

Serving, Learning, and Restoring

A guide for planning restoration projects with adult and student learners



Central Oregon and Crooked River Youth Crew

“Being able to have some input in the improvement of someone else’s corner of the world, no matter how small, is a very unique situation. The feeling of gratitude that is felt when a community member expresses his or her thanks for the job that you are doing cannot be put into words”

- **Student of Service Learning, 2000**

“We must create in every region people who will be accustomed, from school onward, to humanist attitudes, co-operative methods, rational controls. These people will know in detail where they live and how they live: they will be united by a common feeling for their landscape, their literature and language, their local ways, and out of their own self-respect they will have a sympathetic understanding with other regions and different local peculiarities.”

- **Lewis Mumford, 1938**

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Watershed Project Learning Goals:

1. Develop a greater understanding of ecological restoration and the educational opportunities available in the process
2. Develop a greater understanding of service-learning, including methods of incorporating restoration into the learning framework and planning for a successful and sustainable project
3. Participants will have a chance to perform hands-on service in the field, assisting in a local watershed restoration project
4. Participants will be provided time to help plan and discuss future ecological restoration and service projects in their local communities

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Tree Planters and Volunteer Learners

Background Information:

The Northwest is undergoing significant change, as watersheds have degraded and fisheries and communities have shifted and changed over time. High technology and tourism are replacing traditional industries, population growth over time has impacted our water quality and streamside forests. To change the tide, projects throughout the state are helping to restore past impacts and create new processes and networks for the future. Such significant change represents a unique opportunity for students and residents to explore new relationships with their environment, landscapes, river ecosystems and communities. It also requires an informed citizenry prepared to grapple with complex resource management challenges which will determine quality of life for generations to come. Through focused service learning, a student can better understand and contribute to solutions for regional problems, expand the classroom to encompass the larger community and improve our ecological and cultural literacy. Ecological restoration is an empowering activity and fits perfectly within a service-learning framework, while accomplishing needed work in the field.



Columbia Basin Redband Trout

This guide will help leaders and teachers structure service-learning projects, emphasizing ecological restoration projects as a way to meet service-learning goals, and will provide resources and training for partners, community leaders, and teachers. This guide is concluded with an example workshop which could include a combination of evening programs, planning in the field, break out sessions, and an active day of service. When considering a watershed project, it can often be a daunting task, considering all the areas to be restored or community groups to assist. By focusing on a particular watershed, your group can focus on the ecosystems, the wildlife and the neighborhoods within that watershed. To make your project more successful, consider joining or initiating a service effort closest to your school or community group's location. By focusing locally, your group can better track the needs of your project while saving the time and costs associated with travel.

Cohen states, "By its very nature, watershed planning addresses all components of the watershed to ensure healthy systems. As a result, it allows for a broad array of projects to fit the learning needs of many students" (see attached, p. 18, 2000). Several universities have created interdisciplinary watershed programs, providing service learning opportunities throughout their states, and expanding educational opportunities

to the surrounding communities. These education programs create a ripple effect as the enthusiasm and knowledge spreads from the often sheltered school environment to the neighborhoods, forests, farms and waterways in need of support. An educational institution can provide extensive outreach possibilities through service projects, as students act as the catalysts, consultants, and facilitators for community discussion and action. In return, students can receive an interdisciplinary, hands-on education, preparing them for the rigors and challenges of life.

Though many of our watersheds are degraded and in need of help, ecological restoration projects are spreading, and trying to gain the upper hand. Hundreds of initiatives by citizen groups and entrepreneurs throughout the Northwest have created strategies to restore habitats and communities throughout the region, offering a plethora of service and learning opportunities. More and more people hope to restore our declining watersheds, populations of fish, and in the process, restore ourselves. By joining and supporting this education, you are helping to expand community dialogue, expose students to innovative ideas, and increase the ecological understanding needed across our landscapes. In addition, you are participating in a fun and effective way of exploring and learning about our environment.

Service Learning for all Ages:

There is still much discussion and expansion of a complete definition of service learning. As more audiences are involved, the definition is improved, and often a principle of service learning is adjusted to reflect the evolution of this community centered education. To better understand the framework of teaching ecological restoration through a service-learning project, we must understand a couple important definitions. Take note of the distinctions between restoration, ecological restoration, and rehabilitation-- all are terms commonly used by agency partners and in the media:

Restoration: "The act of putting someone or something back into a prior position, place, or condition."
- American Heritage Dictionary, 1976

Ecological Restoration: "The process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed." - Society of Ecological Restoration (SER), 2002

Rehabilitation: "A practice that aims to repair or replace essential ecosystem structures and functions that have been altered or eliminated by disturbance." - SER, 2002

Service-Learning: "A form of experiential learning where students apply academic knowledge and critical thinking skills to address genuine community needs."

- Pamela and James Toole, 1994



Principles of Service Learning:

1. Provides hands-on learning which meets a community need
2. Connects an educational audience with mentoring community partners
3. Integrates service and studies into academic curriculum or living skills
4. Provides structured time for a learner to reflect on the service performed
5. Empowers each learner with leadership skills for civic responsibility

As an important community need, ecological restoration provides an excellent learning opportunity if placed in a proper educational framework and service-learning provides that framework. Service-learning is an established theory, providing principles for teaching and learning, while also getting work done in the field. These important principles display the depth needed for service learning, providing a rich educational experience for all those involved. Similar to other forms of education, service learning has specialized, branching into various forms to provide support for different organizations involved. In a research project, sponsored by the Corporation for National Service, Madigan (2000) studied environmental service learning in an attempt to find common practices of sustainable programs. In her study, Madigan formulates 5 “promising practices” and used surveys, site visits, and interviews to better understand the application of these practices in the operation of service-learning programs. The following ‘promising practices’ were designed to help plan and foster a successful project which can be sustained into the future.

The suggested ‘promising practices’ include:

1. encourages student leadership and decision-making
2. integrates and values the community voice
3. fosters civic and environmental stewardship
4. provides opportunities for cross-cultural connections
5. plans for the long-term sustainability of the program

Once service learning is fully integrated, students, communities, and educational institutions share and help to build the educational opportunities. Educational outcomes from service learning reflect the broadness of the principles and include a diversity of benefits (see attached handout). As students enter their communities, the exposure to different learning opportunities is vast, and benefits from service projects are as diverse as the community and environment chosen. By combining a mixture of educational institutions and community partners, projects should have a longer life, by fostering support from a diversity of energetic workers and corresponding funding sources. Higher education is a stable source of enthusiastic students, technical expertise, and diverse funding which can help provide service-learning opportunities for their communities into the future (Madigan, 2000). With an enhanced vision for service learning, communities can help insure a strong educational future, as we all become stakeholders and benefactors for watershed restoration goals.

Teaching Watershed Restoration as a Service-Learning Project:

Together with our community, we must understand the ecological processes supporting habitat for our watershed fish and wildlife, and discover the critical links we all depend on. Teaching ecological restoration requires a comprehensive approach that balances the rich topics found in natural and cultural history. Though the science of ecological restoration is new and can be quite complex, the study of restoration projects can be simple and cater to a diversity of learning styles and interests. Unfortunately, the study of ecological restoration does not commonly reach teachers, students, and community members, who can learn from this important skill and process. Three simple steps must be considered for taking on a project and assessing an ecological restoration project (see planning steps below). These steps are a much simplified plan, based upon guidelines from the Society of Ecological Restoration (see Guidelines for Developing and Managing Ecological Restoration Projects and the Primer on Ecological Restoration, attachments).

Planning Steps for Ecological Restoration:

1. Survey the site which needs restoration
2. Research/select site design and restoration techniques
3. Monitor restoration success and ecological integrity

To help accomplish a thorough and successful ecological restoration project and build community partnerships for the sustainability of the project, community volunteers and mentors need to be recruited to assist throughout the project. Try to plan in time with your group to study field sites in different seasons and observe cultural and natural history conditions in the watershed. Partners are key for helping to teach and share important elements of the restoration work. As a group we can pinpoint and pursue a complete review of the area and create a thorough plan for restoration into the future. Future visitors will be able to complete elements and post project monitoring as the site restores.

Common watershed project elements and learning opportunities:

planting, mulching, seeding, collecting seed, removal of non-natives, monitoring of soil and water conditions, plant growth, plant diversity, presence of fish & wildlife

In addition, there are outstanding opportunities to compile cultural history information for the area. Topics such as:

ethno-botany, history, recreation opportunities, folklore, anthropology, social studies, recreation planning, environmental policy, nature writing, public communication, and economics

Some or all of these topics can be addressed, depending on your group's interests and time constraints. Project participants could select their interests, providing a learner-centered opportunity, while still meeting necessary project goals. Teachers and project partners must facilitate learning opportunities, work needs, and length of time required

for the project. Participants could then sign up for work days, join sub-committees to focus on areas of interest, and distribute leadership roles needed for the project. This will enable the group to thoroughly cover the long-term site and community needs, while studying elements of the site's natural and cultural history.

Written By Darek Staab

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Sherwin, L.S. & Tamminga, K.R. (2001). Keystone Projects: Service-learning practica in watershed stewardship. *Water Resources Update*. The University Council on Water Resources. 119, 27-41.

Sample Organizations from the Northwest:

Campus Compact: Jennifer Dorr, Executive Director, Bellingham, WA: 360-650-6895.
<http://www.ac.wvu.edu/~campcomp/>

Washington's Water, WSU Cooperative Extension: Jim Dobrowolski, Watershed Specialist, Pullman, WA: 509-335-7294. <http://wawater.wsu.edu/>

WWU Service Center: Lisa Moulds, CSL Program Director, Bellingham, WA: 360-650-7542
<http://www.ac.wvu.edu/~csl>

Adopt-A-Stream Foundation: Northwest Stream Center, Everett, WA: 425-316-8592
<http://www.streamkeepers.org>

Center for Environmental Education, WSU: Susan M. Lewis, Associate Director, Pullman, WA: 509-335-5898, <http://ceed.wsu.edu/about/about.htm>

Earth Force, Oregon and Washington: Julie Magers, Portland State University, Center for Science Education, Portland, OR: 503-725-8288, <http://www.earthforce.org/cascade/>

Sample of the Websites:

Project Connect. Callie Hart, chart@bham.wednet.edu. Examples of Contextual Learning.
<http://depts.washington.edu/wctl/PDFs/> for pdf file add: comp6_8.pdf

UWREN. Gina Diamond, [Program Coordinator, uwren@u.washington.edu](mailto:uwren@u.washington.edu).
<http://depts.washington.edu/uwren/>

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National Service-Learning Clearinghouse: National Program for Service Learning.
<http://www.servicelearning.org>

Corporation for National Service: National organization for Americorps and other Service Opportunities. <http://www.nationalservice.org>

Wolfree Science Curriculum: A non-profit who specialize in inquiry based studies
<http://www.beoutside.org> and see their [field guide for leaders](#)