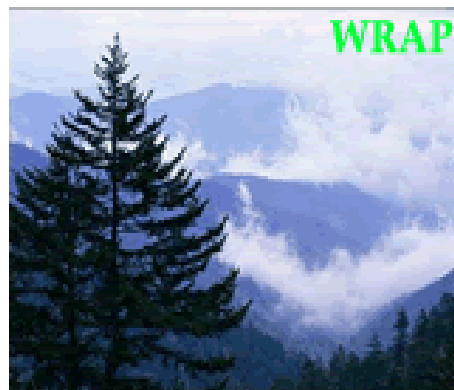


Watershed Research and Assessment Project

A learning environment from the Integrated Natural
Resources Technology program



WELCOME to
WRAP!

wrap

This site contains information on the Watershed Research and Assessment Program (WRAP) at Mt. Hood Community College



WRAP has been made possible through a generous grant from the National Science Foundation, Advanced Technology Education Program (ATE).



Mt. Hood Community College is located in Gresham, Oregon, USA. A fully accredited institution, Mt. Hood Community College offers a variety of programs including biology, chemistry, forestry, fisheries, wildlife-transfer, and more.

[about wrap](#)

[wrap today](#)

[FAQ](#)

[wrap faculty](#)

[wrap watersheds](#)

[watershed links](#)

[curriculum tools](#)

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Watershed Research and Assessment Project

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WRAP

Request Info



About WRAP

Mt. Hood Community College's Integrated Natural Resources Technology Program (INRT), with support from the National Science Foundation's (NSF) Advanced Technology Education (ATE) grant program, is implementing a watershed framework for technician education. Using a systems approach to natural resource information gathering and data analysis, students develop an integrated set of skills that are reinforced throughout the entire curriculum. The Watershed Research and Assessment Project (WRAP) adds a contextual framework to the existing curriculum by linking it physically with several small watersheds.

Tools for applying this approach to your curriculum can be obtained [here](#).

- [Project Goal](#)
- [Project Objectives](#)
- [The Framework](#)
- [Project Outcomes](#)
- [Partners](#)

Project Goal

The goal of the Watershed Research and Assessment Project is to provide students with a watershed learning environment in which to learn and apply natural resources technology. Studying field techniques to assess and monitor watersheds within the context of a dedicated watershed will give students a better understanding of the complex interrelationships that exist in these systems, and better prepare them for technical positions supporting watershed management.

Project Objectives

- Develop, implement and disseminate a methodology for establishing a watershed learning environment.
- Integrate the existing interdisciplinary natural resources curriculum into a watershed-based research and assessment project.
- Develop and disseminate support materials to enhance teaching and

[top](#)

learning in the context of watersheds.

[top](#)

The Watershed Framework

- The designated watersheds represent a range of landscape conditions:
 - a forested watershed containing a large state park and significant commercial forest land;
 - a watershed in the urban/rural interface dominated by development and agriculture; and
 - an urban watershed with a highly disturbed and developed landscape.
- Students visit, measure and assess a wide range of site conditions and land uses. They study a variety of land management practices from commercial timber management and riparian protection to invasive species removal and wetlands restoration.
- The watersheds are visited repeatedly over a student's two-year program, allowing study of changes over time and scale on individual sites such as forest stands and over larger landscape features such as watersheds.

[top](#)

WRAP Project Outcomes

- Versatile students who understand the interconnectedness of the landscape and can apply their interdisciplinary skills and knowledge to support ecosystem management.
- A model watershed program that can be replicated by community colleges throughout the country.
- Increased employment opportunities for students through service-learning relationships with their communities.
- Enhanced connections between community colleges and their communities by creating opportunities for collaboration on mutual projects.

[top](#)

Our Partners

The college community:

- Forest Resources Technology Program
- Fisheries Technology Program
- Engineering Technology Program
- Cooperative Association of States for Scholarship-international program
- Project YESS-Youth Employability Support Services

In the larger community through activities such as cooperative work experiences, field projects and outreach with high schools (partial list):

- Shasta Community College
- Portland State University

- Port of Portland, Oregon
- City of Portland, Bureau of Environmental Services
- METRO Regional Parks and Greenspaces
- US Forest Service, Mt Hood National Forest
- Sandy High School
- Centennial High School
- Reynolds High School
- Owen Sabin Skills Center
- Madison High School, Academy of Sciences and Natural Resources

top



Curriculum Tools

The WRAP team has developed and is continuing to develop tools that we hope you will find useful as you search for ways to improve your own curriculum. Although our tools have been built in the context of a watershed learning environment, many of them can be applied to curriculum development in a wide-variety of disciplines. To make the tools as adaptable as possible, we have tried to create generic templates for many of the products we have produced.

If you have trouble downloading any of the tools, please [contact us](#) for additional help.

Tools in Watershed Context

Watershed matrix

Key Skills - Integration

Key Skills - Strands

Synthesis Module -

Synthesis Module - Birds in Forested Landscapes

Synthesis Module -

Student Assessment Rubric

More tools coming soon!

Generic Templates

Site Choice Matrix

Integration Template



WRAP Projects

WRAP Team visits NSF

Principal investigators Kate Holleran and Walter Shriner, along with WRAP students Serena Helvey and Brad Nikko, are attending the NSF-ATE principal investigators [conference](#) in Washington, DC on October 24th-26th. Stay tuned for photo update.

Phase Two – underway

- Away-team visit to Shasta Community College to assist in development of a new integrated natural resource curriculum.
- WRAP faculty are implementing the integrated curriculum within the designated watersheds.
- Students are experiencing the interconnectedness and complexity of an ecosystem by studying within the context of that complex ecosystem.
- Faculty are continuing their collaboration with other community colleges and local high schools.

Phase Three – upcoming

- Completion of curriculum tools
- Away-team visit to your program! Contact us if interested.

Phase One – completed

- Summer Workshop to develop watershed selection criteria and to identify appropriate watersheds.
- GAP analysis with local agencies to identify needed additions to curriculum.
- Development of initial WRAP exercises and “beta testing”
- Development of assessment rubrics for evaluating success of WRAP activities.
- Initial entry onto the Internet with the beta version of the WRAP web site.



The WRAP FAQ - *Answers to Frequently Asked Questions*

What is WRAP?

WRAP stands for Watershed Research and Assessment Project. Mt. Hood Community College received a three year grant from the National Science Foundation (NSF) to develop a "watershed learning environment for the Integrated Natural Resources Technology Program". This project is designed to add a contextual framework to the existing curriculum by integrating it physically into several small watersheds.

What is the WRAP website?

The WRAP website, when complete, will offer users the chance to download resources for curriculum development, instructor modules, as well as data for in-class analysis. The WRAP site will also form a valuable resource for the discussion of watershed issues, and it will include links to regional and national watershed databases.



Faculty and Participants

Principal Investigators

[Kate Holleran](#), Project Director and Integrated Natural Resources
Technology Program Director

[Walter Shriner](#), Ph.D., Co-PI and Instructor of Ecology and Wildlife
Biology

[Joan Caldwell](#), Co-PI and Forest Resources Technology Program
Director

Participants

[Marty Mitchell](#), Writer and Instructor of Watershed Resources

[Michael Russell](#), Ph.D., Webmaster and Instructor of Chemistry

[Beth Pitonzo](#), Ph.D., Dean of Science

Our thanks to [Andrew Jackman](#), Ph.D., original Principal Investigator and
current Vice President of Education, [Oregon Museum of Science and Industry](#),
and to [Joe Dunlap](#), former Dean of Science and now Vice President of
Instruction, [Clover Park Technical College](#)



The WRAP Watersheds

Fairview Creek



Fairview Creek is an urban watershed with extensive disturbance and development. It exemplifies the many challenges addressed by natural resource managers in urban areas.

Beaver Creek

Located within the urban/rural interface, Beaver Creek Watershed includes the MHCC campus, urban development and large tracks of agricultural lands.

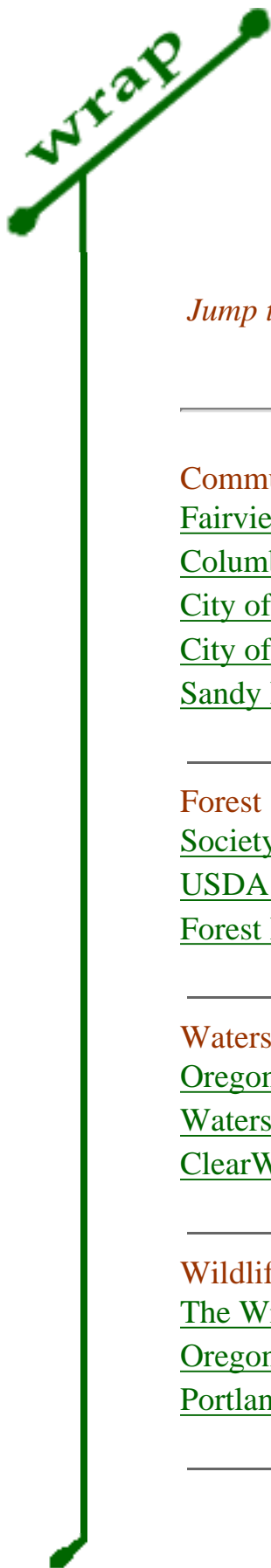


Latourell Creek



Latourell Creek is a forested watershed containing a large state park and significant forest land.





Watershed Links

[Community](#) | [Forest](#) | [Watershed](#) | [Wildlife](#)

Jump to:

Please let us know if you find any broken links.

Community

[Fairview Creek Watershed Council \(FCWC\)](#)

[Columbia Slough Watershed Council's \(CSWC\)](#)

[City of Portland's Columbia Slough](#)

[City of Gresham's stormwater site](#)

[Sandy River Watershed Council](#)

top

Forest

[Society of American Foresters](#)

[USDA Forest Service](#)

[Forest Resource \(links\)](#)

top

Watershed

[Oregon Watershed Enhancement Board \(OWEB\)](#)

[Watershed Weeks](#)

[ClearWater West, Inc. \(Natural Resource Planning\)](#)

top

Wildlife

[The Wildlife Society](#)

[Oregon Department of Fish and Wildlife](#)

[Portland Audubon Society](#)

top