

Willamette Basin Conservation Project

Meyer Memorial Trust, Grant No. 02010512

**Final Report
1 August 2005**

Table of Contents

Project Summary	2
Goals and Objectives: Defining Our Vision	3
Objective 1: Creating a base of technical information to help people in the Willamette Basin make decisions about their environment.....	3
Objective 2: Providing people with easy access to that technical information through a Digital Library of natural resource information.....	7
Objective 3: Helping communities and stakeholders use that information to plan and take action toward conservation in the Willamette Basin	9
Objective 4: Helping people implement conservation activities by increasing access to incentives.....	12
Lessons Learned	16
Financial Report	17
Appendices	18
Appendix 1: 2000 Land Use and Land Cover Graphics	
Appendix 2: Willamette Basin Explorer Materials	
2-A: Willamette Basin Explorer Web Architecture	
2-B: Needs Assessment	
2-C: Training Worksheet	
2-D: Statement of Intent	
Appendix 3: Willamette River Basin: Challenge of Change	
Appendix 4: Public Outreach and Stakeholder Engagement Strategy	
Appendix 5: Outreach-related Materials	
5-A: Planners Handout	
5-B: Newspaper Articles	
Appendix 6: Priority Habitat Maps	
6-A: Nature Conservancy Map of the Willamette Basin	
6-B: Map of Potential Areas of Conservation Focus	
Appendix 7: Willamette Restoration Initiative Transition	
Appendix 8: Incentive-related Documents	
8-A: Report to the 72 nd Legislative Assembly	
8-B: Listening to Landowners	
8-C: Restoring Native Habitats	
8-D: Voluntary Conservations Tools	

Project Summary

The Willamette Basin Conservation Project (the Project) was created to help people and programs work together toward positive results in Oregon's Willamette Basin for people, lands, communities, waters and native species.

The Willamette Basin is one of the most beautiful and productive regions of the world. Its abundant resources and diverse land uses reflect the high quality of life for which Oregon is celebrated. Seven in ten Oregonians call the Willamette Basin their home. But this place of beauty and abundance is constantly changing—sometimes imperceptibly, sometimes in ways people find desirable and sometimes not, but it is always changing and often profoundly so. The Willamette River, which flows through the heart of the valley, is not as clean as it was two centuries ago but it is cleaner than it was several decades ago. Woodlands dot the hillsides, but native species are dwindling, often in response to both human transformations and conifer encroachment. The number of people living in the basin is expected to double in 50 years. This growth—and its accompanying economic and urban development—will put increasing pressure on water resources, sensitive habitats, endangered species, and Oregonian's prized quality of life. Unless the efforts of many people and many programs are mobilized to improve conditions, the health of the Willamette Basin will suffer the effects of a thousand small wounds.

Work recently completed by the U.S. EPA-funded Pacific Northwest Ecosystem Research Consortium created a legacy of environmental, social and economic information about the Willamette Basin. The consortium's data sets and maps were developed to meet the demands of scientific research, and they contain a wealth of information for many other purposes. But these data sets also have the potential to contribute to local and regional decisions if organized in a way to meet the needs and questions of local groups. Making these data sets and maps useful to a wider group requires that they be organized in relation to people's needs and questions.

The Project recognized that lack of coordination among the many conservation-related activities underway in the basin limited capacity, and set forth to connect the various, existing conservation efforts throughout the Willamette Basin by using the latest tools of research, communication, and decision-making. The coordinated conservation strategy we developed is intended to take science to the people. For example, the Project organized findings from ongoing research about such topics as land use and conservation and restoration opportunities so that information can be understood and used by the policymakers and citizens faced with making practical decisions. We endeavored to make the vast and growing collection of information about the Willamette Basin easily accessible through an online, digital library of natural resources information, among the first such libraries in the nation. By reaching out to citizens, landowners, and decision-makers, the Project also set out to help local groups apply restoration strategies in their own local areas. And to assist with implementation of conservation and restoration activities, we committed to providing greater access to incentives that encourage voluntary action on private land.

The Project team comprises the Institute for Natural Resources at Oregon State University (OSU), researchers from the Institute for a Sustainable Environment at the University of Oregon and the

Department of Fisheries and Wildlife at OSU, the OSU Libraries, the Willamette Partnership (previously the Willamette Restoration Initiative), and Defenders of Wildlife.

Goals and Objectives: Defining Our Vision

From the outset, the Project focused on one, far-reaching goal: *To create the capacity for people in the Willamette Basin to work together toward a more sustainable, healthy environment by using new tools of research, communication, and decision-making.* Our objectives were four-fold:

- Objective 1:** Create a base of technical information to help people in the Willamette Basin make decisions about their environment
- Objective 2:** Provide people with easy access to that technical information through a Digital Library of natural resource information
- Objective 3:** Help communities and stakeholders use that information to plan and take action toward conservation in the Willamette Basin
- Objective 4:** Help people implement conservation activities by increasing access to incentives

Each of the four objectives was led by one of the Project partner organizations. Objective 1, creating a base of technical information, was spearheaded by the Institute for a Sustainable Environment at the University of Oregon, with additional research support by faculty in the Department of Fisheries and Wildlife at Oregon State University. Objective 2, providing people with easy access to this technical information, was led by OSU Libraries. Objective 3, helping communities plan and take action toward conservation, was guided by the Willamette Restoration Initiative, which recently has become the Willamette Partnership, a 501(c)(3) non-profit. And Objective 4, increasing access to conservation incentives, was directed by Defenders of Wildlife.

Objective 1: Creating a base of technical information to help people in the Willamette Basin make decisions about their environment – *Led by Dr. David Hulse of the Institute for a Sustainable Environment at the University of Oregon, with additional research support by Dr. Stanley Gregory and colleagues in the Department of Fisheries and Wildlife at Oregon State University*

Program Activities

In the first year of the Project, work on Objective 1 focused on beginning to translate mapped data sets originally produced by the Pacific Northwest Ecosystem Research Consortium into a form that was useful with the prototype Internet tool that eventually became the Willamette Basin Explorer website. Listed below is a sample of the relevant activities associated with this translation:

- 1) Reformatting of technical, mapped information consisted of first identifying and then sub-sampling and re-organizing PNW Ecosystem Research Consortium data to better address the conservation-oriented purposes of various citizen groups in the basin.
- 2) While this was underway, researchers at UO and OSU took the lead in creating a prototype Internet-based mapping tool. Working with graduate students at UO, this tool was conceived, created, tested, and demonstrated to other researchers and to the Mary's River

Watershed Council. The prototype provided access to mapped information for anyone with an internet connection, removing the need for expensive and complicated mapping software. It set the expectations for what the ultimate version of this tool—the mapping component of the Willamette Basin Explorer—could and should be.

- 3) The mapped Conservation and Restoration Priorities for the Willamette Basin were presented and produced in hard copy for use by several citizen groups, including the Mary's River Watershed Council. This group served as a practical case study for the Project by illustrating how to integrate science-based conservation and restoration priorities for the entire Willamette Basin with local needs and priorities. The Conservation and Restoration priorities information also was presented at a half-day meeting of interested parties from throughout the basin.

A critical task of Objective 1 was creating an updated digital map of land use and land cover ca. 2000 for the Willamette Valley Ecoregion, an updated map that is consistent with prior characterization methods, including peer review and associated revision of this digital map (see Appendix 1). In association with this new dataset, metadata describing this digital map and its development were produced and are available online, both as part of the Pacific Northwest Ecosystem Research Consortium website and the Willamette Basin Explorer.

A second critical task completed during the Project was the compilation and graphical display of new data to inform the process of identifying priority areas in the Willamette Basin for conservation and restoration activities. The activities associated with this task include:

- 1) We developed an approach for quantitatively determining conservation priorities for the Willamette River from available biophysical and social information. This analysis provides a spatially explicit depiction of the areas where the ecological outcomes of conservation measure would be high while also depicting the socio-economic constraints associated with these areas.
- 2) We revised the chapter of the Willamette River Basin Atlas on priorities for restoration of the Willamette River to include new information on restoration potential.
- 3) We created a quantitative comparison of 1996 flood inundation with historical river channels for 1850, 1895, and 1932. We determined that approximately 30% of the flood channels in 1996 were simply historical channels that were present in 1850, 1895, or 1932. This illustrates the importance of historical river conditions as a framework for understanding the natural processes in a river that will lead to restoration.
- 4) We worked with the Digital Library staff to develop methods for displaying the historical channel information on the website and allowing users to select the area of interest interactively. We are currently providing story pages to illustrate and explain this prioritization technique for both conservation and restoration. We also are providing similar story pages that illustrate the inherent processes of natural flooding as a restoration process in a river system.

Results and Impacts of the Activities

As a result of the prototype Internet-based mapping tool effort, Project partners were able to further discussions of who the audience should be for the outreach component of the Project's effort and what the technical and user features of the web-based mapping capability should (and should not) be. For example, technical recommendations were made to OSU Libraries' staff regarding the hardware and software that should be acquired to meet the needs of users as they attempted to connect with and receive information from the Willamette Basin Explorer.

Anticipated or Unanticipated Events that Affected the Project

The creation of an updated digital map of Land Use/Land Cover ca. 2000 for the Willamette Valley Ecoregion made use of matching funds under a parallel project funded by the National Science Foundation. This undertaking was a major contribution to Objective 1 of the Project's effort, and required many smaller tasks to be completed. Completion of these tasks required a substantial investment of time, and occurred at the end of the Project's grant period. Among the sub-tasks were:

- 1) Gathering and making commensurate digital data from throughout the Willamette Basin on tax-lot parcels, aerial photography, water features, agricultural crop types and patterns, and forest types and patterns;
- 2) Completing field work using global positioning systems to verify the accuracy of land use and land cover types and locations as represented on draft maps;
- 3) Conducting a peer review of the final draft map;
- 4) Making final revisions based on peer review comments; and
- 5) Creating standardized federal-government compliant information about this map. This information, called 'meta-data', provides users of the map with details of its creation and sources.

Effects beyond the Immediate Goals

During the Project, the need for a layperson's version of the Pacific Northwest Ecosystem Research Consortium's *Willamette Basin Planning Atlas* became clear. As the Project proceeded with development of *Willamette River Basin: Challenge of Change*, researchers leading activities associated with Objective 1 advised Project partners on drafts of the publication. This process also pointed to the need for making the original, complete Atlas available via the Internet. Despite the fact that it was not one of the original project goals, this step was completed, thus making both technical and translated information available to decision-makers and citizens. Finally, Project partners collaborated to create an on-line version of a previously created Pacific Northwest Ecosystem Research Consortium video. Although the technical demands of accessing the audio were too large for many website users (e.g., those with dial-up connections), a feature story that includes the video and still screen-captures from the video with companion explanatory text was added to the Willamette Basin Explorer.

Future Support for the Activities

Several products are immediately possible but would require additional funding. We will continue to try to obtain support through traditional science funding sources (e.g., National Science Foundation, EPA, US Department of Agriculture) for the research based efforts. We also will continue to try to provide outreach to provide this science to the public and decision makers. Additional funding will make this possible, but the sources are uncertain.

Products for which the science base is currently available:

Animation of the entire Willamette River for 1850, 1990, and 2050. We developed the streaming video for a reach of the Willamette River and made it available on the website. We have the data to accomplish this for the entire river. This would require substantial funding simply for the development of the video. Our best estimates are that the project would require approximately \$200,000 for the video development. Additional funds would be required for the Library staff to make the full video available on the website.

Application of Evoland, a dynamic model of landscape change. We have developed an agent based model of future landscape change for four study areas in the Willamette Basin---the McKenzie confluence, the Long Tom confluence, the Santiam confluence, and the Tualatin confluence. The model represent all tax lots and allows the user to select the types of resource policies and development policies. The user determines the number of replicates of a given scenario or set of policies and can look at the probability or variance in various outcomes. The model projects the status of fish communities, macroinvertebrates, wildlife, overall floodplain health, and property values. This model could be adapted to the web to allow the public and decision makers to explore various management options for the future. We would need to develop estimates of the funding required to adapt the existing model to the website.

Fish and aquatic habitat database: We could develop our existing databases on the species and abundance of fish at different sampling locations along the Willamette River over the last 100 years. We have data on fish sampling from 1905, 1945, 1983, and hundreds of collections in our research since 1990. This project would require approximately \$50,000 to develop the database and make a searchable version available on the website.

Objective 2: Providing people with easy access to that technical information through a Digital Library of natural resource information – *Led by Karyle Butcher, Dr. Tim Fiez, and Janine Salwasser at OSU Libraries*

Program Activities

To provide the people of the Willamette Basin with easy access to research-based information, OSU Libraries created the Willamette Basin Explorer website (<http://WillametteExplorer.info>). This natural resources digital library provides users with one place for information, mapping and reporting tools, and expertise (see Appendix 2A for a visual “tour” of the website). The website addresses needs identified during the scoping process for the prototype of what is now emerging as a statewide Natural Resources Digital Library (see Appendix 2B), in addition to meeting the specific needs identified by a diversity of users in the Willamette Basin.

Key features of the website include:

- 1) Better access to Willamette Basin information: the website provides a new and improved way to access the information and maps from the Willamette River Basin Planning Atlas. In addition, a quality collection of reports and publications, data repositories, photos and videos, spatial data (maps), and links to additional web sites are also accessible.
- 2) Easier learning through interpretive stories: the site uses stories from local residents to overview the past, present and future of the basin, to highlight key natural resource issues, and to help people know how to take action and find assistance.
- 3) Customized web-accessible mapping and reporting: the map and report tools allow users to view and manipulate spatial data in either map or report form. With the map tool, users can create their own custom map showing the features and area important to them. The web-accessible report tool, titled the “statistics wizard,” allows users to summarize and print important land features in a report form such as conservation and restoration opportunities in acres by 4th field watershed (watersheds approximately half way from headwater streams to the main-stem Willamette).
- 4) Finding experts and technical assistance through the web portal: users can find contact information for watershed councils, soil and water conservation districts, land trusts, and other organizations that provide expertise and technical assistance.

Results and Impacts of the Activities

- 1) The Willamette Explorer website has received over 17,000 visits and 40,000 page hits since September 2004. The site averages 74 visits per day. The most popular sections of the site are the Willamette Story (a feature story that offers a broad overview of the past, present, and future of the Willamette Valley), the photos and videos section, and the mapping tools.
- 2) OSU Libraries is using the Willamette Explorer site as the model for additional explorer sites covering all of Oregon. Just as in the Willamette Valley, access to natural resources

information is important to citizens and policy makers statewide. The Institute for Natural Resources and OSU Libraries have already partnered with the Oregon Watershed Enhancement Board to create the North Coast Explorer (<http://NorthCoastExplorer.info>) to serve citizens and watershed councils along Oregon's north coast. INR and the Libraries expect to receive funding to create several additional regional explorer sites in the next year.

Anticipated or Unanticipated Events that Affected the Project

OSU Libraries used an iterative process to develop the Willamette Explorer. First, the Project team determined the major sections/content areas of the website. Next, the graphic design and navigation architecture were developed. Libraries' staff then created a working prototype which was tested by Project partners and individuals working with natural resources within the Willamette Basin. It was during this user testing that the Libraries' team discovered that the mapping tools interface was too complex for users without geographic information system (GIS) experience. Since the mapping tools were such a key component of the site, they devoted additional development time and further user testing specifically to tools. As an outcome of this extra investment of time and resources, the team ultimately decided to create two mapping interfaces. Novice users are directed to the "mapping tool wizard," an interface that utilizes design features from popular driving-direction websites with which most users have some experience. Users with GIS experience are directed to the "advanced map tool," an interface that offers users greater functionality and flexibility.

Effects beyond the Immediate Goals

Creation of the Willamette Basin Explorer website has resulted in many new opportunities. Users of the site have provided excellent suggestions about how to improve the site for themselves and for users as a whole. Already, OSU Libraries is working with the Benton County Fish Passage Program to support their efforts in developing a region-wide, coordinated fish passage database so all users can access the best and most up-to-date data and avoid duplicating data-gathering efforts. The Libraries' team is also working with the Mary's River Watershed Council. In addition to finding ways to serve their data, the team is providing a specialized training program to Council members so that they can better utilize the Willamette site. This training focuses on using the site for the Council's ongoing conservation projects, such the Cardwell Hill Restoration Effort which was recently designated as an Oregon Solutions Project by Governor Kulongoski. Training sessions such as this will be modeled after a highly successful session held in December 2004 (see Appendix 2C for worksheet from the training session).

While not a specifically targeted audience, OSU Libraries has learned that teachers in the Willamette Valley are utilizing the website. To help understand how the Willamette Basin Explorer can better serve teachers, the Libraries' team is working with faculty from the OSU Math and Science Education Department and the Northwest Regional Educational Laboratory on a watershed ecology teacher enhancement project. During summer 2005, staff will offer a training session at a teacher workshop that shows an example of how the Willamette Explorer can be used for instruction. Feedback and comments receiving at this workshop will be used to package and design future content for instructional purposes.

Future Support for the Activities

OSU Libraries will support the Willamette Basin Explorer in several ways. First, the Willamette Explorer is a part of the Libraries' collections and, as such, receives technical (i.e., server and software) and content support from the library technology and reference departments, respectively. Second, the construction of the statewide Oregon Explorer website will enhance the Willamette Explorer site (see Appendix 2D for statement of intent regarding the future of the Willamette Basin and North Coast Explorers). As tools and content are developed for other Explorer sites covering Oregon, they will be incorporated into the Willamette Explorer. Already, the Libraries' team is migrating the Willamette Explorer to a new and improved software system developed for the North Coast Explorer. This new system includes navigation enhancements developed during user testing of the North Coast site and a better way for storing and organizing content on the servers.

Objective 3: Helping communities and stakeholders use that information to plan and take action toward conservation in the Willamette Basin – *Led by Rick Bastasch, David Primozich, and Marcia Sinclair of the Willamette Restoration Initiative (now the Willamette Partnership)*

Program Activities

From the outset of the project, the Willamette Restoration Initiative (which became the Willamette Partnership, during the course of the grant) provided information about the people and resources of the basin to a broad range of individuals, community groups, policymakers, and resource professionals. Much of the information was obtained from academic sources and "translated" for less technical audiences. The outreach specialist position was filled by Marcia Sinclair in May 2003. Listed below is a sample of relevant activities undertaken by staff during the course of the grant.

- 1) Although the technical *Willamette River Basin Planning Atlas* contains a wealth of detailed scientific information of interest to resource professionals, the document is not widely accessible to lay audiences. Marcia Sinclair condensed the material into a readable, attractive, colorful, short report called *Willamette River Basin: Challenge of Change*. Seven thousand copies of the report were printed in May 2005 to be widely distributed to concerned citizens, policymakers, and others (see Appendix 3).
- 2) Presentations summarizing the findings in the technical atlas were given to key audiences including staff and commissions from resource agencies, watershed councils, the Governor's natural resource cabinet, land use planners and others. Outreach staff also attended a number of conferences where professionals and the public attended to discuss conservation issues.
- 3) Exhibits were placed at a several festivals attended by the general public. For example, staff attended Community Planning Day at the Oregon Museum of Science and Industry and an event at the Oregon Garden.
- 4) An essential element of the outreach strategy (see Appendix 4) is the Willamette Basin Explorer website. Outreach staff helped identify and develop original content for the site, and promoted its use to key audiences, including land-use planners, soil and water conservation districts, watershed councils, and the interested public.

- 5) Staff organized a workshop in which water providers and regulators explored an innovative method for using the gravels in restored lands along the Willamette River (called the hyporheic zone) to cool treated waste water and restore channel complexity to improve fish habitat.
- 6) A particularly successful event was a native prairie tour that gave landowners and land managers an opportunity to learn about the need for restoration and techniques to restore the Willamette Valley's most endangered habitats.
- 7) Contacts were also made with industry and agriculture groups. For example, meetings were held with the Oregon Association of Nurserymen to discuss watershed education for nursery owners.
- 8) Staff participated in a series of cable television programs that highlighted the natural and cultural history of the Willamette Basin and helped people understand the relationship between geologic events of the past and today's water-quality and habitat issues. The programs potentially reached 200,000 households.
- 9) A series of outreach products was developed, and tailored to meet the needs of different audiences (see Appendix 5).
- 10) The Willamette Restoration Initiative secured a contract from the Northwest Power and Conservation Council to develop a sub-basin plan for the Willamette Valley. The plan, which was completed in May 2004, contains specific targets and measurable indicators for wildlife and habitats at risk, based on extensive stakeholder communication.
- 11) As part of the sub-basin planning process described above, the Project partner developed a basin-wide map that synthesized information from The Nature Conservancy and Pacific Northwest Ecosystem Research Consortium into a single map of priority habitats (see Appendix 6-A). The map was further refined for a 5-mile-wide buffer for the entire length of the mainstem Willamette River, to assist the Oregon Parks and Recreation Department with planning for the Willamette Greenway (see Appendix 6-B).

Results and Impacts of the Activities

- 1) Through personal contacts with thousands of Willamette Valley residents, and indirect contacts with many others through cable television, publications, and displays, the Project successfully raised the awareness of many people about the important resources in the basin, and what they can do to help protect them. Private landowners were particularly enthusiastic about restoration opportunities.
- 2) Project staff persuaded resource agency personnel and the Governor's staff that it is in the best interest of the state to facilitate a more coordinated and strategic approach to conservation. Governor Kulongoski's "Willamette River Initiative" adopted the water quality and habitat goals promoted by the Project.

- 3) The Willamette Subbasin Plan will direct millions of dollars to priority habitats over the next decade. The priority habitat map will also guide the conservation investments of land trusts, state and federal incentive programs, and the acquisitions of resource agencies.

Anticipated or Unanticipated Events that Affected the Project

- 1) The organization with primary responsibility for outreach was in the midst of a transition during the entire project. Called the Willamette Basin Stewardship Council in the original proposal, the Willamette Restoration Initiative did not adopt a new name or structure until the project had almost ended. The new name—Willamette Partnership—reflects a need for the organization to reach out to conservation skeptics to have a significant impact on policy and public resource allocation. The resignation of Executive Director and Project Partner, Rick Bastasch, in January 2005 caused a temporary setback, but provided an opportunity for the new board to adopt a new, more focused and directed mission. (See Appendix 7 for a detailed explanation of the transition.)
- 2) When the Project was proposed, an assumption was made that local governments felt obliged to address fish and wildlife habitat issues (especially with respect to Endangered Species Act-listed fish) and to comply with Goal 5 of Oregon's land-use regulations. However, given low current federal agency emphasis on aggressive enforcement of the Endangered Species Act, and Oregon voters' approval of Measure 37, local governments have tended to either ignore habitat issues or emphasize voluntary conservation actions. The demand for environmental information is not as urgent as it would be if action were mandated, although it is ever more important for the information to be credible and easy to access.
- 3) The timing of Project elements created some special challenges. Development of primary outreach products (i.e., the Willamette Basin Explorer website and the user-friendly atlas summary) were not available until late in the extended grant period, nearly three years after the project began. The stage is now set for a more effective and focused outreach campaign, highlighting the need for a long-term commitment to the effort.

Effects beyond the Immediate Goals

Based in part on the results of a workshop on using "hyporheic zone" conservation to address water temperature issues, the Willamette Restoration Initiative received a \$40,000 grant from the Environmental Protection Agency for a project called "Laying the Groundwork for Market-Based Floodplain Restoration." The project convened municipal, industrial, agricultural, environmental, watershed, scientific, and tribal interests to determine how floodplain restoration can improve water quality and provide other benefits at a reduced cost, and to propose a water-quality trading framework. This project set the stage for further work on the development of a "Willamette Marketplace".

The publication of *Willamette River Basin: Challenge of Change* in May 2005 engaged an entirely new audience of resource agency directors and industry leaders who agreed to help finance and distribute the publication to staff, clients, and constituents.

Future Support for the Activities

In late May 2005, the Willamette Partnership submitted a proposal to the Environmental Protection Agency to create a water-quality trading framework. Beginning with water temperature, the framework should eventually allow developers, permitted industrial polluters, and landowners with mitigation responsibilities to address their obligations by investing in “conservation banks” that provide a broad range of public benefits including clean and abundant water, fish and wildlife habitat, recreation, and aesthetic values. With the support of Governor Kulongoski and a broad range of organizations and interests, the potential for approval of the \$800,000 grant is high.

Defenders of Wildlife assisted the Willamette Partnership in securing nearly \$30,000 to print and distribute the publication, *Willamette River Basin: Challenge of Change*. This funding covered the printing costs and will provide a portion of the salary for the outreach specialist through the fall of 2005.

The Willamette Partnership board has a long term commitment to community outreach. Funding permitting, a staff position will be maintained indefinitely. The focus of the outreach will be consistent with the organization’s mission.

Objective 4: Helping people implement conservation activities by increasing access to incentives – *Led by Sara Vickerman, Andrew Bowman, and Cheryl Hummon of Defenders of Wildlife*

Program Activities

Although there are many incentive programs available to landowners, they tend to be opportunistically applied and too administratively complex to be very appealing. Collectively, they also fail to address ecological issues in an integrated way. The cumulative effects of incentives programs are not systematically evaluated.

The role of Defenders of Wildlife in the Project has been to identify the shortcomings in public incentive programs, work with other partners to improve the effectiveness of these programs, and develop proposals for new programs to address critical conservation issues in the basin. Because conservation incentive programs typically apply at a statewide scale, this work addressed statewide programs of both state and federal agencies. We relied on connections between our incentives work and the outreach and website portions of the Project to bring focus on incentives in the Basin.

The major activities undertaken to meet this objective are summarized below:

- 1) In 2001, Defenders and partners initiated legislation* in Oregon that addressed a number of important policy issues regarding incentive programs. House Bill 3564 also directed

* Although legislation was an integral part of the overall incentives policy work, Meyer Trust funds were not utilized for lobbying.

the state departments of agriculture and forestry to host an interim process to examine other issues relative to conservation on private lands.

- 2) Defenders staff (Andrew Bowman) provided administrative support for an interim process in which a diverse group of participants including representatives from agencies, landowners and conservation groups pondered a wide variety of policy issues. The group reached consensus on many policy changes that needed to occur. The results of the interim group were summarized and presented to the 2003 Legislature by the state agencies. Although the report was written by Andrew, Defenders did not take credit for the work (see Appendix 8A)
- 3) Based on the interim report, HB 3616 was introduced in 2003 and ultimately passed. The legislation addressed all of the issues agreed upon by the interim group, except a proposal to remove back tax penalties for landowners with conservation easements. Legislation to address this issue (SB 593) is pending in the 2005 Legislature.
- 4) Defenders also provided significant staff support for agencies required to amend administrative rules for the new laws. The Oregon Department of Fish and Wildlife adopted new rules for the Wildlife Habitat Conservation and Management Program in late 2004. Agencies are working together to adopt rules for the new Stewardship Agreement Program, to be completed in 2006. (More information about the rulemaking process is available upon request.)
- 5) Paige Fischer, a graduate student at Oregon State University, developed six landowner case studies based on extensive interviews, and summarized the results in a report, complete with policy recommendations. The report, which contains professionally designed maps, is posted on the BiodiversityPartners.org and Willamette Explorer (<http://www.willametteexplorer.info/>) websites. In addition, 500 copies were printed and distributed almost immediately in March 2005 (see Appendix 8B). The demand was overwhelming, and compliments came from many quarters, including other states.
- 6) One of the most powerful incentives for landowners who want to conserve habitat is to provide good technical information. Defenders staff assisted Bruce Campbell, a wildlife biologist with the State of Oregon, in publishing both online and hard-copy versions of a technical manual for restoring rare habitats in the Willamette Valley (see Appendix 8C). This publication also was a great success, and the report, which was initially published in 2004, is scheduled for re-printing.
- 7) In June 2004, Defenders hosted a national meeting to discuss incentive policy issues in the context of the Endangered Species Act. Background papers, a workshop summary, recommendations, and a user-friendly summary of the meeting appear on the BiodiversityPartners.org and Willamette Explorer (<http://www.willametteexplorer.info/>) websites.

- 8) Also on the BiodiversityPartners.org and Willamette Explorer (<http://www.willametteexplorer.info/>) websites is a complete description of incentive programs in Oregon, created by Defenders staff and available for reference and use by interested landowners.
- 9) Federal incentive programs provide a great deal of the conservation funding available to Oregon landowners. Defenders staff participates in on-going coordination meetings with federal agencies, reviews project proposals, and provides recommendations concerning program improvements.
- 10) The Oregon Department of Fish and Wildlife is required to complete a comprehensive wildlife conservation strategy by October 2005. Defenders incentives specialist, Cheryl Hummon, wrote the entire section on voluntary conservation tools for the agency. A modified version was distributed to other states. The section contains extensive information on incentives policies, programs, and needed improvements (see Appendix 8D)
- 11) Beginning in the spring of 2005, Defenders has joined a group of farmers, state and federal officials, and college faculty to develop a one-stop-shopping program. The program is intended to help landowners access incentive programs more effectively and help farmers meet wildlife standards in certification programs. If successful, the program—called the Oregon Sustainable Agriculture Resource Center—will likely stimulate similar efforts in other states.

Results and Impacts of the Activities

- 1) This project resulted in several significant accomplishments in the incentives policy arena:
 - a. Restructured Oregon's Wildlife Conservation and Management Program and created a special property tax assessment[†].
 - b. Expanded Oregon's Stewardship Agreement Program to include all rural landowners, and resulted in joint rulemaking by several agencies, a first in Oregon[†].
 - c. Increased awareness of the ecological significance of private lands, and the importance of incentives as conservation tools.
- 2) Provided credible, useful, and attractive information for landowners, policy-makers, resource managers, and the public through a series of publications and on BiodiversityPartners.org web site. Several thousand printed copies of the reports were distributed. The website attracts on average about 500 hits a day.

[†] Although legislation was an integral part of the overall incentives policy work, Meyer Trust funds were not utilized for lobbying.

- 3) Created and maintained a social and political network of professionals, academics, and interested landowners that supports improved incentives programs.

Anticipated or Unanticipated Events that Affected the Project

The most significant change in the project resulted from a personnel change in January 2004. Andrew Bowman, Private Lands Conservation Counsel, resigned. While it seemed like a terrible setback at the time, the change ultimately benefited the Project. Although Andrew's legal skills were very important in the early stages of the project, during the second phase it was equally important to have someone with networking, facilitation, and project management skills, and who had experience in working with landowners and local officials. Cheryl Hummon was hired as Senior Conservation Incentives Specialist in April 2004, and is doing an exceptional job.

The second unanticipated event concerned the pilot projects. Initially, Defenders proposed making direct contact with individual landowners, and working with them to secure financial support and technical assistance for conservation projects. Upon exploring the options, it became obvious that the risk of irritating landowners potentially outweighed any benefit to be gained by attempting to build a relationship with them. Instead, a decision was made to work with service providers (agency and extension personnel) as intermediaries, and to contract with a neutral third-party to do case studies, resulting in a 42-page publication, *Listening to Landowners: Conservation Case Studies from Oregon's Willamette Valley*. As it turned out, the case studies have been very well received, and have had significant impact on policy discussions relative to incentives.

Effects beyond the Immediate Goals

Since incentives policies that are the focus of this portion of the Project are statewide, the publications and policy issues raised by Defenders are relevant to communities well beyond the Willamette Basin. Defenders' work on incentives in Oregon has also provided opportunities to work with other states to improve their incentives programs. For example, Defenders staff was invited to host a national workshop to make policy recommendations relative to incentives for endangered species protection. The chapter on voluntary conservation tools that Defenders wrote for the Oregon Department of Fish and Wildlife was distributed to all 50 states, and incorporated by many of them into their fish and wildlife management strategies. The Washington Biodiversity Council has chosen landowner incentives as a primary focus for its work, in part because Defenders encouraged them to do so, compiled information on state programs, and made a financial contribution to the effort. Most importantly, a full-time staff person from the University of Oregon's Resource Assistance to Rural Environments (RARE) program has been available to assist the staff for a year (and possibly two), thereby enhancing the capacity of the organization to address incentives policy issues in Oregon and beyond.

Future Support for the Activities

Defenders has a long-term commitment to incentives policy work, and intends to maintain the incentives staff position indefinitely. A Phase II grant for incentives policy work was secured from the National Fish and Wildlife Foundation in late 2004. A proposal has been submitted to the University of Oregon to continue the RARE staff position for another year, specifically to provide staff support to the one-stop-shopping program, and to help define performance standards for wildlife habitat on farmlands. The RARE application has been approved, thereby ensuring

continuation of the program. These activities will be financed with a combination of restricted grant funding and Defenders general funds.

Lessons Learned

Any project of significant scope and complexity teaches lessons that can improve future work. This was no exception. We had a wonderful, dedicated crew of partners but we underestimated the challenges of coordinating work across five institutions whose staff working on this Project had other work going on and who answered to different “boards of directors.” We had to employ frequent meetings of several hours each throughout the Project to “keep the wheels on.” We were surprised at how often we had to return to a discussion of the Project’s major purpose and focus to keep ourselves aligned.

Having strong staff support to coordinate the Project’s work was essential and this task was ably performed by Andrew Bowman and Renee Davis-Born. At the very end, Lisa Gaines stepped in to help us finish all the administrative work. The Project would not have succeeded without the skills of these program assistants.

We also learned from staging the Project’s work. As initially envisioned all portions of the Project would proceed simultaneously. As it turned out, we needed the incentives work and the science translation and web tools work to be well along before the outreach could be most effective.

Perhaps the most important lesson is how much can be gained from a relatively small investment to translate and make accessible in useful formats technically complex scientific information. The base data and work that this Project relied upon for its foundation cost more than \$10 million to assemble. With the Meyer Trust grant of \$600,000 and the multiple sources that grant leveraged, we were able to develop and make operational a major innovation in digital libraries that delivers user friendly data, maps and tools to help conservation planners and managers better invest their time and resources to achieve efficient and effective outcomes. Too often, the science work stops before useful data and tools are made accessible for users. The Meyer grant allowed us to show how much can be gained from a modest investment in translation and outreach.

Our initial objective of doing pilot projects with landowners was modified to become landowner case studies due to a variety of unanticipated factors. However, the results were positive, and Defenders is in a much better position to work directly with landowners in the coming year. The project created some products not originally envisioned that have received strong support. “Atlas Lite” was perhaps the prime example. Defenders work on incentives, picked up by other states and extending to well beyond basin boundaries is another.

Based on support from the Governor’s office, state and federal agencies and others, it is clear that much work remains to be done and that the ability of Project partners to deliver useful and timely products is highly valued. The work accomplished by the Meyer grant is going forward. Project partners clearly view the Willamette Basin Conservation Project as a long-term commitment by all of the partner organizations—individually and collectively—to making things happen in the

Willamette. Into the future, the aforementioned activities will remain part of an ongoing program, rather than a set of stand-alone tasks with a discrete beginning and end.

Two of the brightest lights on the horizon for this work is the continued strong support from the Oregon Watershed Enhancement Board for the web portals that are now expanding to two more major river basins and the role that Meyer grant products now play in the Governor's Willamette Initiative. Private sector investment in the Project has clearly caused state agencies to see positive ways to focus their work and public resource investments.

Finally, it is particularly rewarding that the Institute for Natural Resources in its initial years was given an opportunity to demonstrate how this new university function can bring university and affiliated private and public sector talents together to make progress on major public issues and conservation strategies.

Financial Report

See insert in folder for the requested financial reports.

Appendices