

**FINAL REPORT**

**METRO GREEN SPACES SECOND YEAR GRANTS**

**MILL CREEK RESTORATION  
WASHINGTON STATE UNIVERSITY AT VANCOUVER**

**RICHARD HANSIS  
GRANT ADMINISTRATOR**

## Project Description

The lower portion of Mill Creek, right before its outlet into Salmon Creek, was the focus of the efforts. Two types of activities were carried out. The first worked in the the stream bed and on its banks to create complexity of habitat in the stream and to stabilize banks which had been damaged by cattle and more recently, horses. This part of the project had two major and two minor restoration sites. One of the major sites involved placing two cedar log crib structures and along a bank both trampled by horses and subject to substantial cutting at times of high water. These structures were anchored together by rebar and topped by logs attached to root wads which were anchored into the banks perpendicular to the crib structure.

The second major site involved the placing of a cedar log wier and a down stream plunge pool further down stream from the crib structures. Additional root wads were anchored into the bank both right at the wier and approximately 50 feet upstream from it. Boulders were also placed in the stream in this area to create restin places for fish.

The two minor sites involved the construction of smaller log cribs on low banks and their ancoring by root wads.

The second component of the project consisted of plantings along the stream. The two goals of the planting of native species were to increase the diversity of a relatively impoverished plant community and to create more forest vegetation within several hundred feet of Mill Creek.

## Goals and Benefits

The log structures are aimed at creating a more diverse stream structure, the purpose of which is to help create habitat for historic fish populations which included coho and steelhead as well as cutthroat trout (5,000 late run coho eggs were planted on 2/28/95).

The plantings' goals include creating more niches for wildlife and providing shade and log recruitment for Mill Creek.

In addition to these more immediately observable goals, the project has been aimed at creating awareness of stream quality issues in southern Clark County. By showing that restoration work of a part of a stream is possible and by demonstrating methods to do so, the project has empowered students, volunteers and local residents.

Suggesting that work on one portion of the stream is not enough has been a benefit of publicity from the project.

#### Work Tasks and Timelines

The first part of the project involved planning during the summer months of 1993. With Todd Moses' expertise, plans for installation of the logs and rocks were made. During the summer, a five person crew from the Summer Youth Employment Program sponsored by the Southwest Washington Private Industry Council worked at clearing refuse from the stream, removing exotic vegetation and brushing over trails near the stream banks.

Ordering of the materials - boulders, rocks, cedar logs and rootwads, coir, rebar and stakes - as well as contracting a heavy equipment operator took place in the latter part of August, 1993.

The first workdays on successive weekends in early September resulted in most of the stream work being accomplished. Some additional finishing work was carried out before the fall rains.

The first planting day was in early November followed by other major efforts in December and March.

#### Budget

##### WSU contributions

Staff	\$11400
Volunteers	10514
Equipment	2520
Summer Youth Employment Program	5785

<b>Total</b>	<b>\$30219</b>
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##### METRO contributions

Consultant	2475
Equipment Rental & Operation	3068.62
Materials, Plants, and Supplies	10350

<b>Total</b>	<b>15893 .62</b>
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#### Project Staff

Richard Hansis, Project Coordinator

Todd Moses, Tecnical Consultant

Sue Kusch-Tepper, Summer Youth Employment Coordinator



## Jerry Hall, Grounds Maintenance

### Volunteers

WSU students  
WSU faculty  
Friends of Salmon Creek  
Sierra Club  
Ft Vancouver high school students  
Interested citizens

### Relation to Greenspaces Program

This project used METRO Greenspaces money as a seed for the mobilization of substantial amounts of university, public and private resources in support of the restoration of a degraded stream and surrounding riparian area. From the publicity generated, it raised public awareness of the need for protection of whole watersheds. It also is providing enhanced habitat for anadromous fish and should increase the variety of wildlife in the area even with the rapid urbanization of the Vancouver area. The initial project is being followed up by additional work to enhance habitat of the stream and riparian areas.

### Helpful Hints and Advice

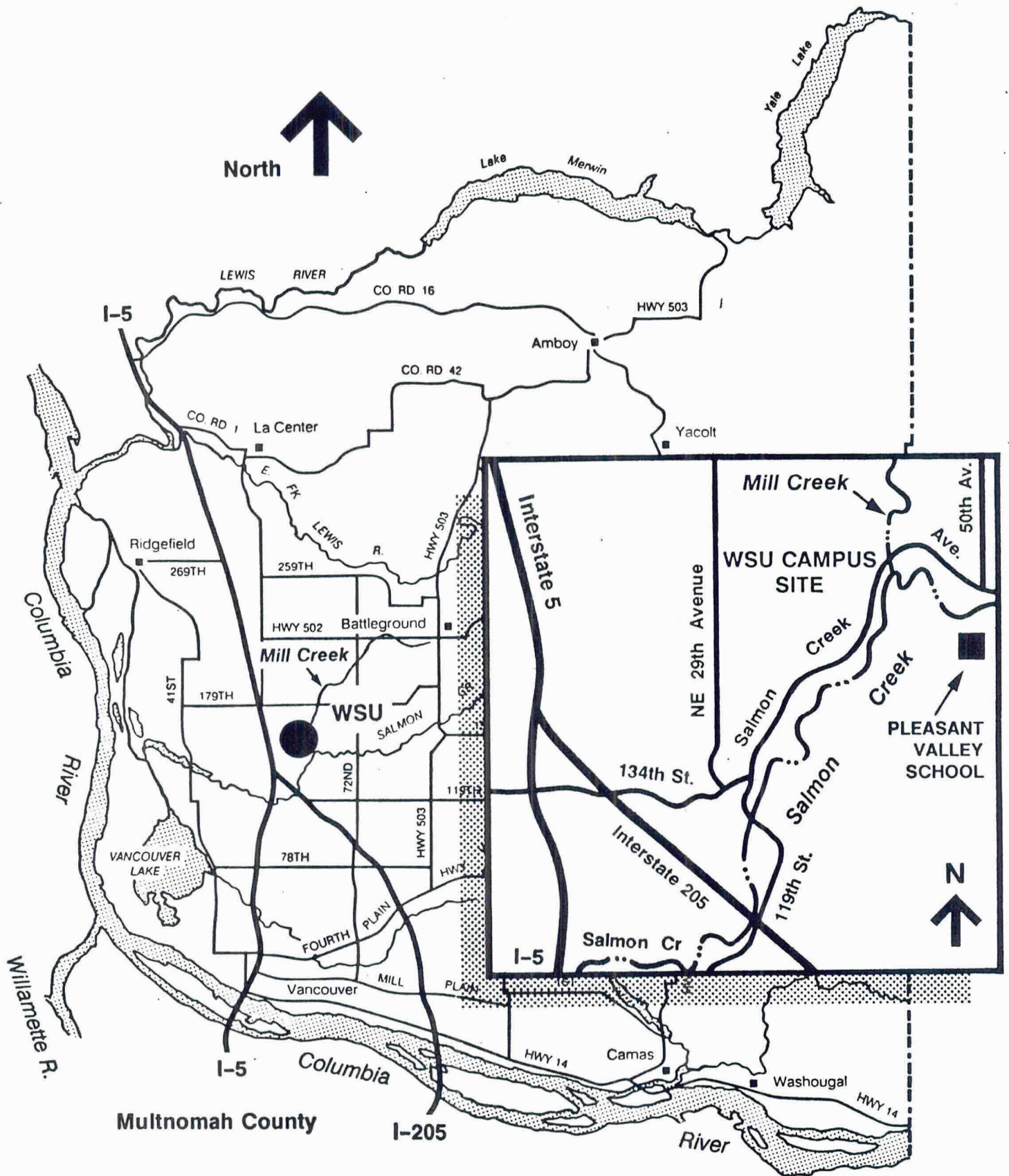
1. Fall planting is better; the plants have a better chance to establish their root systems for the sometimes dry, hot summers.
2. Planting in sod requires a 3 foot diameter scalping.
3. Bank stabilization and narrowing could have been more aggressive
4. More effective monitoring of young workers is needed to make sure the work is carried out properly.
5. Certain types of plants need to be ordered early. Serviceberry is one of those.
6. Materials from Cascadian Nursery were not always of the highest quality. The larger Grand firs had a very bad root structure and most died before the heat of July, August and September.

7. Even though fencing and signing of the area to allow only foot traffic was accompanied by meetings with horseback riders who had used the area previously and had negatively impacted stream banks continued to ride in the area by cutting through fences. More needs to be done to educate these types of users.

8. Red huckleberry is hard to establish from plantings.

#### Monitoring and Maintenance Plan

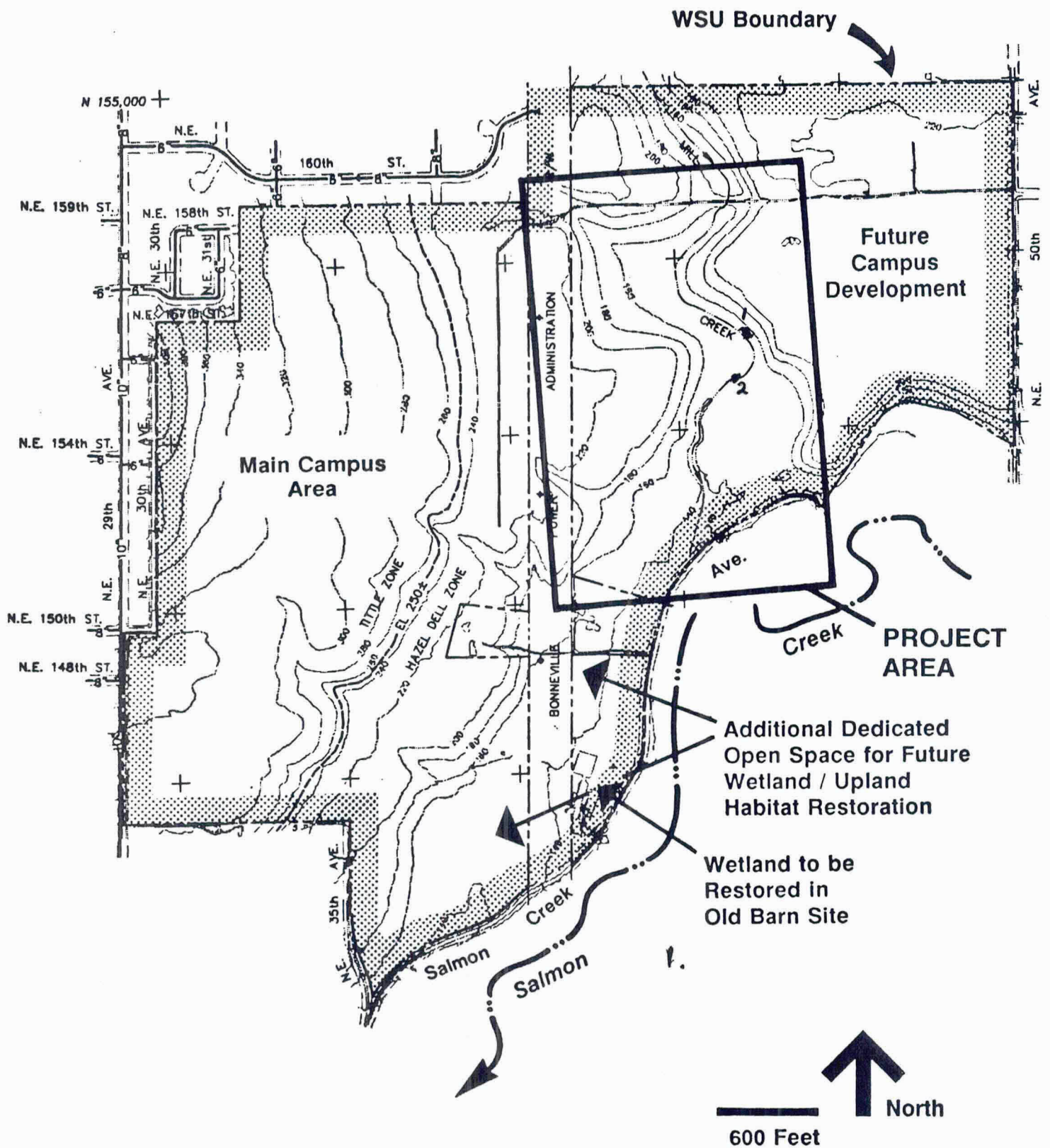
Since the University does not occupy the new campus until January, 1996, monitoring of the site is not as easy as it will be then. The WSU groundsperson, who lives adjacent to the campus and close to the site, has been able to keep an eye out for some vandals and will continue to do so. As the campus begins to be used for classes, more monitoring and maintenance personnel will be available. Blackberry eradication is an ongoing project and is being accomplished by mowing and handdigging of plants near the stream. One repair to the log weir has been made because water began to undermine it. Since projects such as fish egg planting and creation of rest areas for anadromous fish during high water times is continuing to take place, monitoring is a by product of these projects.



Mill Creek at Washington State University  
METRO Greenspaces 1992 Grants Program

Location





Mill Creek at Washington State University  
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Project Area in  
Relation to the  
WSU Campus Site