

**2003**  
**Project YESS**  
**FALL HABITAT**  
**RESTORATION WORK**  
**CREW**

**FINAL REPORT**

Report prepared by  
Andy Kerr, Crew Leader

# Project YESS Fall Work Crew EDUCATION DAYS IN BOLD

September 2003

<b>Sunday</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>	<b>Saturday</b>
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22 Orientation Start crew 12:30 – 1:30	23 Orientation 12:30 – 4:30 Joan 2:00	24 Orientation 12:30 – <b>8:30</b> Pizza and <b>SWIFTWATCH</b> @Chapman Sch.	25 <b>Long day!</b> 8:00 – 5:00 <b>Challenge</b> <b>course</b> <b>Camp Collins</b>	26 Off Day!	27
28	29 12:30 – 4:30 Blackberry cutting @MHCC Kelly Creek and	30 12:30 – 4:30 Blackberry cutting @MHCC Beaver Creek				

# October 2003

Education days in bold

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 <b>10:30 CO-OP</b> 12:30 – 4:30 goal setting with Joan	2 12:30 – 4:30 <b>Animal reports</b> Blackberry removal	3 off day	4
5	6 12:30 – 4:30  Blackberry removal	7 12:30 – 4:30  Blackberry removal	8 <b>10:30 CO-OP</b> 12:30 – 4:30 Blackberry removal	9 <b>Wolfree &amp;</b> Salmon Walk <b>9:00 – 4:00</b> <b>Learn Salmon</b> <b>Life Cycle</b>	10 <b>8:30 – 4:00</b> <b>setup Salmon</b> <b>Festival @</b> <b>Oxbow!</b>	11 <b>10:00 –5:00</b> <b>Salmon</b> <b>Festival. We</b> <b>teach at</b> <b>School o Fish!</b>
12	13 12:30 – 4:30  Blackberry root digging	14 12:30 – 4:30  Blackberry root digging	15 <b>10:30 CO-OP</b> 12:30 – 4:30 Digging and hauling	16 12:30 – 4:30 <b>Animal reports</b> Haul out blackberries	17 off day	18
19	20 12:30 – 4:30  Blackberry root digging	21 12:30 – 4:30  Blackberry root digging	22 <b>10:30 CO-OP</b> 12:30 – 4:30 goal updates with Joan!	23 12:30 – 4:30 <b>Animal reports</b> Haul out blackberries	24 9:00 – 4:00  Digging and hauling	25
26	27 12:30 – 4:30  Cut and haul	28 12:30 – 4:30  Cut and haul	29 <b>10:30 CO-OP</b> 12:30 – 4:30 <b>Kate Holleran</b> <b>Planting!!!</b>	30 8:00 Russ for plant pots 12:30 – 4:30 Bring in plants- Planting!	31 9:00 – 4:00  Digging and hauling	

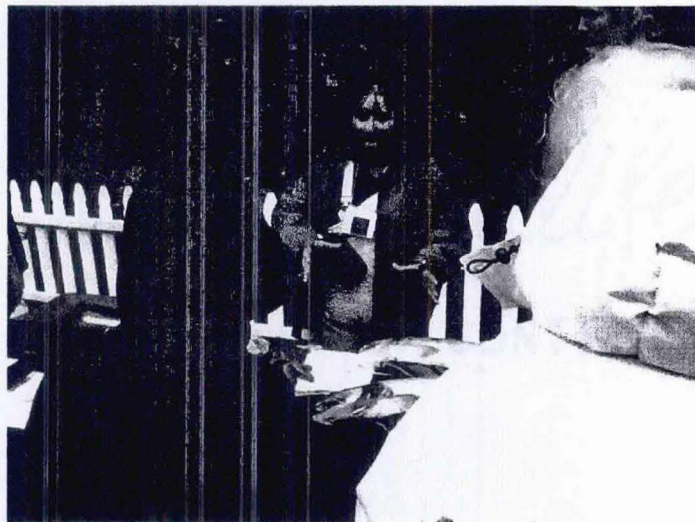
# November 2003

Education days in bold

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3 12:30 – 4:30  Cutting and hauling	4 12:30 – 4:30 <b>Geology of Streams</b> with Bradlee @MHCC	5 <b>10:30 CO-OP</b>  12:30 – 4:30 Planting!	6 12:30 – 4:30 <b>Whitaker Ponds</b> Macroinverts with Rachel Felice	7 9:00 – 4:00 <b>Smith and Bybee</b> 10-12 with James Davis	8
9	10 12:30 – 4:30 <b>Visit up &amp; downstream Beaver Creek</b>	11 <b>Veterans' DAY</b> <b>NO WORK!!</b>	12 <b>10:30 CO-OP</b> <b>Never Cry Wolf!</b> 12:30 – 4:30	13 12:30 – 4:30 <b>Animal reports</b> PLANTING!!	14! Marcela and Dolly edit VIDEO	15
16	17 12:30 – 4:30  PLANTING!!	18 12:30 – 4:30  PLANTING!	19 <b>10:30 CO-OP</b>  12:30 – 4:30 PLANTING!!	20 12:30 – 4:30  PLANTING	21 Dolly and Marcela edit VIDEO	22
23	24  off day	25 <b>Winged Migration</b> movie @ Fox T then pizza	26  COLLEGE CLOSED!	27 Thanksgiving COLLEGE CLOSED	28  COLLEGE CLOSED	29
30						



During orientation week, the staff carpooled the crew to Swiftwatch at Chapman Elementary School in Northwest Portland. We saw one Vaux's Swift snagged by a Cooper's Hawk, but thousands more roosted in the chimney, to combine their body heat in order to survive the cold Fall night. The few who did not make it into the chimney flew off in the direction of Forest Park



At the 2003 Salmon Festival at Oxbow Regional Park: Marcela explains the changes undergone by a Chinook Salmon's internal organs as it migrates from fresh water to salt water.

1. Written summary of grant activities that includes progressive steps on how actual project was completed.

As the above calendar shows, our habitat education activities started during our orientation week with a trip to Swiftwatch at Chapman Elementary School in Northwest Portland. Before leaving for the site, we studied the facts explained in the "Bird of the Month" feature of the Audubon Warbler for September 2003. As a past Swiftwatch Volunteer, I was able to answer most questions about the phenomenon we would see at the school. After witnessing and filming the Vaux's Swifts gathering and circling and finally entering the chimney at sunset, one of our students decided to adopt the Vaux's Swift as her prey animal to study along with one of its predators, the Cooper's Hawk.

At the beginning of the orientation week, I asked every student to identify a predator-prey relationship that they would like to study and explain to the other crewmembers. The list below consists of species we would be likely to see or at least hear during the season of our work. The names in bold are the crewmembers who chose that relationship to research. If there was a predator or prey without a partner, the student was assigned to research to find an important predator or prey to match, then report on that relationship.

## Fall Crew is a Learning, Working, and Teaching Experience

**Every animal we might see is a predator or prey of something else.**

**Please choose a predator and prey partnership that will be your specialty. On Thursday of each week, be ready to tell us at least one interesting thing about your predator or prey. If you don't want to tell us something, please imitate how one of the animals walks, flies, crawls or vocalizes. If there is no predator or prey partnered with an animal in this list, you can choose an animal without a partner and find out what species of animals it eats or what eats it.**

### **The animals are:**

Osprey

Hover fly -- **Andy**

Steller's Jay and Coyote -- **Shawn**

Banana Slug and Marsh Shrew -- **Mario**

Kingfisher

Garter Snake -- **Brandon**

Oregon Slender Salamander

Bald Eagle and Chinook Salmon -- **Dolly**

Yellowjacket and Vaux's Swift

Vaux's Swift and Cooper's Hawk -- **Marcela**

Bumble Bee and Violet-green Swallow

Black-tailed deer and Cougar

American Dipper and Stonefly

Common Merganser

Great Blue Heron and Crayfish

Dragonfly and mosquito (choose a species)

Cleared Himalayan Blackberry from 25,000 square feet on the western shore of the confluence of Beaver Creek and Kelly Creek in the center of the undeveloped area of the Mt. Hood Community College campus. About ½ is upland and ½ is riparian area with soil filled with grapefruit-sized basalt rocks transported from Boring lava domes by Kelly Creek during flood events before 1969. In 1969 Mt. Hood Community College pond was constructed 500m upstream from worksite. The pond currently inhibits significant rock transportation as Bradlee Mertz pointed out in his “rock and talk”.

Before beginning work, we discussed the reasons for removing non-native invasive plants. We began with a power point presentation developed by Project YESS that defines and explains the challenges of invasive plants. We talked about how non-native invasive plants, chiefly Himalayan blackberry colonized this area and how they displace and inhibit the growth of native plants. Then we discussed the fact that they provide very little food or cover for native wildlife.

We discussed what species of animals we might encounter in our work. We pointed out that most animals would pose no threat to our safety except for the one-celled organism called giardia that might be ingested should a crew member drink stream water.

2. Photo documentation showing how the project was accomplished.
3. Include before, during and after photos of the site. Include map and photo points with slides of photo points.

Please see next pages.

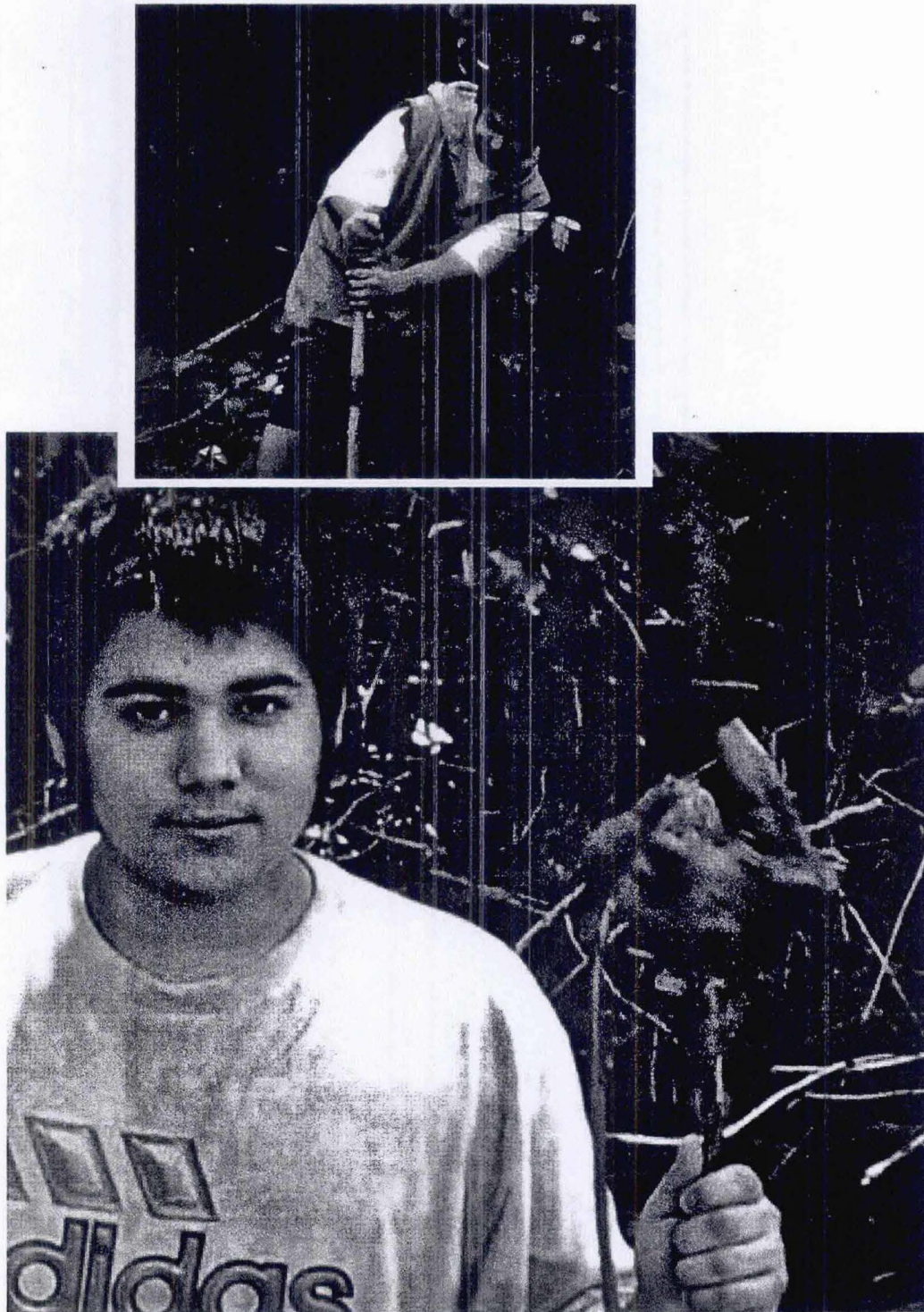




9/29/04. The crew has begun cutting into the wall of Himalayan blackberry plants. A previously unseen log is beginning to emerge on the left.



11/17/03 Here is the worksite after the blackberry canes have been cut, the roots have been dug and all of them hauled away. Planting has begun, as shown by the Vexar screens seen in this picture.



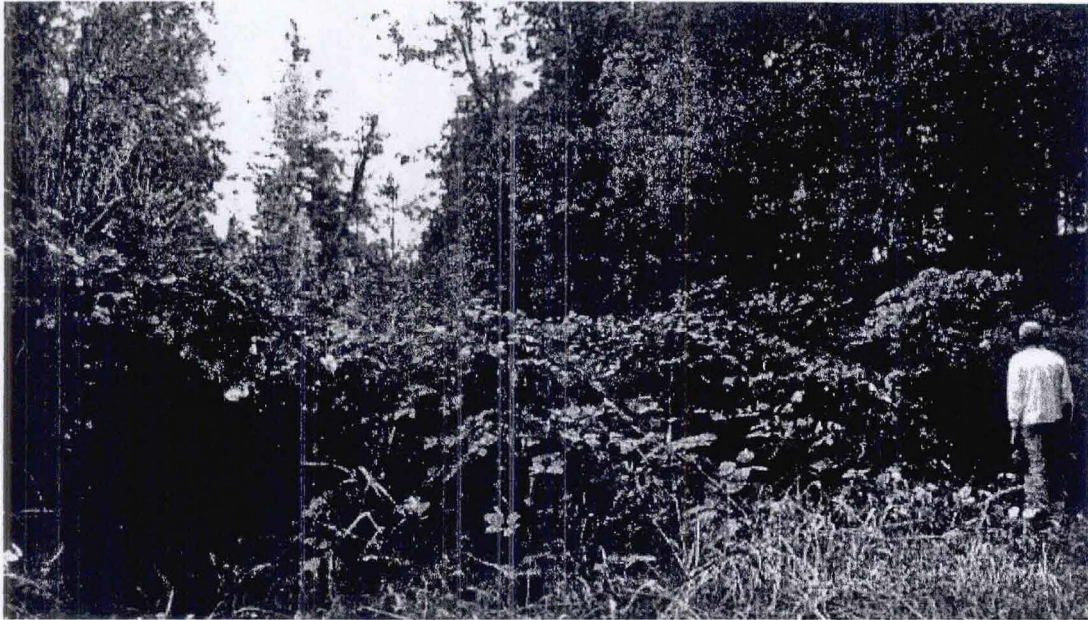
Crewmember Mario holds up a sample of the Himalayan blackberry roots that we removed. Over the course of the Fall Habitat Restoration Crew, we dug up and hauled out over 1,000 root balls like this, some smaller, most larger.



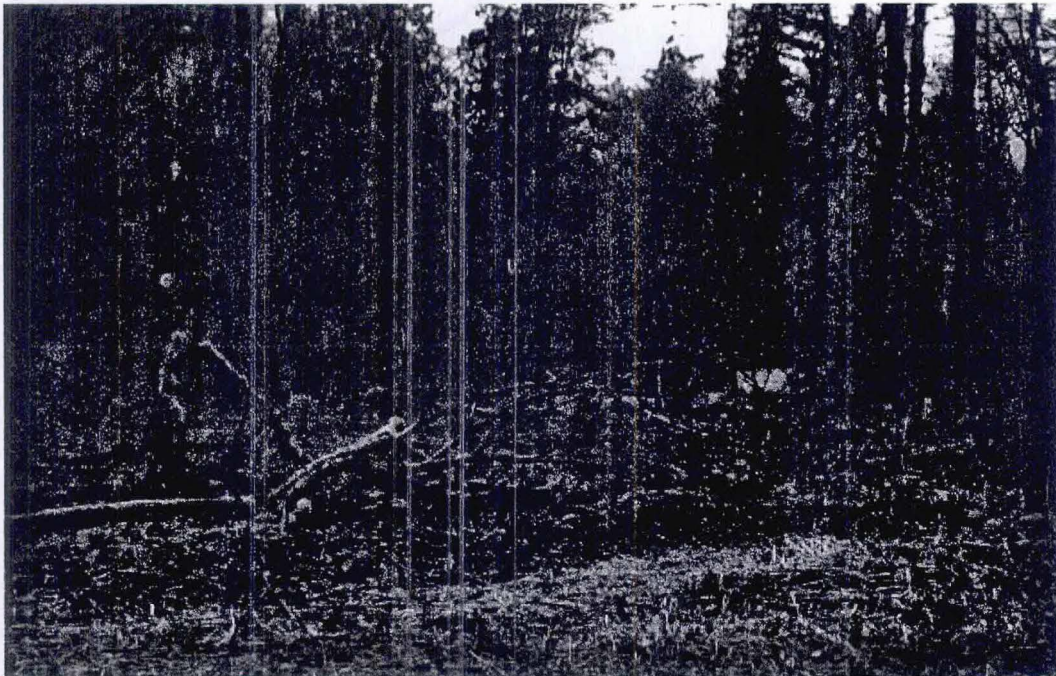
9/29/03 View to the northwest, cutting blackberry that covers Beaked hazelnut (*Corylus cornuta*)



9/17/03 Another log exposed. Beaked hazelnut on right is visible but leafless.



October 14, 2003 facing east looking into wall of blackberries. Kelly and Beaver Creeks are out there somewhere.



January 7, 2004 Facing east at the same photopoint, prone Blue elderberry is exposed with confluence of Beaver and Kelly Creeks in the background. The Red alder and Bigleaf maple trees have lost their leaves and the Crew has cut and dug blackberries and planted native species.



5/14/04 A Western red-cedar we planted is surviving with Salmonberry and a Red alder trunk in the background

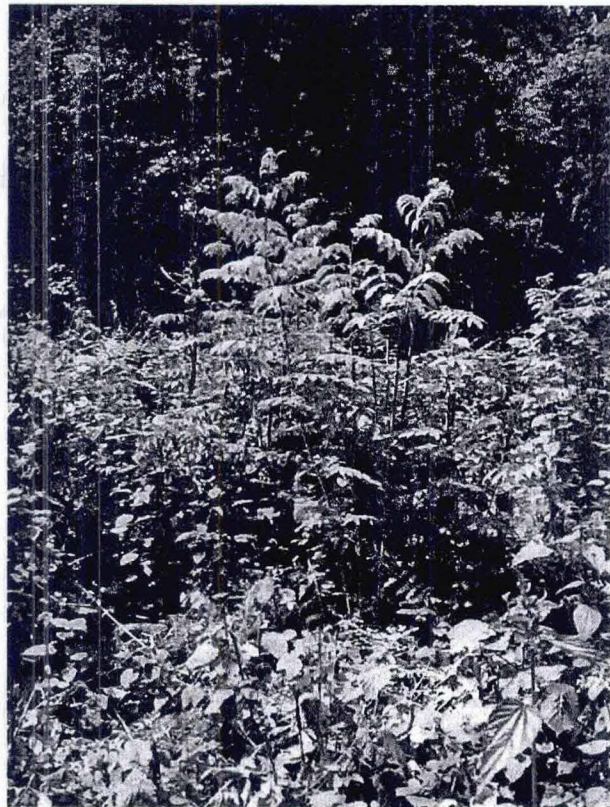


5/14/04 Another November planting of Western red-cedar grows near a pole cutting we did of a Red-osier dogwood. Behind is a Salmonberry patch that from which we cut and dug out Himalayan blackberry plants.



5/10/04 Here is one of our Red elderberry (*Sambucus racemosa*) plantings with a large quantity of Salmonberry plants in the background and Stinging nettle in the foreground.

5/10/04 This Blue elderberry plant shown in January two pages previously was almost completely covered by Himalayan Blackberry. This photo shows the 4 meters of new growth since the removal of blackberry canes, and most importantly, roots.



**4. Outline the maintenance plan or follow up activities that will ensure success of the project.**

Project YESS Spring Habitat Restoration Crew became familiar with the area by learning the names of the planted trees and shrubs while they remove any Himalayan Blackberries that have survived the Fall Crew's extensive cutting and digging.

In addition, Spring and Summer 2004 Crews used buckets and hoses to water the plantings on an as-needed basis. Three waterings were provided in April, May and June of 2004.



Marcela, above at our Kelly Creek worksite, studies a fact sheet on Banana slugs that we had been observing the day before. Dolly looks up from searching for macroinvertebrates on a cold day at Whitaker Ponds Natural Area.





6. Note the number and species of trees and shrubs planted . Accurate numbers and species are necessary.

<i>Thuja plicata</i>	Western Red-cedar	37
<i>Symphoricarpos albus</i>	Snowberry	27
<i>Sambucus racemosa</i>	Red elderberry	17
<i>Pseudotsuga menziesii</i>	Douglas-fir	8
<i>Tsuga heterophylla</i>	Western hemlock	3
<i>Rubus ursinus</i>	Trailing blackberry	1
<i>Rubus parviflorus</i>	Thimbleberry	3
<i>Gaultheria shallon</i>	Salal	2
<i>Oemleria cerasiformis</i>	Indian-plum	1
<i>Cornus stolonifera</i>	Red-osier dogwood	4

As of May 4, 2004, there was a 91% survival rate of our plantings. The Spring Habitat Restoration Crew used buckets to water the plants during the unusually dry periods in April and late May. The Summer Habitat Restoration Crew will continue to water and monitor the health of the plantings.

The Project YESS 2003 Habitat Restoration Crew worked and learned with a variety of adults ages 20's to late 50's in different professions and life stages. Here's who and where we met those people

### **Oxbow Regional Park**

At the 2003 Salmon Festival, School of Fish, the crew assisted in constructing and setting up active displays and scale models consisting of on-site materials such as river sand and rocks supplemented with small toys to depict the Sandy River watershed's benefits and challenges to fish. Worked with James Davis, Metro Naturalist, Paul Gleason, Volunteer Naturalist, and Mary West, Metro Volunteer Coordinator

### **Smith and Bybee Lakes Wildlife Area**

Explored mammal, amphibian and bird life with James Davis, Naturalist at Smith and Bybee Lakes Wildlife area

### **Whitaker Ponds Natural Area**

Searched for freshwater invertebrates and practiced water quality monitoring methods with Rachel Felice, Slough School Educator of the Columbia Slough Watershed Council

### **Wildwood Recreation Area**

Used kick nets and turned over rocks to capture and release freshwater invertebrates under guidance of Sophie Prideaux of Wolfree, Inc. at Bureau of Land Management's Wildwood Recreation Area. Studied immature salmon in the Salmon Viewing area at the same facility.

### **Beaver Creek and Kelly Creek work site**

Kate Holleran – Mt. Hood Community College Natural Resources Technology Instructor. She showed us the basics of native tree and shrub planting. She pointed out the problems for the plant when air pockets are left in the soil or the soil is brought up too high around the trunk. We practiced planting a small Douglas-fir with her then used our knowledge on more than a hundred other native plants.

Bradlee Mertz – Americorps volunteer who shared his geological knowledge with us, pointing out significant differences in the geomorphology of Beaver Creek and Kelly Creek, whose confluence was visible from our work site.

Douglas Swanson, Geographer in the GIS Survey and Mapping Section of the US Army Corps of Engineers who, with two associates, Sharon Schultz and Paul Howard was doing a stream survey of Beaver Creek to prepare for enhancing fish passage under 17<sup>th</sup> Avenue, ¼ mile south and upstream of our worksite.

## 5. Actual product of the grant.

You are invited to view the student-produced video in DVD format, but using more traditional teaching methods, here are some of the improved understandings we captured.

Although we removed over 25,000 sq. ft of Himalayan blackberries and planted over 100 native plants, I hope that the most lasting and expanding effect of this project will be the change in understanding on the part of the students. I periodically asked students to write answers to specific questions about predator/prey relationships, and how their restoration work might affect the upland and riparian habitats for their chosen animals.

I also gave them oral and written previews of the habitats we visited for field trips and alternative work areas. Then, I asked them to write out their responses to my printed questions.

Below are some examples of responses that I believe showed advances in understanding of the habitats and life cycles of the animals we saw and learned about.

### 1. Why do your (predator and prey) animals have Latin names?

No student was able to answer this question at first, but at the end of the term one had this cogent explanation. "So non americans know what your talking about."

### 2. What do your (predator and prey) animals eat?

The best final answer I got was: "Garter snakes eat worms, slugs, crickets, and other bugs. Their prey (worms) eat particles in the ground such as: bits of decaying leaves, dead bug parts and other tiny particles found in the soil."

### 3. Where do they find those things to eat?

"Salmon find their food either floating down stream or under rocks or in their yolk sacks. Bald eagles find them in the water or in the woods."

Another response:

"I know that salmon change from brown colors in the river, to blue shades for the ocean, then back again. Salmon, when young, slowly float down-stream while facing up-stream to catch bugs and other food on their way to the ocean. On the way they learn to avoid predators, most learn the hard way."

### 5. How does your work (of invasive species removal and native planting) improve your predator and prey animals find the food they need?

One response: "My work helps by planting the trees that have the roots to hold the ground up and to give bald eagles their nests."

6. How does your predator help the prey **species** survive? Predators kill individuals, but they may benefit the prey species as a whole. How do they do it?

One student replied simply but with important implications for population control: "More food for the individuals who are not eaten."

7. How do the predators help the animals that are **NOT** their prey?

"They (eagles) eat the salmon and their poop provides calcium to the grass and cows eat the grass and calcium then we eat the cows and get the calcium."

### Salmon Questions

(given after students worked at Oxbow Park Salmon Festival)

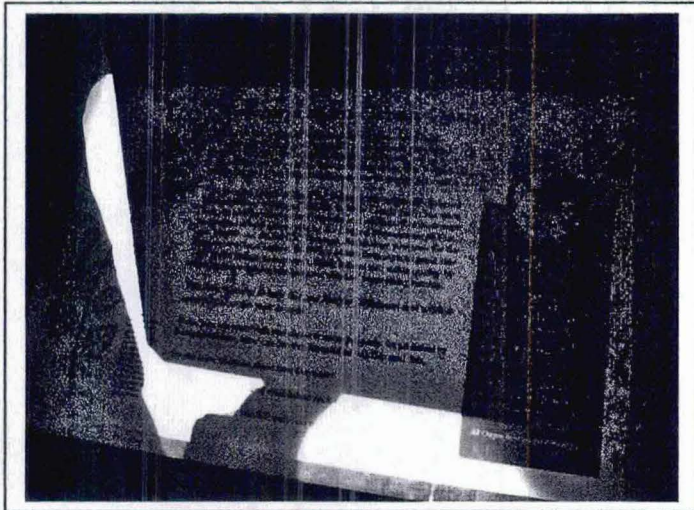
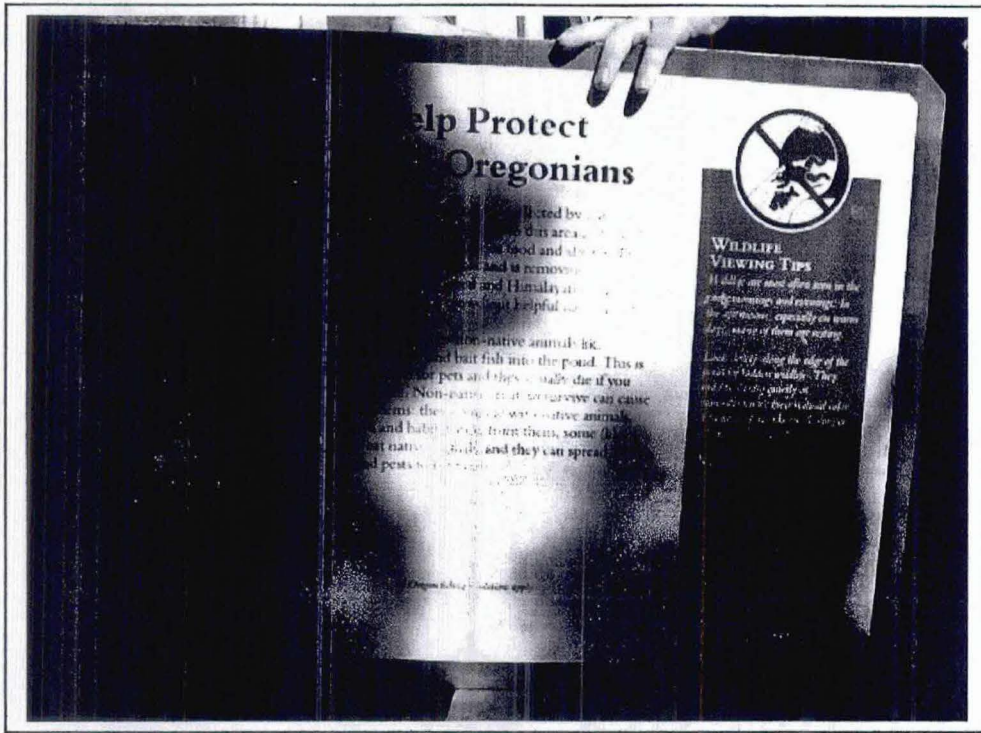
1. If all the **wild** salmon disappeared tomorrow, how would that affect Oxbow Park?

"It would affect it greatly because if there were no wild salmon, there would be no animals to eat the salmon. Bears: food, eagles: food, hawks: food, humans: food/calcium

2. If most of the trees in Oxbow Park were cut down, how would that affect the Fall Chinook Salmon?

"If they were cut down then there would be land slides and the eggs and fry would be covered and there would be less oxygen in the water and the smolts and spawning adults and swim-up fry would have less oxygen and could die."

On the following pages are the three signs produced for the City of Gresham by the MHCC Sheet Metal Program and installed near the pond by Mt. Hood Community College's Facilities Management team.



## Place of Hidden Treasure

Small text at the top left of the page, possibly a title or subtitle, which is mostly illegible due to the image quality.

Small text paragraph located below the title, providing introductory information about the habitat or the plants discussed.



Plants and animals are an important part of nature. They feed and provide shelter for many other plants and animals. Some plants have been introduced to improve habitats. Some of these species include native grasses, sedges, and other species. You can also find native, fresh and native species of native trees here. All of these plants play important roles in providing food, shelter and homes for insects, fish and other wildlife.

As part of a habitat improvement project, trees and shrubs were placed in and around the pond to provide places for turtles to sun and places to play. Many trees were anchored to the bottom of the pond for fish habitat. Frog and turtles can breed in the shallow wetlands. Over time, the trees and shrubs will provide habitat and support for plants, grasses and species and many wildlife will come from the area.



○ We wish to thank all these people and organizations who helped make this habitat restoration work/learning project possible:

Kate Holleran, MHCC Natural Resources Technology Instructor

Larry Stevens, MHCC Lead Custodian

Don Wallace, Director, Facilities Management

Jack Schommer, Director, TV Program Integrated Media

Sven Svensen, MHCC Horticulture Professor

Bradlee Mertz, Americorps volunteer for Metro Regional Parks and Greenspaces

Phil Parsley, MHCC Head Groundskeeper

James Davis, Naturalist, Metro Regional Parks and Greenspaces

Paul Gleason, Volunteer Naturalist, Salmon Festival

Rachel Felice, Educator, Columbia Slough Watershed Council

○ Sophie Prideaux, Educator, Wolfree, Inc. at Cascade Streamwatch

Jennifer Carlson, Educator, Wolfree, Inc. at Cascade Streamwatch

Jennifer Thompson, Biologist, U.S. Fish and Wildlife Service

Deb Scrivens, Naturalist, Metro Regional Parks and Greenspaces

Therese Fisher, Grants Specialist, Metro Regional Parks and Greenspaces

Russ, Olivia and Jessica in the MHCC Horticulture Department

Project YESS Staff:

Phil Dean

Kathy Nakvasil

Rich Duval

Eran Juenemann

Joan Radonich

Tommie Kirkendall

Bonnie Jepsen

○ And most of all, the Project YESS Habitat Restoration Crew Members:

Shawn Green

Dolly Sellers

Brandon Gee

Marcela Sanchez  
Steven Brooks  
Heather Thomas  
Scott Graf  
Mario Fouquette

**Here's a story from Fall Crew,**

On a cold and rainy Friday morning in November, crew members Dolly and Marcela were working on editing the video of our Fall crew work and Brandon was sick, so Shawn and I were working on removing Himalayan Blackberry root clusters from the cobbly rock and soil at the confluence of Kelly Creek and Beaver Creek. A Pileated Woodpecker (largest woodpecker in North America, about the size of a crow) landed on the trunk of a nearly dead Red Alder tree about ten feet behind where Shawn was digging with his mattock. Shawn noticed it and picked up the camera. We watched it hammer its way around the trunk, pecking and making large wood chips, probably searching for Carpenter Ants. Shawn said he was waiting to get a picture of its whole body while he was looking at us, but the woodpecker kept busy on the half of the trunk out of our sight, occasionally peeking around, perhaps to see if we had left. When we tried moving quietly around the tree, he continued to move to the side away from us. Finally, when Shawn moved stealthily closer with the camera, he flew off and a minute later we heard his raucus call from high in a nearby tree. We had glimpsed his work style and saw and heard the wood chips fall to the base of the tree. We did not get a picture, but that was the closest either of us had been to a Pileated woodpecker for such an extended time.



## Field guides and related materials that I have found useful for Spring, Summer and Fall Habitat Restoration Work Crews

I use these to answer the recurring question: "Now, *why* are we doing this?"

BUGS of Washington and Oregon by John Acorn and Ian Sheldon – this easy-to use reference brought crewmembers closer to that much-maligned order, the insects. Shrieks about giant poisonous spiders are less common when this book is at hand. The book does not cover enough about spiders, although it helped us out with the amazing Yellow Garden Spider, which looks so much bigger than it is. For total spider coverage, see below.

SPIDERS and their Kin by Herbert W. Levi and Lorna R. Levi (a Golden Guide, 1968 edition ) In the fall, we find a lot of spiders. This 1968 edition of the guide is most highly recommended by Oregon naturalist and author James Davis. The drawings are excellent, but since it covers all of North America, there are so many spiders in it that I really need to learn more about them so I can help students ID them.

Mammals of North America by Roland W. Kays and Don E. Wilson – I bought this book because we kept seeing some dark mammals scurrying through the high grass in which we worked. Using this book, we were able to figure that we were seeing a Townsend's Vole and learn about why it was living where we saw it and how our work was enhancing its habitat.

Plants of the Pacific Northwest Coast by Pojar and MacKinnon – this extensive reference is easy to use and very detailed. More than once I noticed crewmembers reading it in the back of the van. It excellent for looking up a plant to confirm or deny its edibility.

All the Birds of North America – A useful field guide because it has all the birds that look similar on one page so that they can easily be found and compared. One student was very interested in matching the feathers she found to a possible bird; this book helped in that quest.

Birds of Oregon Field Guide by Stan Tekiela –Here is an excellent complement to the above volume. The fact that it indexed by each bird's dominant color helps beginners to find the bird that is seen. One student went through it and quizzed me on when and where I had actually seen each of these birds in Oregon.

Cascade-Olympic Natural History by Daniel Mathews – This is a very well-written general reference and field guide. Several students have used it as a source of information to understand the animal they chose to specialize in and explain to the rest of us.

Venomous Animals and Poisonous Plants by Steven Foster and Roger Caras – I have found my students to be fascinated by the possibility that animals or plants could be deadly. With their mostly urban upbringing, many imagine that all animals are lying in wait to kill an unwary human. For example, they assume that every spider is a black widow or a brown recluse. When they look for an animal in this book and do not find it, they are disappointed, but may begin to realize that all animals are not venomous.

Amphibians of Oregon, Washington and British Columbia by Charlotte C. Corkran and Chris Thoms – Especially in Spring and Summer we find a lot of frogs, toads, salamanders and Roughskin Newts. This is an excellent and water-resistant guide with useful pictures and precise descriptions. We usually have a few students who are adept at catching snakes and amphibians, so we can get a good look at them. After we do an identification, it opens the door to the animal's life history and what it is doing at the site. Then, I ask students to relate that to what we are doing to improve the habitat at this specific place and time.

Passionate Slugs and Hollywood Frogs and River –Walking Songbirds and Singing Coyotes by Patricia K. Lichen – while not field guides, these books give short, well-written natural histories of things we've identified, such as the ubiquitous Northwestern garter snake and explains why individuals of that species look so different from one another. They also have vivid descriptions of some plants we constantly encounter such as Bedstraw and Stinging Nettle. It even explains why volcanoes are such a big deal in Oregon.

Animal Tracks a Peterson Flash Guide by Olaus Murie and Richard P. Grossenheider. This folds out into 24 panels that illustrate tracks and scat and walking patterns from dozens of mammals and birds. It's very attractive to visual students who do not want to open a book. I have noticed that it is especially interesting to students who have some experience in hunting.

Andy Kerr -- Project YESS at Mt. Hood Community College 503-491-7641