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Section 6: Stewardship

This section provides educators with stewardship information and activities including resources for community action projects.

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Wetland And Watershed Watchers

Students will identify potential community action projects they can undertake to help protect or restore creeks, water quality, and wetlands.

Benchmark Correlations, see Section 7.

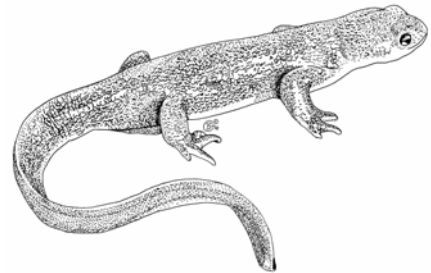
Key Concepts:

Community participation helps students realize that their actions can help protect and restore wetland and other habitats.

Objectives:

Students will be able to:

- work as a group to plan and carry out a project that accomplishes their goal.
- protect and restore a wetlands or their nearby upland habitats or help protect and restore a local creek or river or improve water quality in the area.



Recommended Time:

Varies with each action project; can range from several 30-50 minute class projects to a major class project lasting months.

Information:

- Young people are often extremely concerned about the future of the environment and the protection of wildlife. Through community service or public education projects they can contribute significantly and tangibly to the protection of the Long Tom Watershed and Willamette River either through protection of water quality, of a wetland, or of a creek.
- A watershed is the region that drains into a body of water, such as the Fern Ridge Reservoir, Long Tom River, or Willamette River. The water cycle is at the heart of the watershed. Pacific Ocean water evaporates and forms clouds that travel inland. As the clouds rise over mountains, they are forced to rise and cool, causing rain or snow. The rain and melted snow that runs down the slopes of the mountains flows into creeks or rivers. Much of the runoff water continues to flow back to the Pacific Ocean.
- Clean water is critical for the survival of most living things on the earth. Unfortunately humans often pollute water. In a watershed, water can be polluted at points far away from where the pollution harms habitats and wildlife.
 - There are two types of water pollution: point source and non-point source pollution.
 - Point source pollution is focused at one point, such as a water pollution control plant or an industry along a river; and
 - Non-point source pollution is also known as runoff, and includes the water that runs off the surrounding land into the river, such as agricultural runoff, and runoff that travels through storm drains, such as motor oil or pesticides.
 - Many individuals and organizations are working to educate others on how to prevent water from becoming polluted.

- The best ways to prevent pollution are at the source. Try using alternatives to toxics and preventing toxics from entering watersheds.
- Creeks and streams of the Long Tom Watershed and Willamette River Watershed are valuable and fragile ecosystems.
 - One of their main values is that they provide habitat for a great variety of plants and wildlife. Particularly within urban areas, creeks and streams often provide the last remaining natural area that wildlife can use for food, water, and shelter.
 - Creeks and streams are fragile in that their health is easily destroyed through human actions.
 - The things that most threaten their health and the plants and wildlife that depend on them are:
 - dumping garbage,
 - erosions of stream banks,
 - water running off streets when it rains and carrying pollution into creeks and streams,
 - water pollution from businesses,
 - individuals that illegally dump down storm drains, and
 - removal of streamside trees and plants.
- Wetlands in west Eugene are at the base of the watershed.
 - Some wetlands filter sediments and pollution. All wetlands help control floods, provide habitat for plants and animals, including endangered species, and resting and feeding stops for migratory birds.
 - More that 99% of the Willamette Wet Prairie wetlands have been lost.
 - The things that most threaten the health of wetlands and the wildlife that depends on them are:
 - water pollution from streams and storm drains that flow into wetlands,
 - garbage dumping,
 - non-native plant species crowding out native wetland plants, and
 - development upon wetlands.

Procedure:

Introduction

Review the following questions with students before choosing a group project.

1. **What is a watershed?** (A watershed is the region that drains its water into a body of water, such as the Long Tom River or Willamette River. Rivers and creeks carry rainwater and melted snow along these rivers to the Pacific Ocean. Once pollution enters a watershed, it affects the health of its creek, streams, and wetlands.)

2. **What are some ways that humans harm the water quality of a watershed?** (By dumping hazardous materials, such as paint or pesticide sprays into storm drains, illegal dumping into creeks, oil spills, sediment from eroding creek banks, etc. Anything that goes down the storm drain runs directly to creeks and streams and ultimately, to the rivers and ocean. The use of fertilizers and pesticides on land, near streams, can harm water quality of watersheds. Wasting water, such as planting water-intensive gardens, or not fixing leaky faucets harms watersheds.)

3. **Does anyone know of any nearby creeks or streams of their watershed?** (See if the students can locate and name any nearby creeks or streams.)
4. **To which body of water do our local creeks run?** (Most rivers, creeks, and streams in this area flow to the Long Tom River or the Willamette River; they then flow to the Pacific Ocean. Check a map if you are not sure where your local creeks run.)
5. **Can anyone describe what our local creeks or streams look like?** (Discuss the appearance of the creeks or streams in your area.)
6. **What are some ways that creeks and streams are polluted?** (Pollution, such as motor oil, soapy water, fertilizers, or pesticides, that goes down storm drains; littering; illegal dumping of pollution or garbage; soil erosion.)
7. **How does erosion damage creeks and rivers?** (Erosion causes sediment to wash into creeks and rivers. Sediment can clog fish gills and bury invertebrates and fish.)
8. **How do we cause erosion of creek banks?** (Removal of plants from creek banks, riding bikes and horses along creek banks, sliding down creek banks, and walking off approved trails.)
9. **How would the cementing of creek beds harm creeks?** (It destroys creek habitat for plants and animals, and increases downstream flooding.)
10. **What are some ways that wetlands are destroyed?** (Landfills, buildings, roads, and agriculture.)
11. **What percentage of wet prairie wetlands still exists in Willamette Valley?** (Less than 1%.)
12. **Why are wetlands important?** (They are home for plants and animals. Endangered species depend upon wetlands. Migratory birds use wetlands. Wetlands provide flood control.)
13. **What are some ways that you can help protect wetlands and the watershed?**
14. **What projects would you want to do to help the watersheds?**
15. **How could you help creeks and streams that flow to the rivers?**
16. **How could you help protect water quality?**
17. **How could you protect the wetlands?**



18. **How can you help the plants and animals that live in the wetlands?** (Learn more and tell other people about the plants, animals, and habitats. Protect and restore their habitat. Assist agencies, organizations and programs that study and/or help the plants and animals and their habitats.)

Select a Group Project

Brainstorm with students on different ideas for their group project. Following are some ideas and resources on how students can protect water quality of the watershed. These ideas may surface during the discussion or you may want to contribute them. Through discussion, help the students identify one or two projects that they can actually carry out. Choose projects appropriate for your students' organizational abilities and skill levels.

As a group, develop a written plan for the project. Include a schedule showing who is responsible for what and within what time frame. Through discussion, help the students identify the type of help needed from parents, community groups, natural resource agencies, and others.

Conduct the Field Work for the Project

Carry out as much of the project as possible. Encourage the students to follow the project through to completion. Make arrangements for completing any work the students cannot accomplish.

Post Project Activities

Talk about the successes and shortcomings of the finished project. A few weeks after the project is completed, have several students arrange to visit the site where the work was done or displayed to determine if any follow-up is required. Provide recognition for the group's good work, perhaps through media attention, a trip, a party, an assembly, a presentation of "thank you" from recipient group with press coverage, etc.

Note: It may be wiser to start with something small that can be finished with great success than with a large project that might be beyond the students' reach.

Pollution Busters of Your Local Creek and Wetlands

- Organize a creek or wetland clean up or participate in a coast clean-up day.
- Develop a presentation about the things that threaten the health of creeks, streams, rivers, and wetlands. Deliver your presentation to other classes, at a school assembly, local environmental fairs or open house at the West Eugene Wetlands Environmental Education Center.
- Identify sites where garbage is frequently dumped and try to prevent future garbage dumping.
 - Ask the city to post a sign where the worst dumping takes place.
 - Work with local waterways groups to develop solutions to prevent dumping at a particular site.
 - Encourage used motor oil recycling in your community. Find out where recycling is happening and let people in the community know.
 - ***Be watchful citizens; report any action that degrades local wetlands.***

Watershed Guardians of Local Creeks and Wetlands

Restoration Projects

- “Adopt” a creek, stream, or wetland in your community by visiting it regularly and helping monitor and maintain its health by keeping it clean of litter and pollution. You might be able to conduct water testing and observations to check its health. Involve neighbors to help with your project to educate others about the value of your adopted creek or wetland.
- Participate in a habitat restoration project such as helping at a native plant nursery, re-vegetation, or cleanup. Remove invasive unwanted plants.

Community Action Projects

- Become involved in a community group that works to enhance and protect local wetlands and watersheds.
- Educate the community about the value of non-polluted creeks that flow into the rivers and ocean by creating and displaying murals, window paintings, or posters that illustrate the importance of creeks and wetlands in local businesses or public buildings.
- Use local maps to identify and chart the path of a local creek or visit the creek and write down information about its condition. What plants and animals are there? What type of development is nearby? Are there any visible signs of pollution or erosion? If possible, measure the salinity, temperature, pH, turbidity, and dissolved oxygen. Present findings to a community group.
- Develop a presentation about the value of creeks and wetlands and the importance of clean water (e.g., skit, song, talk, slide show, photo essay, or video) and show it to a community group or other classes in your school.
- Adopt an endangered species of West Eugene Wetlands and make others aware of its plight (e.g., make buttons, attend fairs with a display, or get your story out to the press).

Taking Responsibility for Your Personal Actions at Home and at School

Ways to reduce at school

- Develop a 3 Rs (reducing, reusing, and recycling) program in your classroom or school. Include paper, glass, aluminum, and plastic containers for your recycling program.
- Students can attempt to produce no waste for a week. Record the methods used to reduce garbage.
- Use the back side of waste paper for notes or copies (you could allow students to submit homework on the back side of used paper).
- Make double-sided copies.

- Make book covers out of used paper grocery bags or paper ream wrappers.
- Work with other students and your school to set up a recycling program for paper, glass, aluminum, and plastic containers.

Ways to reduce at home

- Try to buy products that use recycled materials, such as recycled packaging material and recycled paper. This completes the recycling loop.
- Pack your lunch in reusable containers, such as old yogurt or margarine containers.
- Reuse plastic and paper lunch bags several times.
- Avoid disposable plates, cups, plastic-ware, etc. Bring your own flatware.
- Recycle! You can easily recycle paper, glass aluminum, and plastic containers with curbside recycling at home or at a recycling center.



Resources For Community Action Projects

To report pollution or debris in creeks, streams, or wetlands contact one of the following:

- To report complaints within Eugene City Limits, contact: Kathy Jensen, 682-4901
www.epa.gov/region10/
- Stormwater Pollution Complaints – (541) 682-4800
- Erosion or Construction Site Complaints – (541) 682-8498
- EPA Wetlands Hotline – 1-800-832-7828
- Hazardous Waste Disposal Program – (541) 682-4120

To conduct a wetland restoration or adopt-a-creek or adopt-a-wetland project contact:

- Eugene Stream Team
Lorna Baldwin, Volunteer Coordinator
(541) 682-4850
lorna.j.baldwin@ci.eugene.or.us
- Oregon Adopt-A-River
Erin Peters
PO Box 1235
Hillsboro, OR 97123
(503) 844-9571
erin@solv.org
www.solv.org

For wetland re-vegetation projects contact:

- Eugene Stream Team
Lorna Baldwin, Volunteer Coordinator
(541) 682-4850
lorna.j.baldwin@ci.eugene.or.us
- The Nature Conservancy
Molly Daugherty, Director of Volunteer Programs
(503) 230-1221
mdougherty@tnc.org
- Friends of Buford Park and Mt. Pisgah
(541) 344-8350
volunteer@bufordpark.org

For water quality projects contact:

- Long Tom Watershed Council
751 S. Danebo
Eugene, OR 97402
(541) 683-6578

Natural Resource Agencies, Organizations, And Programs

Organization/website	Phone/email information
BRING Recycling Warehouse	(541) 746-3023 bring@efn.org
Cascade Raptor Center www.raptor-center.org	(541) 485-1320 raptors-center.org
City of Eugene SPLASH! Program www.ci.eugene.or.us/SPLASHweb	
City of Eugene Stormwater Management Program www.ci.eugene.or.us	(541) 682-2739
City of Eugene Stream Team	(541) 682-4850 lorna.j.baldwin@ci.eugene.or.us
Eugene 4j School District: Virtual Eugene http://www.4j.lane.edu/partners/eweb/ve/ve.home.html	
Eugene 4j School District: Tale of Two Rivers http://www.4j.lane.edu/partner/eweb/ttr/ttr.home.html	
EWEB (Eugene Water & Electric Board) www.eweb.org	(541) 341-8526
Friends of Buford Park and Mt. Pisgah	(541) 344-8350 volunteer@bufordpark.org
Lane Council of Governments www.lcog.org	(541) 682-4426
Lane County Audubon Society www.laneaudubon.org	(541) 485-BIRD audubon@efn.org
Long Tom Watershed Council www.longtom.org	(541) 683-6578 longtom@efn.org
Mount Pisgah Arboretum www.efn.org/~mtpisgah/	(541) 747-1504 mtpisgft@efn.org
Native Plant Society of Oregon www.npsoregon.org www.emeraldNPSO.org	

Nearby Nature www.nearbynature.org	(541) 687-9699 info@nearbynature.org
Northwest Youth Corps www.nwyouthcorps.org	(541) 349-5055
Oregon Adopt-A-River www.solv.org	(503) 844-9571 erin@solv.org
Oregon Department of Fish & Wildlife http://www.dfw.state.or.us/south_willamette .	(541) 726-3515
Oregon Youth Conservation Corps	(503) 378-3441
SOLV www.solv.org	(503) 844-9571 or 1 800 322-3326 susan@solv.org
The Nature Conservancy http://nature.org/wherewework/northamerica/states/oregon	(541) 682-5291
Science Factory www.sciencefactory.org	(541) 682-7888
U.S. Army Corps of Engineers http://www.nmp.usace	(541) 937-2131
U.S. Bureau of Land Management http://www.edo.or.blm.gov/	(541) 683-6987
U.S. Forest Service http://www.fs.fed.us/	(202) 205-8333
West Eugene Wetlands www.ci.eugene.or.us/wewetlands/homebanner.htm	(541) 682-5291
West Eugene Wetlands Environmental Education Center www.ci.eugene.or.us/wewetlands/env_ed_ctr.htm west_Eugene_wetlands@hotmail.com	(541) 683-6494