

926190

Watershed and Field Ecology
Metro Parks and Greenspaces Grant
Final Grant Report
Andrew Gilford
Clackamas High School
August, 2005

1) Written Summary of Grant Activities:

Work on this grant was initiated in April of 2005 when the summer course was first advertised. Students were recruited from all three North Clackamas high schools and applications were taken and evaluated. By early June twelve students were selected and enrolled in the class.

Class began on June 28th, and continued for three and half weeks with both field and classroom experiences. (See attached for actual class calendar.) In addition to learning field ecology skills, students gathered specific data on Clear and Foster Creeks in order to begin to conduct a longitudinal analysis of water quality data. Students reported their findings along with an analysis on historical data to the Clackamas River Basin Council on July 17th, 2005.

The final total budget for the class was \$16,879. Of this total, \$13,469 were matching funds and \$3,410 were grant funds. The grant funded money went primarily to equipment and personnel. A total of 24 volunteer hours were donated from six different professionals. Collaboration with the following agencies occurred: Clackamas River Basin Council, OSU Extension—Sea Grant, Oregon Department of Fish and Wildlife, Sunrise Water Authority, and private landowners of the Clackamas Watershed. (See attached budget information for additional details.)

2) Written Evaluation:

The class was an overall success. Students learned and honed field ecology skills related to watersheds and stream ecology. The students were most impacted by the opportunity to visit wilderness stream sites in their watersheds. For the first time students became aware of the source of their drinking water and their relation to the system that produces it. Students were also greatly impacted by having to give a professional presentation to a watershed council. For many it was the first real presentation they had given, and the authenticity of this audience pushed the students to excel when they might not have otherwise. One change that could be implemented in the future would be to give students the opportunity to develop and execute individual independent research projects.

3) Photo Documentation: Please view attached disks. Additional photos exist in the Metro archive.

Calendar for Summer Course
(This may change as the course progresses)

Monday	Tuesday	Wednesday	Thursday	Friday
		6/29 Basic watershed concepts. What is a watershed and what are its parts? Using maps to identify watershed boundaries. Tour of Clackamas Watershed – watershed hydrology (stream flow and factors affecting)	6/30 Stream Geo-morphology - Rosgen Classification - Clackamas Watershed tour looking at physical components of the watershed up and down the river – conducting Rosgen on two different streams; purpose of stream classification	7/1 Habitat – what is habitat and how can its quality be assessed/ determined. Comparing habitat quality on two different sites. (Deep Creek @ Collins; Richardson Creek)
7/4 Holiday. No class.	7/5 Macroinvertebrates as indicators – using insects to determine stream health. Collection of insects in the field and identification and classification in the classroom. (Eagle Creek @ Bonnie Lure, Clear Creek @ Metzler)	7/6 Microbiological testing – taking water samples to monitor for fecal coliform. Is your sewage getting into your streams? Sample taking, plating, and incubation. (North Fork Deep in Boring, Tickle @ Dubarko, mainstem Deep at some road crossing)	7/7 Microbiological Testing continued. Measuring colony growth from incubated plates. Background info on Water Quality in lab during late afternoon to prep for field tomorrow The fish connection – are we too ichthyocentric? – Philosophical/ environmental personal reading and discussion/ mock watershed council?	7/8 Chemical analysis of water quality. Nitrates, phosphates, ammonia, dissolved oxygen, BOD, pH, conductivity, turbidity, alkalinity, temperature Comparing three sites on the Clackamas (mouth, Carver, above Estacada) Niki Iverson
7/11 Tour of human impacts. What does a pristine stream and forest ecosystem look like? Tour of old-growth. What does a clear-cut look like? Tour of	7/12 Riparian vegetation; How should riparian vegetation be managed? Invasive species impact on riparian zones. Also Gilbert Shibley – tour of	7/13 GIS – All day work in the computer lab making watershed maps using spatial information. Adding our own data to the maps. Visit from Greg	7/14 Restoration Processes 10:00 at Metro Land – macros and fish sampling with Bernadette Graham-Hudson after lunch go over to Johnson Creek	7/15 Visit to landowners properties for snapshot assessments (continued). Water quality and fecal coliform sampling.

recently logged areas. Human uses of the watershed.	his property Sam Chan visit	Cianella	site and look at what is happening there for comparison basis.	(class on Saturday 7/16, with Monday 7/18 off)
7/18 Day off because of Saturday work	7/19 Finish landowner visits if need be; Assessments at designated restoration sites.	7/20 Assessments at designated restoration sites. Work on presentation.	7/21 Finish work on presentation. Evening presentation at watershed council meeting.	7/22 Wrap-up. Clean-up. Final exam. Class evaluation.



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Students will present

Clackamas stream work

CLACKAMAS — Clackamas High School students will discuss the impact of urbanization on local streams at the Clackamas River Basin Council meeting from 6 to 8 p.m. today at the Clackamas County Service Building auditorium, 9101 S.E. Sunnybrook Blvd., Clackamas.

The presentations are the result of a three-week summer ecology course designed by science teacher Andrew Gilford. Students learned about watershed processes and monitored sites along suburban streams to collect data on water quality, vegetation, habitat quality and organism diversity.

The course was funded by a Metropolitan Greenspaces grant. Students will continue to monitor the streams during the school year.

Forest tour will show

varied timber approach BEAVERCREEK — A free public tour featuring alternative forestry will be from 7 to 9 p.m. Thursday, July 28, at Hopkins Memorial Tree Farm near Beavercreek. Mike Bondi, an Oregon State University Extension forestry agent, and John Poppino, a master woodland manager, will discuss the pros and cons of uneven-age timber management as practiced on 15 acres at the nonprofit farm. They will explain why certain trees were selected for an upcoming thinning.

Tour participants should be prepared for walking in the woods. For information and directions, call the extension office in Oregon City at 503-655-8631.

PUBLIC MEETINGS

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THURSDAY

Clackamas County Hearings Officer, Sunnybrook Service Center auditorium, 9101 S.E. Sunnybrook Blvd., Clackamas. 9 a.m., revocation of home occupation permit on Sun Meadows Terrace; 9:30 a.m., proposal to build a 6,000-square-foot church along Green Mountain Road; 11 a.m., proposal for a farm equipment sales business at Southeast Haley Road and U.S. 26. 503-353-4400. Molalla City Council, 10 a.m., work session about treated sewer water disposal, City Hall, 117 N. Molalla Ave. 503-829-6855. North Clackamas Parks & Recreation District Advisory Board, 6 p.m., Milwaukie Center, 5440 S.E. Kellogg Creek Drive. Discussion on proposed annexation of Happy Valley to the park district. 503-794-8002.

MONDAY













