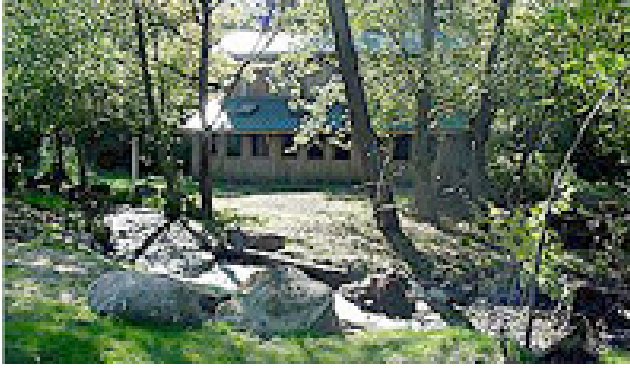




Human Ecology

June 28; July 10-11, 2007

Stewardship in the Portage Creek Watershed

SERVICE OBJECTIVES:

- Work with Stilly-Snohomish Fisheries Enhancement Task Force to support stewardship activities in the Prairie Creek watershed.
- Help maintain conservation areas in the Portage Creek watershed. Portage Creek is a tributary to the Stillaguamish River. Prairie Creek used to support water all year around but became a seasonal stream after the area was converted to farming. With a wildlife area and new buffers separating the streams from housing developments the goal is to use vegetation to restore the area to an annual stream. Coho salmon and rainbow and cutthroat trout use Portage and Prairie Creek for spawning.
- Use quantitative and qualitative measures to monitor the impact of restoration efforts along Portage and Prairie creeks.
 - Assess vitality, measure and record growth of native plants
 - Conduct a post-installment assessment of large woody debris installation in Portage Creek
 - Count and measure all large woody debris within restoration area
 - Measure width and depth of stream at periodic intervals
 - Use data collected to graph stream profile
- The conservation area at Prairie Creek hosts scientific experiments created by students using an inquiry based learning process. Some of these experiments include an attempt to assess the impact of different functional groups of plants (evergreen trees, deciduous trees and shrubs) on the suppression of grasses, such as Reed Canary Grass. There are six different test plots with 40 plants each and 7 foot spacing. The species planted at the site on Prairie Creek include the following:
 - *Alnus rubra*, Red Alder, p. 44
 - *Acer macrophyllum*, Bigleaf Maple, p. 45
 - *Picea sitchensis*, Sitka Spruce, p. 37
 - *Thuja plicata*, Western Redcedar, p. 42
 - *Rubus spectabilis*, Salmonberry, p. 76
 - *Salix Scouleriana*, Scouler's Willow, p. 89
 - *Rosa nutkana*, Nootka Rose, p. 74
 - *Cornus stolonifera*, Red-Osier Dogwood, p. 90

- We will be removing plant protectors from recent plantings at Portage Creek Wildlife Area, conducting a survey of large woody debris to assess post-LWD installation and conducting invasive vegetation control.
- Native vegetation in riparian areas provides food and shelter for animals and shade for fish and other wildlife. It slows erosion, reduces the likelihood and danger of flooding, and improves the quality of the water by filtering pollutants out of surface and ground water.
- We will begin June 26th at Portage Creek Wildlife Area. On July 10th & 11th we will also begin at Portage Creek but may also be working at Prairie, Jones or Kruger Creeks.

LEARNING OBJECTIVES:

- Explore the restoration efforts on a former dairy farm that has been sold to Snohomish County Parks and Recreation as part of the Wetland Reserve Program (WRP). Noxious weeds and poison hemlock used to infest the area. Our efforts will support continued planting of native species to replace the formerly noxious ones.
- Learn to recognize common birds of Western Washington with field and skin identifications at Portage Creek Wildlife Area.
- Recognize the value of quantitative measures in assessing restoration projects.
 - Use tape measure and stadia rod to measure width and depth of stream
 - Graph a stream profile using measurements you collected
- The long-term vision for the Portage Creek Wildlife Area is a restored wetland, floodplain and riparian zone. As beaver dams expand the flooding of the seasonal wetland area, more waterfowl and shorebird will use this site as a natural habitat. As the trees grow, there will be an influx of neo-tropical migratory birds to the reforested area. (Selections from NRCS Fact Sheet, "Portage Creek Wildlife Area," 2005).
- Describe the significance of riparian zones to the ecosystem (including humans) of Western Washington.
 - Learn to identify native plants and two traditional ethnobotanical uses. See the list of 40 plants from previous field guides. You will find the Pojar guidebook most helpful in identifying traditional uses.
 - Define "watershed" and be familiar with Prairie Creek watershed and the larger watershed of which it is a part.
 - Explain the social and ecosystem services provided by native plants as opposed to non-native species.
 - Describe the expected impact of riparian zone restoration on salmon populations.
 - Learn to recognize invasive species that threaten Prairie Creek watershed. These species are the Himalayan Blackberry, Reed Canary Grass and Yellow Flag Iris.
 - Identify ways that native vegetation can harness feedback systems in regulating populations of species in riparian zones.
- Define, explain, and identify emergent properties of the ecosystem and social systems associated with Portage Creek Wildlife Area.

- Define, explain, and identify examples of community assembly at Portage Creek Wildlife Area. What community assembly rules are we attempting to harness in this restoration project?
 - Define and explain stability domains. Where would our restoration efforts fit into Figure 4.6 on page 57 of your text?
 - Describe the Natural Resources Conservation Services (NRCS) and their Wetland Reserve Program (WRP). How is this site associated with the Wetland Reserve Program?
 - Explain how Stilly Snohomish Fisheries Enhancement Task Force got involved with this particular site and it fits within the larger mission.
 - Compare and contrast Hardin's "Tragedy of the Commons" with Aldo Leopold's "The Land Ethic." How might ethics play into the management of common pool resources? Can ethics avert tragedy?
 - Maintain field notes recording your activities at Portage Creek Wildlife Area and Prairie Creek.
 - Start a new page of field notes for each day of service. Do not remove pages. If you make an error, cross it out, and proceed.
 - Include the following information for each service project:
 - Name of site where you are working.
 - Date and time of day.
 - Weather conditions.
 - Latitude, longitude, and altitude of one or more reference points. Include a description of the reference point(s) and relationship(s) to the work site.
 - Names of other volunteers with whom you worked.
 - Two to three page description of the day's activities and how they helped you meet the objectives outlined above.
 - Whether or not your carpooled (and with whom).
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DESCRIPTION AND LOCATION:

Portage Creek Wildlife Area is a 157 acre wildlife reserve featuring a variety of native plants and animals. It includes a wetland with meadow trails, a boardwalk, interpretive center, picnic tables and portable restrooms.

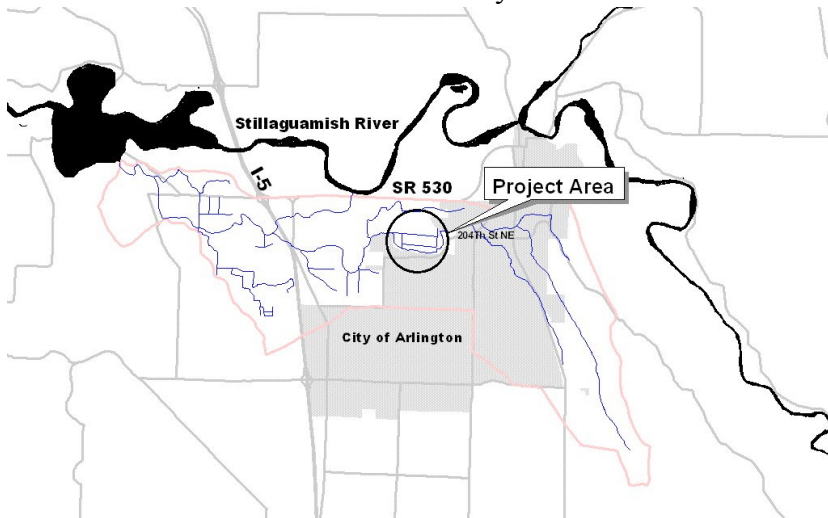
Directions to Portage Creek Wildlife Area – 59th Street Entrance (June 28th)

- Take I-5 north to exit 208
- East on Hwy. 530
- Right on 59th Ave. NE (before Arlington)
- Right into Portage Creek Wildlife Area (look for the white pipe gate just past the horse pasture).

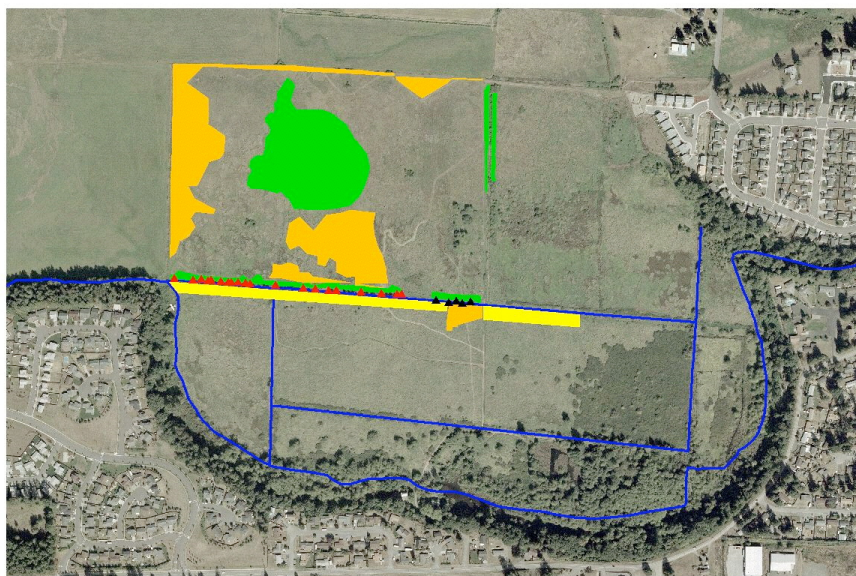
Directions to Portage Creek Wildlife Area – My Creek Entrance (July 10th)

- Take I-5 North towards Arlington
- Get off at exit 208 (Arlington/Silvana, Hwy 530)
- Head east on hwy 530 to 211th Pl NE (before Hwy 9).

- Turn RIGHT onto 211th PI NE.
- Follow it to the end and turn RIGHT onto 67th Ave NE
- Go to the stoplight and turn RIGHT onto 204th/Cemetery Rd.
- Go approximately ½ mile on Cemetery Rd and you will see a sign for the Portage Creek Wildlife Sanctuary.
- Turn RIGHT into the Sanctuary and follow the road down to the parking area.



Portage Creek Wildlife Area Wetland and Stream Restoration



- ▲ ELWD Structure Locations
- ▲ LWD Structure Locations
- PCWA Areas Planted 04
- PCWA Areas Planted 05
- PCWA Areas To Be Planted 06
- PortageCreekWatercourse



0 2000 4000 Feet



Directions to Prairie Creek from Portage Creek:

To get to Prairie Creek site from PCWA:

- Turn left onto Cemetery/204th (at the park exit)
- Turn right onto HWY 9, heading south
- Turn right at the second light, onto 172nd
- Make your first right onto 85th
- Turn left onto 175th.
- Turn left onto 84th and park.

TRANSPORTATION:

In the interest of minimizing pollution and enhancing your learning experiences we recommend traveling to and from the site in a pre-arranged carpools. The carpools will depart from the south entrance to Snohomish Hall at **8:00 am**. If you miss the carpools it is your responsibility to get to and from the site on your own.

In an emergency you may contact Tom Murphy via cell phone, 425-478-5567.

WHAT TO BRING:

You should bring your field manual (including this field packet) in a three-ring binder, "Rite in the Rain" All-Weather Spiral Notebook and a fine pointed permanent marker. You may leave the binder in the vans but should keep the notebook and marker with you.

Please come prepared to get dirty, rain or shine. Bring the following items.

- One pair of leather gloves.
 - One pair of rubber-palmed gardening gloves.
 - Water-resistant coat and pants (if raining).
 - Boots or sturdy shoes
 - Chest waders on June 28th (recommended)
 - Hat (recommended).
 - Pojar & Mackinnon's *Plants of the Pacific Northwest Coast* (recommended).
 - Bird Field guide (if you have one).
-

PRE-FIELD ASSIGNMENTS:

- Read this field packet.
- Complete reading assignments on syllabus.
- Before July 10th familiarize yourself with the appearance, habits and SOUNDS of the 20 birds on this website: <http://protist.biology.washington.edu/nwbirds/>
- Use the headings near the top of the page to navigate through the site, and to pay the most attention to the "bird bios" and "habitats" sections. The "bird bios" pages have the sounds near the bottom of the page, and they can also be accessed by mousing over the bird images in the "habitats" pages.
- Visit Snohomish County Parks and Recreation web site and read the summary of Portage Creek Wildlife Area:

http://www1.co.snohomish.wa.us/Departments/Parks/Information/Park_Directory/Regional_Parks/Portage_Creek.htm.