Tillamook Soil and Water Conserv. District
- USFS—Hebo District

Newport Project



Highlights

Despite formidable logistic challenges, the Newport Project provided nine months of work and training for the crew. This project made its training sessions available to Lincoln County Hire the Fisher workers, who attended alongside the JITW crew. In some cases, crews from both programs worked together on field projects that met the goals of ecosystem management and salmon restoration.

For the Newport EWP crew, travel time to the work site—often 60-90 minutes one way—became an opportunity to hold safety meetings and communicate with the project leader. Crew members, most of whom had no previous leadership positions, initiated a self-managed work team and worked with the project coordinator to share project responsibilities.

Project Work and Training

The crew was hired in May of 1996 and continued through March of 1997. Project work totaled \$174,000. The five crew members, all male, were aged 24-43. Each completed 152 hours of ecosystem management training.

Community Partners

BLM—Eugene
BLM—Salem
Community Services Consortium
LERC
Lincoln County SWCD
Pierce, Inc.



Rogue Valley Ecosystem Workforce Training Partnership



Highlights:

1996 was the second project year for the Rogue Valley EWP, coordinated by the Rogue Institute for Ecology and Economy (RIEE). Strong collaborative ecosystem management partnerships developed in the Rogue Valley, with diverse interest groups taking on solid roles in the process. Rogue Community College took a lead role in connecting the EWP curriculum to their academic programs, and RIEE hired a Job Placement Specialist to assist graduates from EWP projects with work opportunities in forest-based industries.

One particular success from this project that may inspire other steering committees across the state is a Letter of Intent between RIEE and the Rogue National Forest that designates 25% of Jobs in the Woods budget for ecosystem workforce projects.

Project Work and Training

The crew of 14 was hired in May of 1997 and worked through December, with half the crew continuing on through May of 1997. There were five Latino workers and two women on the crew, ages 24-45. On average trainees received 141 hours of ecosystem management training; and over \$350,000 in project work was completed.

Community Partners

Southern Oregon Women's Access to Credit
Southern Oregon Rural Econ. Dev. Initiative
Rogue Institute for Ecology and Economy
Rogue National Forest (Applegate District)
Siskiyou National Forest (Illinois District)
Oregon Economic Development Department
The Job Council
Rogue Community College
BLM—Medford
Convenio

South Coast Project



Highlights

This project is a showcase effort at ecosystem training and management that truly combines the issues addressed by both the Jobs in the Woods and Hire the Fisher Programs. The Coquille Watershed Association took the lead in hiring, training, and managing the crews, and has championed the project and its benefits all along the south coast of Oregon. Crew cohesiveness and cross training have been highlighted again and again as bonus gains for the crew as well as indicators of success for the project as a whole.

Project Work and Training

The crew of four was hired in June 1996 and continued to work through the summer of 1997. The crew is all male, aged 31-37. Each received 128 training hours, and crew leads received an additional 16 hours. Over \$220,000 in Jobs in the Woods project work was completed.

Community Partners

OSU Extension Service
Coquille Watershed Association
BLM—Coos Bay
South Coast Business Employment Corp.
Western Council of Industrial Workers
Cardinal Services
Labor Economic Action Project (LEAP)
US Forest Service

Sweet Home Project



Highlights

In its third year of operation, Sweet Home continues to pursue innovation in creating new models of contracting forest management on federal lands. In 1996, five contracts were open to competitive bid; each included language that targeted employers with the intention, plan and ability to hire local dislocated timber workers and to provide training and worker development. A portion of the work was awarded to E&S Environmental Restoration, a contractor who employed several EWP graduates to do the work. In addition, the BLM and US Forest Service learned valuable lessons about decreasing bureaucracy by having joint contracts with only one Contracting Officer Representative.

Project Work

The five multi-project contracts totaled over \$215,000. A steering committee (with representatives from the BLM, US Forest Service, Oregon Department of Forestry, and LERC) was formed to monitor and evaluate the process.

Community Partners

BLM—Salem and Eugene
E&S Environmental Services
US Forest Service—Sweet Home District
Community Services Consortium
Western Council of Industrial Workers
Oregon Dept. of Forestry (E. Lane, Linn)

Hire the Fisher Projects

The Hire the Fisher (HtF) Program is intended to provide job placement opportunities for displaced fishing industry workers, implemented through local watershed councils and Soil and Water Conservation Districts. As the program developed, it became clear that many of those enrolled in the program had riparian and watershed-related skills and interests, but HtF funding did not provide for a standard curriculum of courses and fieldwork. Since much of the material covered in the EWP curriculum was relevant to the objectives of the Hire the Fisher Program, local steering committees began to combine their efforts with watershed councils and reap the mutual benefits of collaboration wherever possible.

The project work these crews perform included:

- ◆ riparian, pasture, flood damage and livestock exclusion fencing, off-stream watering
- ◆ in-stream restoration (woody debris, side-stream channel excavation)
- ◆ stream bank stabilization and erosion control
- ◆ biological inventories (spawning surveys, brood stock capture, juvenile seigning)
- ◆ aquatic habitat surveys
- ◆ culvert survey/replacement
- ◆ building bridges, livestock crossings, and fish ladders

Special mention must be made of the Clatsop County efforts to begin an Ecosystem Workforce project in conjunction with their Hire the Fisher program. Since 1995, representatives of Astoria-based community groups—including the Management and Training Corporation, Clatsop Community College, Columbia and Clatsop Soil and Water Conservation Districts—and other state agency officials have met to assess local interest. In 1996 Clatsop Community College received a grant to evaluate the need for a local training program in ecosystem workforce development.

In the project sites below, HtF trainees either attended classes side-by-side with nearby EWP trainees or used the EWP curriculum materials in the course of their program. Below is a brief summary of these programs. For more detailed information on the Hire the Fisher Program, contact Tom Shafer at (541) 528-7451.

Coquille Watershed

Over \$273,000 in project work was completed in the 1996 season by a crew of seven. An additional 25 HtF workers from Coos and Curry Counties participated in the training.



Mid-Coast Watersheds

Over \$479,000 in project work is targeted for completion in the 1995-97 biennium, to be completed by a crew of six.



Siuslaw Watershed

Over \$225,000 in project work is slated for the 1996-97 fiscal year, to be completed by a crew of seven.



The Regional Picture

In 1995, the Oregon EWP projects began to actively network and collaborate with similar efforts in Washington and northern California. Representatives from several of these projects attended the March 1997 EWP Forum in Portland, where cross-regional task groups were formed to address issues that affect all three states.

Some of the issues these groups are working on are:

- establishing regional skills standards for ecosystem management work
- developing an occupational structure for ecosystem management workers (including definitions, competencies and certification)
- standardizing the training and apprenticeship programs in all three states
- convening a regional forum to develop monitoring protocols for environmental impact

The projects that have worked closely with the Oregon EWP efforts are:

California

① **Eureka, Humboldt County**

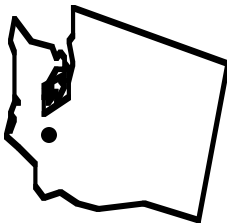
Coordinated by the Redwood Community Action Agency. Over \$1,000,000 worth of project work completed in 1996 with a crew of 20. 800 training hours completed.

② **Hayfork, Trinity County**

Coordinated by the Watershed Resource Training Center. Over \$465,000 worth of project work completed in 1996 with a crew of 18. 350 training hours completed.

③ **Yreka, Siskiyou County**

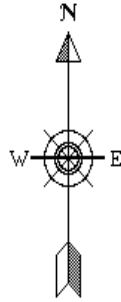
Coordinated by STEP, Inc. Over \$100,000 worth of project work completed in 1996 with a crew of 14. 225 classroom training hours completed.



Washington

Jefferson County

Coordinated by the Columbia-Pacific RC&D. Over \$2,417,159 in project work completed in 1996 with a crew of 15. 165 classroom training hours completed.



The Future of the EWP

The Ecosystem Workforce Project is proud of the many accomplishments we have achieved through partnerships thus far:

- helping workers in Oregon participate in community-based ecosystem management projects
- developing an ecosystem management curriculum with competencies and standards
- assisting federal agencies in designing new types of ecosystem work, modifying procurement practices, and pursuing avenues for long-term change
- encouraging communities to take more and more ownership of what happens on the public lands that surround them by participating in community-based ecosystem management projects

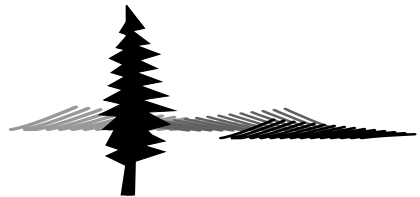
We intend to leverage our learning and funding through initiatives continuing in 1997 and 1998, some of which are the result of additional funding through the Ford Foundation and the Oregon Economic Development Department.

While it is clear to all of the partners that significant progress has been made, we still have a long way to go. Our funding through the Northwest Area Foundation will continue through April, 1998. Our goal for this last year is to deepen the impact of our work-to-date by institutionalizing the workforce development system, further supporting changes in federal land management policies and practices, and documenting the lessons of our EWP efforts.

About the Labor Education and Research Center

LERC's long-established mission is to support educational needs of workers and their unions in Oregon. The Ecosystem Workforce Project is a program we are proud to be associated with because it offers new hope to workers in the forestry industry—a founding economic and employment sector in the Pacific Northwest. Ecosystem management training, combined with the inevitable cultural and institutional shift in the way forests are managed, is a critical and timely move towards sustainable jobs and communities in Oregon.

There are many additional publications and documents on this project available directly from LERC. To inquire, please contact us at (541) 346-2787, or write us at 1289 University of Oregon, Eugene, OR 97403-1289.



Ecosystem Workforce Project (EWP) Curriculum Summary

In 1995, the Ecosystem Workforce Project formed a partnership in Oregon among educators from universities, community colleges, state and local agencies, and private ecology organizations to develop a practice-based curriculum on ecosystem management. The Curriculum Development Committee included representatives from these organizations:

- Bureau of Labor and Industries
- Clatsop Community College
- Government Contracting Assistance Program
- Lane Community College
- Oregon Department of Fish and Wildlife
- Oregon Department of Forestry
- Oregon State University
- Pacific Rivers Council
- Rogue Community College
- Rogue Institute for Ecology and Economy
- State and Local Job Training and Partnership Act (JTPA) agencies
- University of Oregon

The curriculum covers a range of skills and knowledge from analysis and treatment of the watershed to business and interpersonal skills. The curriculum is divided into three sections and sub-topic areas as follows:

Watershed Processes and Ecology

- Forest Ecology
- Forest Management
- Wildlife Habitat Management
- Watershed Management, Restoration and Enhancement

Safety and Technical Knowledge

- Basic Fire Suppression and Safety
- Land Measurement and Survey
- Stream Measurement and Survey
- Worker Health, Equipment Operation and Safety
- Forest Resource Protection and Regulation

Business Development and Management

- Interpersonal skills
- Contracting Skills
- Technical Business Skills

The curriculum was revised and translated into Spanish in 1997.

Appendix B-1 Ecosystem Workforce Project Curriculum Summary

Appendix B-2

An Institutionalized Model for Developing an Ecosystem Workforce (IMDEW)

SUMMARY

A successful system of workforce education should feature outcome-based learning with clear competencies that can be met by experience or training and can be tracked by worker portfolios. A system is under development in Oregon called IMDEW: an Institutional Model for Developing an Ecosystem Workforce.

IMDEW is a comprehensive system of workforce education made up of discrete component programs. Each component program is a clearly described program, based on a set of clear, demand-based competencies. Competencies are common to all component programs.

System Philosophy:

IMDEW is based on the following philosophy: Healthy communities and healthy environments go hand in hand, and quality jobs are part of healthy communities. Quality jobs are: multi-skilled, long-term, provide a family wage, and have a career path. An important component of an ecosystem is an economically stable rural community. We also want to support diversity by being responsive to the composition of the community and the existing workforce.

The workforce participants need ways to move through and up the system, with training available via a variety of venues. The system should be competency based, with a variety of options to attain those competencies. There ought to be common points of recognition established, based on work experience and/or education experiences, and those points ought to be tied to specific levels of work opportunities. The ultimate goal of the training, education and work is to benefit the local ecosystem.

Framework of IMDEW System

1. Master Ecosystem Worker Competency List—that can be achieved in a variety of ways, including previous experience & prior training.
2. Portfolio—allows workers to prove which competencies have been met and when.
3. Points of Recognition
4. Consequences—tied to demand side.
5. Component Program—with Associated Competencies
6. Links between programs—crosswalks.
7. Monitor/Evaluate to show system—develops competencies and leads to employed workers that meet demand in targeted communities.

IMDEW Component Programs

Natural Resource Certificates of Advanced Mastery (CAMS)—Oregon Department of Education

Apprenticeship Program—Joint Apprenticeship Training Council

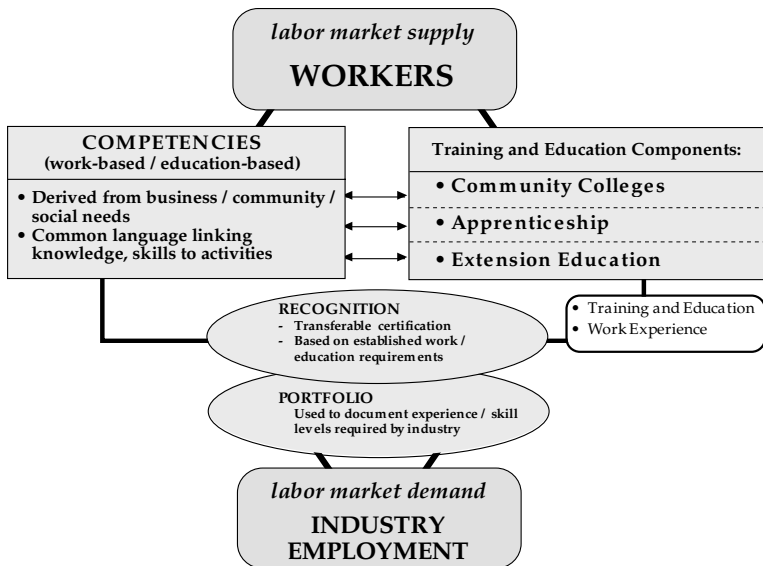
Demonstration Project—UO Labor Education Research Center

Ecosystem Workforce Training Institute—OSU Extension Service (proposed)

Watershed Stewardship Education Program—OSU Extension Service (under development)

One-Year Training Certificate—Rogue Community College

Two-Year Associate Degree Curriculum—Northwest Center for Sustainable Resources at Chemeketa Community College



Ecosystem Studies Programs —Southern Oregon State College

Master Competencies List

Based on DACUM charts from:

- 1) Chemeketa Community College—Forest Resources Technology,
- 2) Central Oregon Community College—Forest Resources Technology, and
- 3) Grays Harbor College—Natural Resource/Fisheries Technician, Associates Degree Programs

A. Scientific Training (3)

- A1 - Develop basic math skills
- A2 - Understand basic statistics
- A3 - Develop a background in natural and physical sciences
- A4 - Ability to use scientific method and terminology
- A5 - Identify flora and fauna species
- A6 - Identify fish and wildlife, history relevance
- A7 - Knowledge of historic relevance of past practices
- A8 - Ability to research information
- A9 - Utilize and understand scientific and mathematical modeling
- A10 - Integrate principles of natural resource management
- A11 - Knowledge of principles of natural resource economics
- A12 - Identify diseases

B. Skills Training (3)

- B1 - Ability to use first aid and CPR
- B2 - Practice safe operation and survival skills
- B3 - Perform calibration procedures
- B4 - Receive equipment training
- B5 - Use of basic trade skills
- B6 - Possess boat handling and seamanship skills
- B7 - Receive sensitivity training
- B8 - Use of material safety data sheets
- B9 - Maintain special licenses (pesticide, CDL)
- B10 - Gain and understanding of fire behavior
- B11 - Receive facilitation training
- B12 - Ability to write grants
- B13 - Respect propriety information
- B14 - Possess basic media skills
- B15 - Operate electronic hand-held data recorders
- B16 - Use equipment manuals
- B17 - Ability to speak on two way radio
- B18 - Operate a computer (computer literacy)
- B19 - Writing skills (reports, articles)
- B20 - Operate standard office equipment
- B21 - Develop public speaking skills

C. Data Collection and Analysis (3)

- C1 - Use Common Sense
- C2 - Write good field notes
- C3 - Consult with statistician
- C4 - Design and conduct pilot studies
- C5 - Create sample design
- C6 - Establish baseline conditions
- C7 - Prepare for data collection
- C8 - Collect accurate/legible data
- C9 - Monitor quality of data collected
- C10 - Maintain sampling protocol
- C11 - Conduct quality control (replicate surveys, etc.)
- C12 - Create a data tracking checklist
- C13 - Create a data base
- C14 - Create a data management system
- C15 - Enter data into computer accurately
- C16 - Create a backup file
- C17 - Check for errors
- C18 - Correct errors
- C19 - Organize data for accessibility
- C20 - Check analysis against hypothesis
- C21 - Interpret and apply results
- C22 - Determine relevance of data
- C23 - Write a report
- C24 - Report findings
- C25 - Provide suggestions for improvement
- C26 - Observe/safeguard confidentiality and propriety information
- C27 - Integrate principles of timber, fish and water management
- C28 - Archive data

D. Be Competent in Scaling and Cruising. (1)

- D1 - Be able to take basic measurements
- D2 - Identify plants, trees, and wood types
- D3 - Use and care of tools of the trade (compass, map, range finder, laser tools, diameter tape, scale stick, biltmore stick, increment borer, data recorder, tape measure, relaskop, logger's tape, prisms, and clinometer).
- D4 - Ability to read a map
- D5 - Be aware of the different methods of cruising
- D6 - Interpret aerial photos
- D7 - Identify grades of logs
- D8 - Identify forest diseases and forest insects
- D9 - identify high and low value timber
- D10 - Compute timber volumes and economic values
- D11 - Write technical reports
- D12 - Comply with regulations

E. Competency in Surveying and Mapping (1)

- E1 - Be aware of land measurement systems
- E2 - Operate equipment, use and care for tools of the trade (data recorder, pocket compass, staff compass, transit, theodolite, clinometer, cloth tape, steel tape, and electronic distance measuring device).
- E3 - Identify property lines and corners
- E4 - Access county land records
- E5 - Read topographic maps
- E6 - Be aware of land measurement systems
- E7 - Identify land ownership
- E8 - Draft maps (including computer generated maps)
- E9 - Knowledge of GIS (Geographic Information System)
- E10 - Be competent in computer skills
- E11 - Identify correct property locations
- E12 - Write technical reports
- E13 - Comply with safe practices
- E14 - Administer a basic contract
- E15 - Comply with regulations

F. Take Inventory of Resources (1)

- F1 - Recognize plant communities
- F2 - Be aware of ecosystem structure and function
- F3 - Be aware of principles of ecology
- F4 - Use computers and data recorders
- F5 - Design effective measurement systems
- F6 - Interpret contracts
- F7 - Recognize soil / physical qualities of landscape
- F8 - Recognize noxious weeds
- F9 - Collect data for watershed analysis
- F10 - Be aware of basic science principles (biology, hydrology, environmental science, soils, and geology).
- F11 - Write technical reports
- F12 - Administer a basic contract
- F13 - Comply with regulations
- F14 - Read topographic maps
- F15 - Use and care for tools of the trade (compass, map, rangefinder, laser tools, diameter tape, scale stick, biltmore stick, increment borer, data recorder, tape measure, relaskop, logger's tape, prisms, and clinometer).

G. Be Competent in Road Engineering and Logging (1)

- G1 - Be able to read maps
- G2 - Comprehend array of harvesting systems
- G3 - Comprehend transportation systems
- G4 - Be aware of the various uses of equipment and costs
- G5 - Calculate payload limits
- G6 - Design and lay out harvest systems
- G7 - Design a road
- G8 - Understand basic hydrology
- G9 - Be aware of yarding and loading timber processes
- G10 - Be aware of felling and bucking principles
- G11 - Be aware of the uses of rocks and other road building materials
- G12 - Write a basic contract
- G13 - Administer a basic contract
- G14 - Comply with regulations
- G15 - Read soil conservation maps
- G16 - Distinguish between how regulations relate and don't relate
- G17 - Monitor the impact on the environment
- G18 - Convert from metric to standard measurement
- G19 - Stay within legal limits of contract law
- G20 - Recognize unstable soil conditions (roads)
- G21 - Obliterate roads
- G22 - Maintain roads
- G23 - Comprehend basic principles of forest economics
- G24 - Write technical reports
- G25 - Use and care of tools of the trade (data recorder, pocket compass, staff compass, transit, theodolite, clinometer, cloth tape, steel tape, and electronic distance measuring device).
- G26 - Administer a basic contract
- G27 - Comply with regulations

H. Be Competent in Silviculture (1)

- H1 - Manage the landscape
- H2 - Be aware of silviculture systems
- H3 - Be able to develop goals
- H4 - Take inventory (stand exam)
- H5 - Recognize diseases of trees
- H6 - Take precise measurements of the stand plot
- H7 - Analyze data related to goals
- H8 - Present information
- H9 - Implement the decision
- H10 - Be aware of the techniques of silviculture (tree planting, site preparation, mechanics, chemistry, safety, slash burning, awareness of Forest Practices Act, thinning, spacing, animal control, state and federal regulations, wildlife, considerations, woody debris, stream needs, and plant methods)
- H11 - Study silvics (growth, yield, seed source, genetics, biology of species)
- H12 - Recognize and comply with regulations
- H13 - Be aware of nursery options
- H14 - Perform tree planting
- H15 - Be aware of young stand manipulations
- H16 - Recognize importance of soils
- H17 - Write technical reports
- H18 - Administer a basic contract
- H19 - Comply with regulations
- H20 - Read topographical maps
- H21 - Use and care for tools of the trade (compass, map, range finder, laser tools, diameter tape, scale stick, biltmore stick, increment borer, data recorder, tape measure, relaskop, logger's tape, prisms, and clinometer).

I. Perform Basic Firefighting Skills (1)

- I1 - Run, maintain and repair firefighting equipment
- I2 - Obtain a CDL

I3 - Be competent in ICS

J. Fisheries Field Work (3)

- J1 - Work independently
- J2 - Identify fish, plant, and wildlife species
- J3 - Read and interpret maps and photos
- J4 - Perform surveys (environmental, stream, upslope, in-stream)
- J5 - Acquire trespass authorization
- J6 - Accurately locate sample site
- J7 - Operate a computer
- J8 - Check precision of instruments
- J9 - Know equipment (logistics)
- J10 - Operate equipment
- J11 - Maintain equipment
- J12 - Understanding of permit process
- J13 - Possess regulatory process familiarity
- J14 - Participate in multi-interest review of projects
- J15 - Investigate permit applications
- J16 - Practice public relations with land owners
- J17 - Develop a quality assurance plan
- J18 - Conduct water quality sampling
- J19 - Conduct biological sampling
- J20 - Sample fish and wildlife harvests
- J21 - Interpret and apply information to field work
- J22 - Implement habitat restoration projects (fish, wildlife, plants)
- J23 - Apply bio-engineering techniques
- J24 - Delineate ecologically sensitive areas (RMZ)
- J25 - Observe need for forest road maintenance
- J26 - Maintain forest roads
- J27 - Calculate tree density
- J28 - Perform timber cruise
- J29 - Mark boundaries
- J30 - Perform post-logging utilization survey
- J31 - Propagate plants
- J32 - Grow and manage fish stocks
- J33 - Perform remote site spawning
- J34 - Work with and understand hatchery practices
- J35 - Maintain water supply
- J36 - Perform facility maintenance
- J37 - Use test equipment
- J38 - Make decisions in field
- J39 - Know when to call a professions/specialist

J40 - Apply prescriptions

K. Be Competent in Computer Skills (1)

- K1 - Perform adequate keyboard skills
- K2 - Perform data entry
- K3 - Use word processing and spread sheets
- K4 - Use data tables
- K5 - Manage files
- K6 - Be aware of computer technology
- K7 - Use data recorders
- K8 - Use GIS software

L. Demonstrate Professionalism (1)

- L1 - Exhibit good attitudes
- L2 - Be aware of basic supervisory skills
- L3 - Be able to work as a team member
- L4 - Get along with other people
- L5 - Demonstrate good judgment
- L6 - Demonstrate good public relation skills
- L7 - Comply with professional and work ethics
- L8 - Listen for instructions and information
- L9 - Write technical reports

M. Practice Effective Interpersonal Skills (2)

- M1 - Be a team player
- M2 - Respect divers viewpoints
- M3 - Respect cultural differences
- M4—Defuse hostile/dangerous situations

M5—Work effectively with distraught persons

N. Apply Business Management Principles to Natural Resource Management(2)

- N1 - Practice business aspects of the profession
- N2 - Recognize and integrate economic considerations
- N3 - Support economic decisions
- N4 - Conduct cost analysis
 - a. benefit/cost ratio
 - b. present net value
 - c. future net value
 - d. time value of money
 - e. sinking fund
 - f. depreciation
 - g. capitalization
- N5 - Manage budget
- N6 - Market/advertise services
- N7 - Provide customer services
- N8 - Write bids/proposals
- N9 - Be financially responsible with purchases, products, etc.
- N10 - Relate to path of raw materials through manufacturing to product(s)
- N11 - Administer financial aspects of contracts (e.g. payments)

O. Abide by Policies and Rules (2)

- O1 - Comply with regulations
- O2 - Explain state and federal regulations
- O3 - Be aware of authority and limitations
- O4 - Be aware of conflicting policies and rules

P. Teamwork (3)

- P1 - Together Everyone Accomplishes More (TEAM)
- P2 - Respect others
- P3 - Communicate
- P4 - Support objectives of job, project, etc.
- P5 - Contribute effectiveness
- P6 - Work as a team member
- P7 - Accomplish fair share of project
- P8 - Work as a team leader
- P9 - Develop leadership skills
- P10 - Encourage input/involvement
- P 11 - Have fun!

For more information contact:

Mike Cloughesy, OSU Extension Service, 950 W. 13th Ave., Eugene OR 97402
 Telephone: (541) 682-4243 or 1 (800) 872-8980
 E-mail: cloughem@oes.orst.edu

Appendix C-1
 Memorandum
 of
 Understanding

MEMORANDUM OF UNDERSTANDING

between

State of Oregon
 USDA Forest Service Region 6
 USDI Bureau of Land Management - Oregon
 USDI Fish and Wildlife Service - Oregon
 USDA Natural Resource Conservation Service - Oregon
 USDC National Marine Fisheries Service
 USDI Bureau of Indian Affairs
 Environmental Protection Agency
 USDI Bureau of Reclamation
 US Army Corps of Engineers
 USDI National Park Service

WHEREAS: All parties seek to improve current conditions of watersheds to restore habitat and provide long-term protection to aquatic and riparian resources; and

WHEREAS: It is recognized that watershed health and vitality depend on all partners working together, collaboratively developing an overall assessment of the watershed, setting mutual goals and objectives, and coordinating implementation of protection, management, and restoration efforts; and

WHEREAS: It is recognized that health of watersheds includes and must respond to the social and economic needs and issues of the people of the watershed; and

WHEREAS: Past land and water management practices have contributed to loss of watershed health including localized reductions in stream flow and water quality, degradation of aquatic and other habitats, and associated declines in fish and wildlife populations; and

WHEREAS: All parties recognize that success in accomplishing and maintaining watershed health is best achieved at the local level, involving communities, tribes and all interested stakeholders; and

WHEREAS: It is acknowledged that solutions and opportunities vary community by community, and watershed by watershed, and thus must be designed and catered according to the local needs, desires, and opportunities.

THEREFORE:

The signatories of this Memorandum of Agreement are committed to providing the needed and requested support of watershed and community-based efforts that are committed to improving the health and vitality of watersheds and these associated communities.

IT IS MUTUALLY AGREED BY ALL PARTIES THAT:

The support of watershed and community-based efforts will be managed at the local level with strategies, priorities, and implementation developed locally to be responsive to the specific needs and desires of the area.

Local commitment may be formalized through a more localized agreement which involves the needed representation of private, tribal and public entities.

Implementation of a watershed and community-based effort may require changes in existing processes and policy within each of the participating parties.

IT IS MUTUALLY AGREED THAT EACH PARTY OF THIS AGREEMENT WILL:

Designate a primary contact at the state or regional level to assist local level efforts and needs when such requests are made by the local level.

Aid and expect local efforts to analyze and define their specific needs, desires, opportunities, and formulate associated implementation plans.

Work with the Governor's designate who will be the primary contact and liaison for community-based efforts and be responsible for coordinating resolution of issues and opportunities with all of the partners.

Assist tribal and local interests in resolving problems or constraints encountered that may hinder them from achieving their defined and agreed upon desired results.

Actively seek opportunities to work in partnership with tribal and locally driven efforts to analyze the condition of watersheds and other landscape units, and to assist in the development of plans to restore and maintain watershed health.

Actively seek opportunities to assist in the implementation of watershed plans through the provision of technical assistance, dissemination of information and allocation of staff, equipment and funds.

Delegate authorities and decision making to the lowest level practical, as allowed under current law.

IT IS UNDERSTOOD THAT THIS AGREEMENT:

Does not commit any signatory to the commitment of funding or resources other than the commitment of a policy level contact.

Does not eliminate or relieve participants from any existing rules, regulations, or requirements.

Does not substitute for or replace the need for government to government consultation when appropriate.

Does not restrict any party from participating in similar activities with other entities.

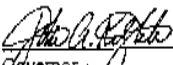
Can be terminated in whole, or in part, by any party at any time with written notification.

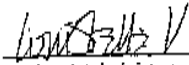
Will be reviewed annually along with the overall effort to assess the need for the continuance or modification of such an agreement.

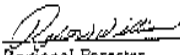
Is executed as of the last date shown below and unless terminated before, will expire 5 years hence.

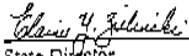
Can be modified with the universal consent of all parties with modifications not in effect until all parties have approved the changes and been formally notified with a signed addendum to this agreement.

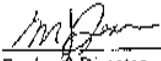
AGREED UPON:


 April 30, 1997
Governor (date)
State of Oregon

 Feb 20, 1997
Regional Administrator (date)
USDC National Marine Fisheries Service

 Feb 20, 1997
Regional Forester (date)
USDA Forest Service
Pacific Northwest Region

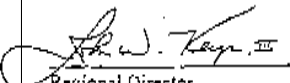
 Feb 24, 1997
State Director (date)
USDI Bureau of Land Management
Oregon/Washington

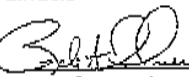
 March 4, 1997
Regional Director (date)
USDI Fish and Wildlife Service

 April 23,
State Conservationist (date)
USDA Natural Resources Conservation Service

 March 4, 1997
Area Director (date)
USDI Bureau of Indian Affairs

 March 14, 1997
Regional Administrator (date)
Environmental Protection Agency

 March 27, 1997
Regional Director (date)
Bureau of Reclamation

 March 17, 1997
District Commander (date)
U.S. Army Corps of Engineers

 Feb 11, 1997
Deputy Regional Director (date)
National Park Service

United States Department of Agriculture	Forest Service	R-6	OR/ WA	Bureau of Land Management	United States Department of Interior.
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Reply Refer to: 2500/2600 (FS)/7220 (BLM OR958)P Date: June 11, 1997

FS-Memorandum
 EMS TRANSMISSION
 BLM-Information Bulletin No. OR-97-320

To: Forest Supervisors, District Managers, District Rangers, and Area Managers (Oregon)

Subject: Community-based Approach to Watershed Restoration

Enclosed is a copy of the Memorandum of Understanding (MOU) with the Governor of Oregon and eight other federal agencies committing to a community-based approach to watershed restoration. The most effective way to improve the health, sustainability, and productivity of watersheds and communities is by working in collaboration with other local, state, tribal, and federal governments and with the landowners, landmanagers, citizens, and other stakeholders within the watersheds.

Through this MOU, we seek to improve the coordination and linkage with active and emerging watershed councils throughout the State of Oregon that are dedicated to improving watershed and community health across the landscape. We request that all line officers, within the State of Oregon, actively support the development and operation of these watershed council efforts.

Local line officers can support this MOU by:

- o Actively participating in local watershed council efforts by serving on the councils; providing technical assistance and information; and contributing to watershed restoration projects and strategies.
- o Linking local watershed council efforts with river basin issues and opportunities by using Provincial Advisory Committees and Resource Advisory Committees, as appropriate.
- o Participating in the development of a comprehensive plan and strategy for the entire watershed that addresses the ecological, social, and economic issues and opportunities.
- o Realigning work priorities and allocation of resources to implement agreed upon watershed restoration plan projects and priorities.

- o Managing from a total ecosystem management perspective that recognizes and responds to needs of the watershed, the people, and the communities within the watershed.
- o Seeking whatever changes are needed in existing processes and policies to further the goals of this MOU.

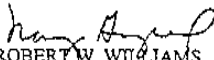
We have assigned the policy level coordination responsibility of this program, per agreement in the MOU, to Ron Ochs, Forest Service and Bob Rheiner, Bureau of Land Management, who will work with Regional and State office staff, and your unit personnel to seek needed policy changes to support your local initiatives.

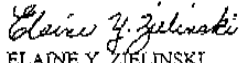
We are committed to working with you to ensure local line officers have the authority, and tools, needed to implement this MOU. We are completing a preliminary toolkit aimed at providing you a variety of approaches and options to consider in implementing this MOU.

As line officers, you have the opportunity to set the direction for the future. This will not, and cannot, be another top-down approach whereby we provide you with definitive direction, guidance, rules, regulations, processes, etc. How this collaborative approach unfolds will vary locally. Your actions need to be designed to capitalize on the specific opportunities present.

The spirit of this agreement is about working together with other stakeholders to create and maintain healthy ecosystems while at the same time effectively responding to other local, regional and national needs.

If you have any question, please call Ron Ochs at (503) 808-2647, or Bob Rheiner at (503) 952-6015.


 ROBERT W. WILLIAMS
 Regional Forester
 Forest Service,
 Region - 6


 ELAINE Y. ZIELINSKI
 State Director
 Bureau of Land Management,
 Oregon/Washington

1 Enclosure

1 - Watershed-/Community-based Approach (MOU) (3 pp)

cc: Forest Supervisors, District Manager, Area Managers (Washington)
 RO Directors
 BLM, DSD and Branch Chiefs

Appendix C-2
 Joint Letter
 from the
 Governor of
 Oregon,
 BLM, and
 Forest
 Service

June 1, 1998

*US Forest Service Forest Supervisors
 Bureau of Land Management District Managers
 State of Oregon Natural Resources Agencies and CWER*

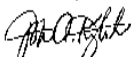
In April 1997, the State of Oregon, the U.S. Forest Service, and the Bureau of Land Management, along with eight other federal agencies, signed a Memorandum of Understanding (MOU) that states our agreement to support watershed and community-based efforts that are committed to improving the health and vitality of watersheds and the associated rural communities. This MOU recognizes that efforts to improve the health and vitality of watersheds must also respond to the social and economic needs and concerns of the people of those watersheds and communities.

Over the past few years there have been many examples of our working better together to integrate these social, economic and environmental components. Through the Jobs in the Woods component of the Northwest Forest Plan, we have learned that aligning our natural resource work to create quality jobs for citizens in these communities benefits the people and the communities within these watersheds.

There continue to be new opportunities to create quality jobs within our regular business practices, and to link our efforts with those of our partners. To encourage and guide these efforts, a federal-state-private working group has developed the attached proposal. This proposal is supported by Region 6 of the U.S. Forest Service, the State Office of the Bureau of Land Management, and the State of Oregon. The proposal describes how we can further the goal of creating quality jobs on public lands. Over the next few months, we will be asking you to work with your local partners and those who have developed the proposal to assess what can be done in your local jurisdiction or agency to promote the creation of high quality natural resource jobs for local workers.

We thank you for your commitment to a healthy ecosystem. We know the benefits of this proposal will not be realized overnight, but it is important that we begin our work to meet its goals.

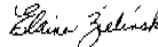
Sincerely,



John A. Kitzhaber, M.D.



Robert W. Williams



Elaine Zielinski

JAK/RR/am

Attachments



John A. Kitzhaber, M.D.
 Governor
 State of Oregon
 State Capitol
 Salem, OR 97310-0370



Robert W. Williams
 Regional Forester
 U.S. Forest Service
 P.O. Box 3623
 Portland, OR 97208-3623
 333 SW 14th
 Portland, OR 97204



Elaine Zielinski
 State Director
 Bureau of Land Management
 PO Box 2965
 Portland, OR 97208

Ecosystem Management

A Comprehensive Approach *Quality Jobs for Local Workers* Proposal

Proposal: Adopt quality jobs as a management principle and organizational responsibility, recognizing that state and federal agencies can and should structure their programs of work in ways that maximize the quality of jobs for workers within these ecosystems. State and Federal commitment that by year 2002 all procurement and other management actions will incorporate local social and economic needs (which includes local quality jobs).

Desired Outcomes:

- o A local multi-/highly skilled work force is available and utilized to respond to demands for natural resource management work.
- o Clearly defined and measurable milestones are created that address opportunities and actions to improve quality of jobs
- o Partnerships are established with other state, federal, and local entities to define, align, and achieve quality job goals.
- o Quality jobs for local citizens are improved continuously over time; measured by duration of employment, pay and benefits, and level and mix of skills.
- o Ecosystem management decisions are outcome based (considering total benefits and costs of the social, economic, and biological) NOT solely activity/output based.

Background:

Our various collaborative efforts over the last four years (jobs in the woods, ecosystem health, salmon restoration efforts, etc.) have been guided by a series of common principles. While each of the initiatives have had differing program objectives and varied geographically in scope, these principles have served as a common denominator.

Common Principles:

- o Landscape based: solutions and issues transcend boundaries
- o Collaboration: success in achieving goals requires state, federal, and local partners working together
- o Community-based: efforts to create the needed partners that involve local landowners, state, local, and federal governmental entities, and other stakeholders must be community-based and driven.
- o Responsive to Communities: recognizing that the health and sustainability of ecosystems must be responsive to local community social and economic needs.

With respect to "responsive to communities", we have learned through our experiences that while the specific issues, concerns, opportunities, and desired strategies of communities vary, each community desires the following:

1. Economic opportunities remain in their communities to enable people to continue to live and prosper.
2. Utilize and promote the skills and abilities of local workers and,
3. Generate family wage, sustainable employment.

Quality Jobs:

Why: Healthy and sustainable ecosystem can only be achieved if all aspects (social, economic, and environmental) are healthy, functioning, and sustainable.

What: Definition and criteria for quality jobs includes sustainable and predictable employment, adequate and fair compensation (pay and benefits), and the ability to utilize and promote skills and abilities.

How: Similar to most aspects of ecosystem management, the quality jobs (responsive to communities) aspect can only be achieved through collaboration. State, federal, and local partners working together to package and schedule projects with a focus on improving the quality of jobs for local citizens. While we may never have the collective amount of economic activity to create all the jobs desired or needed within an ecosystem, collaborative efforts will help to maximize the number of quality jobs.

Who: It is up to YOU to make a difference. Reach out to improve partnerships with other state, federal, and local partners. Get the community involved and part of the solution. Be visible and consistent in your commitment and actions to address community social and economic needs and issues.

Requested Actions From You:

Three Actions are Requested:

- o By January 1, 1999, establish meaningful and measurable milestones (example attached) by working with your partners and stakeholders.
- o Consider quality jobs as a criteria for performance for all line officers
- o Annually report accomplishments

Resources Available to You: People and teams are available to assist you in moving these goals forward; to better understand the issues and opportunities; to define and develop milestones; to answer questions; to share successes observed over the last few years, etc. Contact either: Ron Ochs, USDA Forest Service (503 808-2647), Bob Rheiner USDI Bureau of Land Management (503 952-6015, Tom Brumm, Oregon Economic Development Department (503 986-0123) or Charles Spencer, Labor and Education Research Center (541 346-5054).

Appendix D
Ecosystem
Workforce
Project
Evaluator's
Final Report,
EWP

ECOSYSTEM WORKFORCE PROJECT

FINAL REPORT

MAY, 1998

PREPARED BY PUBLIC KNOWLEDGE, INC.

This report is the final evaluation of the Ecosystem Workforce Project. There are two components of the report: 1.) an independent, but primarily subjective, appraisal of what has been demonstrated by the project; and 2.) an assessment of project accomplishments in terms of the overall outcomes it hoped to achieve ("where do we want to be in 1998"). The latter results are compared with key criteria for each of the three overarching project goals: Quality Workforce, Ecosystem Management, and Healthy Communities. Results are documented through interviews with key players and by incorporating data collected by the project. The project has collected a considerable amount of information; this report does not seek to duplicate that information, but rather to provide a high level view of what results have been achieved.

In addition, this report benefits from a more in-depth analysis of the costs and benefits of the high skill approach to ecosystem work completed under funding from the Ford Foundation. Where appropriate, results from that study have been incorporated into this report.

What has been demonstrated?

The Ecosystem Workforce Project was intended not only to facilitate new employment opportunities for displaced timber workers, but to demonstrate the value of a high skill/high wage approach to ecosystem management work. Reviewing the experience of the EWP, there is much that has been demonstrated and several key lessons have been learned.

- ❑ *A community of individuals and organizations desirous of and advocating for change can be created and maintained.* This community includes federal land management agencies, unions, contractors, community-based organizations, trade associations, universities and community colleges, state agency staff, crew leaders and workers, and community leaders. Through EWP forums, technical assistance from LERC staff, and their participation in the project, they have shared in the development of a vision of ecosystem management carried out by quality workforce and in the initial attempts at implementing that vision. While the vision has yet to be realized, this community should remain a visible and vocal force for change.
- ❑ *The project has developed, implemented, tested, revised, and validated a skill-based curriculum for training ecosystem management workers.* The theory and practice of ecosystem management has been applied to on-the-ground ecosystem work. Independent assessments have shown agreement among workers and supervisors that the skills taught through the curriculum are indeed used on the ground. This effort is continuing through the establishment of recognized apprenticeship programs.
- ❑ *There is an economic case for the high skill approach to ecosystem management work.* The Ford Foundation study found that there are economic, ecological, and social benefits when ecosystem management work is performed by a highly skilled and trained workforce. In particular, the cost savings and benefits that accrue to the contracting agency when work is designed, organized, and carried out by a high skill crew justify the payment of higher, living wages to the workers. Furthermore, there is supporting evidence that high skill crews do higher quality ecosystem work leading to increased ecological benefits.
- ❑ *On-the-ground ecosystem management work, as performed by a highly skilled and trained workforce, is amenable to the methods that have improved American industrial and service industry productivity.* The Ford Foundation study documented how EWP work crews and supervisors have “redesigned” many aspects of the way work is designed, organized, and carried out. They have demonstrated many of the principles that underlie Total Quality Management and Process Redesign approaches used effectively by other American industries, government agencies and service industries. Applying the experience of the EWP in a systematic effort to redesign ecosystem management work should lead to increased quality and efficiency, allowing more ecosystem work to be done at less expense.

- ❑ *Rural communities need not resign themselves to becoming passive respondents to economic change, but can influence and shape their futures.*

Notwithstanding the fact that the communities did not reach all the goals EWP had set for them, some communities have taken the first steps to supporting an ecosystem industry. Project leadership has been crucial in beginning these efforts and some ongoing mechanism likely will be needed. However, in many areas, for example, how federal land management agencies set priorities, and how Watershed Councils implement restoration efforts, communities will be prime movers.

- ❑ *Where creativity and innovation thrive, success results.* Every project site was faced with numerous obstacles to success, from contracting procedures that fail to recognize multiple outcomes to insufficient ecosystem work to keep crews busy. Where success occurred, it happened through innovative and extraordinary efforts of dedicated individuals. Not only did these efforts solve current problems, but they demonstrated solutions that have applicability beyond the projects.

- ❑ *There is a viable, proven approach to enable federal land management agencies to carry out their new missions of ecosystem management.* The mission of The United States Forest Service is ecosystem management to achieve ecological, economic, and social benefits. The EWP has demonstrated that this mission can be realized by combining innovative contracting mechanisms that reflect multiple outcomes with a highly skilled and trained ecosystem workforce. For example, the Ford Foundation study identified three alternative contracting mechanisms for procuring, implementing, and monitoring ecosystem management work. One EWP demonstration site has implemented one of these alternatives and continues to use this approach.

- ❑ *It is easier to influence the supply of ecosystem management workers than the demand for these workers.* The success of the EWP in training ecosystem management workers and graduating a cadre of skilled workers has not been matched by a commensurate increase in the demand for their skills. The major employer for these workers will be the largest land owners in Oregon—the federal land management agencies. Despite their avowed mission of ecosystem management, these agencies have not generated sufficient demand for quality work and high skilled workers to help this emerging industry thrive.

- ❑ *Demonstration projects are not research studies.* The EWP's task was to demonstrate the efficacy of an approach to ecosystem management. It could not address, let alone evaluate, other alternative approaches, workforces, contracting, and marketplace alternatives. Key players may continue to hold fast in their support of their preferred alternatives despite evidence of the benefits of the demonstration .

- *There are hidden costs to making progress.* The EWP raised the expectations of those who had lost not only jobs but hope. While all participants certainly knew the risks of being pioneers in a new and unstable industry, the reality of once again facing unemployment while their friends and former co-workers who chose other paths seemed to be better off, must have intensified their frustrations. The EWP has not escaped the human cost associated with government-funded programs that have failed to meet lofty outcomes.

**ECOSYSTEM WORKFORCE PROJECT
FINAL REPORT
MAY, 1998**

GOAL #1 QUALITY WORKFORCE, defined as "certified" ecosystem management specialists (those who have completed apprenticeships), are employed in local ecosystem industry

CRITERIA	PROGRESS	COMMENTS
<p>1. Demo Project graduates and certified/trained workers are employed in ecosystem management work.</p>	<p>1. A follow up study by EWP located 123 out of 150 graduates of training projects. Of those 123 graduates:</p> <ul style="list-style-type: none"> • 50 were considered discouraged and had left the industry • 39 were working for registered training agents; but 31 of these were working on current projects • 34 had worked in the industry in the past 12 months, not for registered training agents and not necessarily doing primarily ecosystem management work <p>Much of the decision making about how much ecosystem work will be done and who will do it should shift to Oregon's 83 Watershed Councils. These councils have often emphasized volunteer workers as a means to leverage limited funds (indeed funding guidelines specified local volunteer contributions). Convincing the councils of the costs and benefits of high skill workers will be critical in creating demand for project graduates.</p>	<p>1. The majority of training program graduates have either left the field or continue to work on projects (perhaps receiving a second year of training). Graduates have simply not found employment opportunities in the "free marketplace." At one project site, only 2 of 31 graduates are reported to be working close to full time doing ecosystem management and other work. It may be the case that graduates have added ecosystem management skills to their "resumes," and can now qualify for a broader range of contract work than they could have previously.</p> <p>Watershed Councils appear to have at least two issues to resolve so that quality jobs may be created: a.) ecosystem management should be viewed as work requiring skills and attributes not usually found in volunteers. The results of the Ford Foundation study can be applied here. They demonstrated that high skills and training are cost effective and produce incremental benefits to the watershed. A growing component of ecosystem management work in data gathering and analysis. Indeed a major responsibility of Watershed Councils is the monitoring of watershed health. EWP graduates are well skilled in this work and have been shown to quickly master new analysis methodologies. b.) Watershed Councils may not have defined ecosystems and watersheds broadly enough that "people" are included. Enlarging their definitions would lead to consideration of social outcomes and should support the creation of quality jobs.</p>

2. As noted above, ecosystem management jobs are mainly in the projects. While most project workers have health benefits these often have high deductibles that may limit their use to critical illnesses. The high cost of extending coverage to family members often limits coverage to the worker.
3. While only a few contractors currently “value” apprentices (or project graduates) recent interviews with contractors again demonstrate that if there were sufficient demand for contracted ecosystem management work, and the contracts specified ecosystem management specialist apprentices, or required the skill levels that apprentices possess, contractors would have no hesitancy in recruiting and hiring these workers.

2. Four continuing EWP projects estimate that they will be awarded approximately \$2,000,000 in contract work in 1998. This would represent an increase over the approximate \$1,500,000 in annual contract work in prior years. Salaries remain at target levels of \$10 to 12 per hour; however most current contracts are short duration (less than 30 days).
3. Progress continues on establishing an apprenticeship program. For example, apprenticeship standards and guidelines have been established and registered with Oregon Bureau of labor and Industries. A current listing of registered training agents, apprentices, and trainees has been developed and is sent to potential employers. It seems reasonable to assume that this “infrastructure” component will be completed and apprenticeship training extended. The uncertainty revolves around the recognition and valuing of apprentices by contractors and other potential employers.

4. The Integrated Model for Developing an Ecosystem Workforce (IMDEW) has been completed with core competencies for all model components. These competencies were validated during the Ford Foundation study through independent ratings of worker skills used on the job. Supervisors and workers identified which skills were used by workers and there was a high rate of inter-rater agreement among supervisors and workers. Neither group identified skills that were used that were not included in the competencies. The EWP and the IMDEW developers are working with the State of Oregon Office of Community College Service and others to help institutionalize the model in community college curricula and apprenticeship programs.

2. Ecosystem management jobs are stable and well-paying.
3. Ecosystem Management Specialist Apprenticeship is recognized and valued throughout the forest worker industry.
4. Ecosystem management training is integrated into existing academic programs or developed as a separate career path for new and current forest-based workers

GOAL #2: ECOSYSTEM MANAGEMENT, defined as watershed-based, multi-tasked, multi-seasonal forest and riparian management work, is a primary focus for public land management agencies and private landowners

CRITERIA	PROGRESS	COMMENTS
<p>1. Public agencies, private corporations contract for ecosystem management projects and give preference to certified ecosystem workers.</p>	<p>1. Federal land management agencies continue to be the major funders for ecosystem management work. Current contracts do not call for or give preference to certified workers.</p> <p>Cross-federal agency partnerships have been implemented in the demonstration projects and have provided an increased amount of flexibility in letting federal funds. These partnerships are continuing particularly in the Sweet Home Ranger District where some private land is also included.</p> <p>The Sweet Home project has developed and implemented one innovative procurement and contracting model suited to ecosystem management work and supportive of quality jobs. Two additional models have been identified in other projects and all three are documented in the Ford Foundation study. Implementing and evaluating these models, at least on a pilot basis, would seem to be an important step in creating quality jobs.</p>	<p>1. While the two concepts of ecosystem management work and high skill/high wage workers are bundled in the demonstration projects, it is not clear that a.) if ecosystem management work were to increase it would be implemented through trained and skilled workers; b.) agencies will not revert to the low bid/low wage approach once current federal initiatives, JITW, are finished.</p> <p>The "logical" approach to creating quality jobs would appear to be: a.) implement the avowed federal policy of ecosystem management including economic, environmental and social outcomes, b.) design contracted projects that are clearly ecosystem restoration and analysis work and thereby require skilled workers, and c.) adopt new contracting alternatives that recognize these outcomes, and award contracts on this basis. These steps should create the financial incentive for private contractors to hire skilled, certified workers and provide quality jobs.</p>

2. Quality jobs should include not only a living wage and benefits but work that is meaningful and benefits the ecosystem. To date, while project work has included ecosystem restoration and data gathering and analysis, it has also “bundled” traditional resource management or extraction-related work (thinning, etc.). The hope is that contract work by 2002 will truly be ecosystem management work and work that supports quality jobs.

2. Currently, outcome-based ecosystem management projects remain a small part of federal land management agency budgets. However, the USFS and BLM have agreed to add “quality jobs” to contracting decision criteria by 2002. This should mean that economic, ecological, and social outcomes will be assessed in awarding contracts.

3. While projects have demonstrated models under which this may occur, these models have yet to be applied to federal non-project sites or to private lands.

2. Outcome-based ecosystem management projects (i.e., those that are defined by desired outcomes) constitute a stable and significant percentage of federal land management agency budgets.

3. Restoration work happens on public and private lands, managed by private (for profit and nonprofit) organizations.

GOAL #3: HEALTHY COMMUNITIES, defined as communities and community based organizations, advocate for quality workforce outcomes as part of natural resource management

CRITERIA	PROGRESS	COMMENTS
<p>1. Community groups participate in monitoring the health of its proximate resources and the related economic, workforce, and social issues.</p> <p>2. Responsible ecosystem businesses are based in the community.</p>	<p>1. Community participation occurs in some project sites primarily through steering committees. Broader-based community support beyond steering committees or in other communities has not yet occurred. Institutionalizing the community participation elements of the EWP should occur through the Watershed Councils, as long as the councils recognize and accept economic and social outcomes, e.g. quality jobs, as an integral part of their mission.</p> <p>2. There are few if any ecosystem businesses based in local project site communities. There is at least one small (two project graduates) business and other enterprises who contract for ecosystem management work. However there is not enough such work that these enterprises can subsist without accepting other more traditional contract work.</p>	<p>1. The previous progress report identified two possible strategies for institutionalizing project benefits: 1.) increasing the membership and activities of the steering committees to include those agencies that will have a role to play in both the demand and supply side of future ecosystem workforce development. 2.) Link existing demonstration projects efforts with the Watershed Councils. As Watershed Councils are emerging as a major player in ecosystem planning and restoration and, in addition, have strong political support by state and federal agencies, this second strategy seems the most feasible. EWP and the steering committees have pursued this strategy and are targeting outreach and educational efforts towards Oregon's Watershed Councils.</p> <p>2. If the definition of "responsible ecosystem businesses" included previously established contractors who do traditional resource management work, but have the capability to respond to ecosystem management contract opportunities through training current workers or hiring project graduates, then this criteria would be partially met.</p>

3. Again, this progress supports the establishment of the infrastructure that will be needed for a future career path for ecosystem management workers.

3. Links have yet to occur between communities and educational institutions around ecosystem management training. However considerable progress has been made in developing and establishing the educational programs in community colleges that should attract community members. For example, the Integrated Model for Developing an Ecosystem Workforce (IMDEW) contains a set of competencies for high school through community colleges as well as apprenticeship education.

4. Project site steering committees do not appear to have broadened their activities to include the governing bodies of communities to any significant extent. Rather they are establishing contacts with their Watershed Councils as the forums for addressing ecosystem issues.

3. Communities establish and maintain links with educational institutions and other providers of ecosystem management training.

4. The community's governing bodies are involved in and responsive to ecosystem management issues.



Appendix E

The
High-Skill
Approach
to
Ecosystem
Management:
Combining
Economic,
Ecological,
and Social
Objectives

Executive Summary

**A Preliminary Analysis of
The Impacts Of Selected
Jobs-In-The-Woods Projects**

Public Knowledge, Inc.
Salem, Oregon
and
Labor Education and Research Center
University of Oregon, Eugene

March 1998
Appendices

Executive Summary

The winds of economic and ecological crises and change have swept through rural communities of the Pacific Northwest. In response, federal and state entities implemented policies designed to assist communities as part of ecosystem restoration. In the Pacific Northwest, the Jobs in the Woods (JITW) program launched several experiments and projects in communities to provide quality jobs for local residents as part of the restoration efforts.

This study examines a small sample of JITW projects that followed a “high-skill” approach to the restoration work. The underlying assumptions of this approach are that well-trained workers are a critical component of the emerging work necessary to restore watershed and steward our ecosystems, and that quality jobs are necessary for healthy communities.

Ecosystem management, as defined here, is a collaborative process that strives to achieve economic and social as well as ecological objectives. The central focus of this research is to document the impacts of the high-skill approach, specifically to assess the benefits and impacts on agencies, communities, and the ecosystem itself. The intent is to glean lessons from these projects that can help inform the ongoing policy debate on how we manage our ecosystems, the role of community organizations, and the practice of designing and procuring ecosystem work.

The research was based on interviews with participants in the five projects. In the absence of hard data, we sought consensus, within and across projects, on the fundamental issues of training and impacts on agencies.

Our results concentrate on savings and other impacts on the agencies, costs of providing training, and, to a lesser extent, impacts on the watershed itself. Because of the small scale of the experiments, we were unable to test the presumed benefits of a stable and trained workforce to the community.

Findings on Worker Skills and Attributes, Project Work, and Costs

- The curriculum that was developed to train ecosystem management. The curriculum that was developed to train ecosystem management workers yielded a checklist of skills that was validated by workers and supervisors across these projects. Workers not only use these specific skills but demonstrate important attributes such as an understanding of the woods, independence and flexibility in undertaking the work.
- Land management agencies came to value these skills and attributes. They developed a high level of trust with these workers which in turn led them to reduce on-site supervision and monitoring of the work.
- The nature of the project work included both analysis and survey work as well as treatment or restoration work. There is some evidence that the project crews compare favorably in terms of cost and quality to the likely alternative workforce which would be employed for both types of work.

- There are costs to provide a high-skill workforce. Training costs in these projects appear to average from \$3700 to \$4500 per year, and costs per “successful completion” are higher as many trainees either need additional training or left the industry. Perhaps the highest cost is to the workers themselves, as many expected to remain employed in a new ecosystem industry, but the jobs have not yet materialized.
- While the initial costs appear high, many of the costs would fall over time if the high-skill approach were to become more prevalent. Recruitment, screening and training costs all would be reduced with time and economies of scale, and the costs to workers would be reduced with more ecosystem management activity and jobs.

Findings on Economic Impacts: Savings to Agencies

- There is a strong and general consensus that savings to land management agencies occur when ecosystem work is designed for a high-skill workforce. Savings occur in project planning, implementation, and monitoring and evaluation. These savings come at a crucial time and can be reinvested in other agency functions.
- Agencies save during project planning and design because less administrative time is required when separate projects are bundled together, with less detailed specifications.
- Agencies save from reduced supervision and guidance by contracting staff due to the project crew’s ability to assess specific conditions “on-the-ground” and adjust tasks accordingly. Results can be sampled or spot-checked, and crews assist with accurate reporting.
- Efficiencies and improvements result when agency professionals, the “ologists” can directly interact with workers who speak the same language and have similar objectives. Other benefits include a less adversarial approach to contracting and a greater opportunity for mutual learning among all of the parties.

Impacts on the Watershed

- While the data in this area are weaker, there is evidence that the work is of higher quality, and that this leads to more sustainable and durable restoration work. Crews reported finding and correcting previous ecosystem work.
- Some of the most significant costs in ecosystem management are related to acting on bad information. The crews in these projects collected information and conducted assessments more reliably, according to agency supervisors, thereby reducing this potentially sizable cost.

Implications for Project Design, Procurement and Contracting

- The standard design and procurement model emphasizes securing the lowest possible cost to the federal agency. The work is often designed for a workforce of unknown skill level, with discrete projects and detailed specifications.
- The standard model does not easily incorporate the multiple objectives of ecosystem management. Our research uncovered three additional models that could be used to encourage a high-skill approach:

Best Value Contracting incorporates additional objectives into the design criteria for awarding contracts. This model uses less staff time once the “best value” contract terms are specified.

Service Agreement or Retainer Contracting can reduce agency costs by selecting contractors according to qualifications and costs. Work is then contracted with task orders.

Stewardship Contracting features a multi-year arrangement awarded according to qualifications and ability to undertake planning, assessment and treatment over time.

- There is no consensus within federal agencies on the best way to proceed with respect to contracting options. Many believe that an open market approach would best allow contractors to respond, while others favor the above options. Further, the contracting marketplace itself could respond to changes in design and procurement in several different ways. What is clear is that the driving force is the “demand side” of the market—how work is designed and then implemented through contracting procedures. Decisions in this arena determine how the contracting market responds.

Conclusions

There is an economic case to be made for the high-skill approach—it provides savings to the employing agency and benefits to the watershed. Higher wages and longer duration contracts that might result from the related contracting options should also have beneficial economic and social impacts on the community. Thus the high-skill approach—with its collaborative process, skilled workers and longer duration contracts—may be the focal point for securing economic, social, and watershed benefits that define ecosystem management.