

Gresham Woods Revegetation Project Final Report

City of Portland Environmental Services

FWS Agreement # 1448-13420-01-J144

September 2001-June 2003

PROJECT DESCRIPTION AND GOALS

The Gresham Woods project is transforming more than of 20 acres of highly degraded habitat into a sustainable, diverse native plant community. The project will lead to decreased erosion and bank failure, increased infiltration during winter storms, increased shade throughout the riparian area, and increased stream "roughness" and long-term recruitment of woody debris. Overall water quality will improve, as will salmonid habitat.

Complexity of terrestrial habitats is being restored, benefiting terrestrial species. Noxious weed sources (and seed sources) and subsequent destruction of the remnant native plant populations has been and will continue to be reduced through systematic weed management throughout the site.

Local school groups and residents have participated in organized stewardship work parties. City staff assisted the Johnson Creek Watershed Council and Friends of Trees in recruiting local residents to participate in volunteer restoration activities. Neighbors received informational materials on riparian and natural area management.

Restore 20 acres of diverse riparian plant communities that once existed on the site:

Invasive plant suppression and installation of over 40,000 native trees, shrubs and herbaceous plants occurred throughout the 20 acre project site. Plant establishment has been very successful and with occasional maintenance to ensure continued suppression of invasive species, the native plant community will develop structure and complexity.

Create meaningful volunteer stewardship:

Over 250 volunteers attended three planting days in January, February, and March 2002. Volunteers planted and mulched more than 2,000 plants. Volunteer stewards also completed two weeding and mulching days the following May. The project partners compiled a list of interested volunteers. Stewardship activities grew each year and will continue beyond the life of the grant.

Educate more than 80 adjacent landowners:

Over 100 private residences border Gresham Woods and this reach of Johnson Creek. Partners engaged private landowners in becoming good stewards by canvassing the neighborhood to discuss the project and talk about the needed changes for Gresham

Woods and the Johnson Creek watershed. Educational packets were compiled and distributed to teach local residents about water quality, habitat, and urban greenspace issues like invasive plants. In addition to restoration work and neighborhood outreach, partners led two site tours this year. A brochure detailing the project site was produced and distributed to neighbors.

Project accomplishments largely exceeded expectations. The establishment of native trees, shrubs, and grasses has been very successful, with plants growing rapidly. Community awareness of Gresham woods as a resource and Johnson Creek restoration work as a concept has been expanded many-fold via this project.

PROJECT TASKS IMPLEMENTATION/TIMELINE

Treatment	Acres Treated	Completion Date
Cut Site Prep	18.00	8/2/2001
Spray hourly	17.00	9/11/2001
Seed Application	20.00	10/10/2001
Cut Site Prep	1.00	1/17/2002
Cut Site Prep	1.00	1/17/2002
Pole Cutting Installation	23.00	1/30/2002
Tube Installation	23.00	1/30/2002
Bare Root Installation	23.00	1/30/2002
Plant Staking	23.00	1/30/2002
Mycorrhizal inoculation	1.00	1/30/2002
Other Operating Supplies	1.00	2/12/2002
Spray Maintenance Spot	2.00	3/1/2002
Other Operating Supplies	0.00	3/8/2002
Mulch Application	5.00	4/1/2002
Other Operating Supplies	1.00	5/7/2002
Spray Maintenance Spot	8.50	6/5/2002
Cut Maintenance	17.00	8/2/2002
Other Operating Supplies	1.00	8/15/2002
Monitor	23.00	8/29/2002
Other Operating Supplies	0.00	9/16/2002
Other Operating Supplies	0.00	9/18/2002
Other Operating Supplies	0.00	9/18/2002
Monitor Annual Formal	23.00	9/24/2002
Spray Maintenance Spot	12.00	10/24/2002
Monitor	7.00	4/2/2003
Seed Application	4.00	4/15/2003
Mulch Application	7.00	4/15/2003
Monitor	23.00	4/16/2003
Cut Maintenance	10.50	5/28/2003
Cut Hourly	0.00	5/28/2003
Spray Maintenance Spot	7.00	6/11/2003
Mulch Application	7.00	6/15/2003
Spray Ivy	1.00	8/6/2003

Spray Maintenance Spot	0.50	8/6/2003
Monitor Annual Informal	23.00	8/13/2003
Spray Maintenance	2.00	9/4/2003
Spray Rework	2.00	10/28/2003

PROJECT STAFF AND PARTNERS

Name	Agency	Role
James Allison	City of Portland BES	Project Lead
Kathy Majidi	City of Gresham	Project Sponsor
David Reid	Johnson Creek Watershed Council	Outreach Coordinator
Anil Devnani	Friends Of Trees	Volunteer Coordinator

Over 250 volunteers contributed over 600 hours to the project.

PROJECT AREA

Johnson creek drains a 54-square mile, partially urban-industrial, partially rural-agricultural watershed with a population of about 170,000 residents. Sections of the creek have been straightened, channeled, and diked to prevent flooding and to increase useable land. As a result of these changes, erosion/siltation, floodplain disconnection, deforestation/temperature increases, and decreased in-stream complexity have degraded both water quality and aquatic habitat. Despite alterations in the watershed, Johnson Creek is one of the last free-flowing streams in the Portland/Gresham metropolitan area—the main stem has few culverts or barriers (there are no culverts in the 14-mile reach between the confluence at the Willamette River and Gresham Woods). Johnson Creek historically provided habitat for significant populations of coho, steelhead, chinook, and cutthroat trout. Each of these species is present in the creek today, but in reduced numbers. Although historic floodplains and wetlands have been reduced, the reaches near Gresham Woods are still home to beaver, river otter, almost 100 species of birds, as well as several species of native frogs and salamanders.

See Attached Project Map

PROJECT IMPLEMENTATION METHODS

Tasks Completed by Contractors

- *Site Preparation:* allowed access to planting sites and provided open initial growing conditions for planted seedlings. Workers removed exotic vegetation

using chainsaws, weed eaters, and herbicides. Initial reduction of invasive species cover was +/- 90%.

- *Planting:* Plantings were designed to establish a cover of native trees, shrubs, and other plants as rapidly as possible, and to accentuate remnant native vegetation. Over 40,000 bare-root seedlings of several native tree and shrub species were installed in January 2002. All plant materials were propagated from wild parent populations occurring in the Portland metro area. Vexar tubing and bamboo stakes were installed around seedlings to protect from herbivore damage and allow maintenance workers to identify seedlings more easily.
- *Maintenance:* Since seedling installation, regular maintenance has been done to ensure that invasive species remain under control and seedlings are relatively free of competition during the establishment phase. Treatments included manual cutting and herbicide application. Maintenance treatments will continue through the end of the project. Native seedlings remain free-to-grow and invasive coverage is minimal.
- *Monitoring:* Seedling survival and percent coverage data has been collected annually since seedling installation, and will be each year until the end of the project. Results are summarized in the attachments to this report.

ON-GOING TASKS

The following maintenance tasks are currently scheduled for 2004:

Treatment	Treatment Acres	Scheduled Date
Spray Maintenance Spot	16.00	1/1/2004
Tube Installation	1.00	2/1/2004
Bare Root Installation	1.00	2/1/2004
Pole Cutting Installation	1.00	2/1/2004
Cut Maintenance	14.00	5/15/2004
Spray Maintenance Spot	14.00	6/15/2004
Cut WRP	1.00	8/1/2004

Additional treatments will be added if necessary during the year. Similar tasks will be performed in each of the remaining growing season until the project is closed in December 2006.

In addition to maintenance, detailed vegetation monitoring will occur once each growing season until 2006. Monitoring summaries through 2003 are attached to this report.

SUMMARY OF EXPENDITURES

Expenditures and in-kind contributions to this project are summarized for the duration of the grant period in the table below:

Funding Type	Fund Source	FY 2001	FY 2002	FY 2003
In-Kind	JCWC		\$ 1,920.00	
In-Kind	FOT		\$ 1,920.00	
In-Kind	volunteers		\$ 2,530.00	
Non-federal match	OWEB JC Grant 2001		\$33,423.00	\$ 4,148.00
Non-federal match	PDOT SE Foster		\$30,159.00	
Non-federal match	City of Gresham	\$6,624.00	\$22,375.00	
Non-federal match	Alpha Conservation			\$ 950.00
Non-federal match	National Fish & Wildlife Foundation		\$ 1,467.00	\$ 8,632.00
Federal grant	USFWS Grant		\$28,008.00	\$11,992.00

SUMMARY AND CONCLUSIONS

Now in its third year of implementation, The Gresham Woods Revegetation Project continues to be successful in building on the accomplishments of previous years. All of the project objectives have been met thus far.

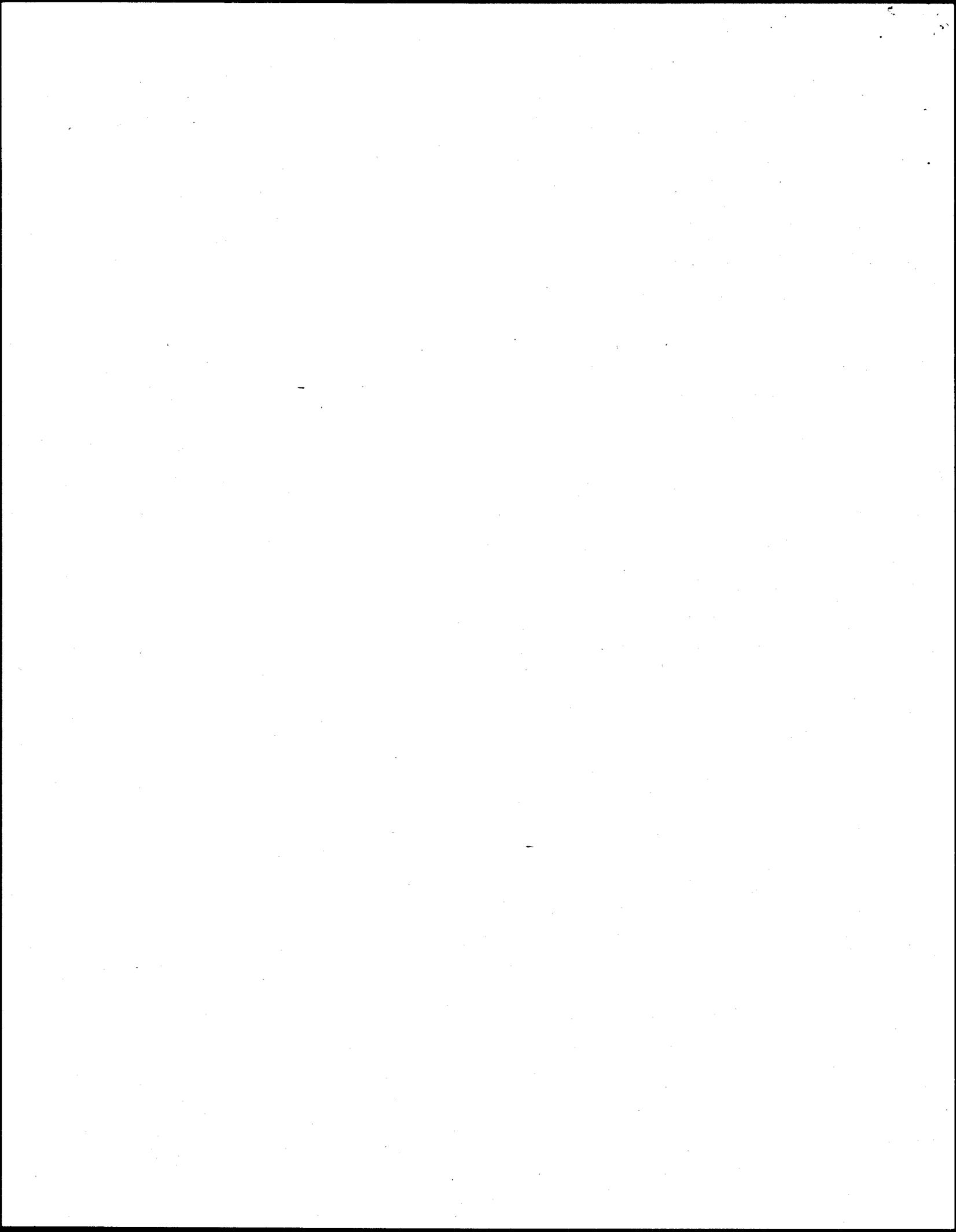
Part of the success of this project has been due to its large size. Although putting together funding for large, costly projects can be difficult, the benefits are proportionally much greater than smaller projects with similar goals. Important interior habitat was created and enhanced through this project, and unit costs were low. The large size and visibility of the site enabled the public outreach and stewardship aspects of the project to gain and maintain momentum. The result will be continued citizen involvement and future willingness on the part of public agencies and other partners to fund and otherwise support additional work.

One of the keys to the success of this project has been the aggressive maintenance regime. The invasive species present on the project site continue to require attention, and will do so until the planted seedlings reach large enough size to shade out the weeds. Continued monitoring with cutting/spraying treatments prescribed as necessary was particularly crucial in the first growing seasons as the seedlings were establishing. Restrictions to herbicide use made this process more difficult and expensive. Future projects should expect to allocate 40-50% of project costs towards maintenance of planted seedlings and continued suppression of invasive species.

SUPPLEMENTAL INFORMATION

Attachments include:

- Project Map
- Annual vegetation monitoring reports
- Site Brochure



Informal Monitoring Report

Gresham Woods 2002

Site # 1284

Date 9/24/2002 Surveyors

Plant Yr 2002 Site Acres 23.0

Component	Comp Acreage	CountOfPlot #	Avg. Trees/Ac	Avg. Shrubs/Ac	Avg. Plants/AC
Whole Site	0.0	48	921	688	1608

Observations

Site performing generally well. Survival is high, vigor good. Native grasses strong and noxious weeds decreased dramatically. Several areas need more care: 1) Mid-riparian "thistle Patch" needs spray and seed, 2) South riparian needs spray/seed work also; 3) north riparian needs Garlon as tool and east end needs spray/seed to deal with COMA, POCU, SODU, and others; 4) SW riparian interplant PSME & FRLA. Great grass establishment. Untubed cedars getting browsed. Good stocking overall. Piece along JC north of middle trail is in dire need of weed maintenance. Cherry resprout after fire. Knotweed infestation-spray! Iris too!

Objectives

Native Species Present

Species Code	Species Name
ACCI	Vine Maple
FRLA	Oregon Ash
OECE	Indian Plum
PHCA	Pacific Ninebark
PSME	Douglas Fir
SYAL	Common Snowberry
THPL	Western Red Cedar

Non-Native Species Present

Species Code	Species Name
CIAR	Canada Thistle
CIVU	Common Thistle
COAR	Field Morning-glory
COMA2	Poison-hemlock
DIFU1	Teasel
HEHE	English Ivy
PHAR	Reed Canarygrass
POCU	Japanese Knotweed
RUDI	Himalayan Blackberry
SOPH	Hairy Nightshade

Scheduled Treatments (-1yr)

Treat	Acres	Sched Date	Target Weed	Notes
Spray Maintenance	16.00	12/1/2003	broadleaves	dormant rudi spray. On all upland portions of the site. Check Acres
Tube Installation	1.00	1/1/2004		02 Riparian--Alpha HS will plant this
Bare Root Installati	1.00	1/1/2004		02 Riparian--Alpha HS will plant this--trees only alder, ash, DF, WRC, POTR
Pole Cutting Install	1.00	1/1/2004		02 Riparian--Alpha HS will plant this
Cut Maintenance	14.00	5/15/2004	tall grasses, brdfls	
Spray Maintenance	14.00	6/15/2004	brdfls	garlon on upper part of site. Glyph on flood plain and near creek if needed. Measure acres of treat
Cut WRP	1.00	8/1/2004	CRMO	noticed a few, assess need
note	1.00	8/1/2004	Brachen Fern	monitor spread of brachen fern in burn area. Spray if necessary

Accomplished Treatments (-1yr)

Treat	Acres	Cmpl'd Date	Target Weed	Notes
Seed Application	4.00	4/15/2003		Reed Canarygrass Mix - done by Franco, invoiced with GW 2003
Monitor	7.00	4/2/2003		4 staff for 1 hour doing tube maintenance (JA, DS, JB, DO)

Informal Monitoring Report

Mulch Application	7.00	4/15/2003		MULCH DELIVERY ONLY--Use EnviroCorps, volunteers, Alpha HS, CRUE--deliver on West End of 2002 site
Monitor	23.00	4/16/2003		Conducted treatment monitoring
Mulch Application	7.00	6/15/2003		MULCH DELIVERY ONLY--Use EnviroCorps, volunteers, Alpha HS, CRUE--deliver on East End of 2002 site
Cut Maintenance	10.50	5/28/2003	grasses, HBB, RCG, Galium	Cut seeded grasses and weeds that are competing with plants. Additional hourly work to happen on 03 at same time. Talk w/ james.
Cut Hourly	0.00	5/28/2003	hbb	hourly site prep of area b/w 2002 and 2003.
Spray Maintenance	7.00	6/11/2003	broadleaves, brachen fern	GW02 upland piece, between gravel loop trail and SpringwaterTrail
Spray Maintenance	0.50	8/6/2003	RUDI	Sprayed rudi on se side of ped. Bridge along road
Spray Ivy	1.00	8/6/2003	HEHE	Spray Ivy on SE side of Pedestrian Bridge, all the way to E project boundary, along SW 14th Drive
Monitor Annual Info	23.00	8/13/2003		
Spray Maintenance	2.00	9/4/2003	Knotweed	spray knotweed and rudi near ped bridge with glyphosate
Spray Rework	2.00	10/28/2003	knotweed	didn't spray knot weed in second field

Informal Monitoring Report

Gresham Woods 2002

Site # 1284

Date 8/11/2003
 Surveyors James Allison
 Darian Santner
 Toby Query
 Mitch Bixby
 Dennis O'Brien
 Joe Buttafuoco

Plant Yr 2002 Site Acres 23.0

Avg. Trees/Ac Avg. Shrubs/Ac Avg. Plants/Ac

Component	Comp Acreage	CountOfPlot #			
Whole Site	23.0	43	942	835	1777

Observations

Floodplain section: Tree and shrub density is good. Knotweed and tansy in floodplain need treatment. Middle of site: Tubes are piled along trail. Tree and shrub growth is OK, but the grasses show more significant growth. Shrubs are either being sprayed out or overcompeted by grass. Evidence of deer browse. Upper part of site: Plot 3 has 0 trees-canopy of pie cherries. Lots of plants are showing drought stress. Elderberry is being browsed. In open meadow-PSME showing vigor-long leaders, over 3 ft tall. Native grasses looking strong still. Some RUDI and thistle

Objectives

Partial cut on riparian-make map. Interplant in places with Volunteer group: Trees only (DF, Ash, Alder, Cottonwood)

Native Species Present

Species Code	Species Name
ALRU	Red Alder
COCO	Hazelnut
CRSU	Black Hawthorn
OECE	Indian Plum
PHCA	Pacific Ninebark
PREM	Bitter Cherry
PSME	Douglas Fir
PTAQ	Bracken
SARA	Red Elderberry
SYAL	Common Snowberry

Non-Native Species Present

Species Code	Species Name
CIAR	Canada Thistle
CIVU	Common Thistle
PHAR	Reed Canarygrass
POCU	Japanese Knotweed
PRSP	Cherries except native speci
RUDI	Himalayan Blackberry
TAVU	Common Tansy

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Watershed Revegetation Program

Monitoring Report

Site Name: Gresham Woods 2002 Component: Whole Site
 Surveyors: Angie Kimpo Permit Info: _____
Carrie Taylor
 Photo Monitor? Yes Seed Mntr: Yes Survey Date: 6/5/2002

Mitigation Concept:

Acreage Success Criteria (A1):
 Mitigation Requirement?: met not met n/a Acreage: 0 acre(s)

Woody Vegetation Success Criteria (V1/V3):
 Mitigation Requirement?: met not met n/a

Summary:

Species Present:

Native:

Exotic:

Herbaceous Vegetation Success Criteria (V2/V4):
 Mitigation Requirement?: met not met n/a

Wetland Component:

Upland Component:

Native Herbaceous Cover:	
Species:	APC:
Impatiens capensis	18%
Bromus sitchensis	11%
Gilia capitata	4%
Deschampsia elongata	4%
Urtica dioica	3%
Tellima grandiflora	2%
Elymus glaucus	2%
Circaea alpina	2%
Festuca ovina	1%
Poa x	Trace
Hordeum brachyantherum	Trace
Dicentra formosa	Trace
Claytonia sibirica	Trace
Galium aparine	Trace
Phacelia nemoralis	Trace
Epilobium ciliatum ssp.watsonii	Trace
Total Average Percent Cover for Site:	51%

Exotic Herbaceous Cover:	
Species:	APC:
Polygonum sachalinense	10%
Phalaris arundinacea	5%
Holcus lanatus	Trace
Rubus discolor	Trace
Poa trivialis	Trace
Convolvulus arvensis	Trace
Total Average Percent Cover for Site:	17%

Other Ground Cover:	
	APC:
Grass Thatch	36%
Total Average Percent Cover for Site:	36%

Summary:

Watershed Revegetation Program

Monitoring Report

Hydrology Success Criteria (W1):

Mitigation Requirement?: met not met n/a

Field Indicators: watermark drift lines

Average Soil Saturation Depth: 0 tenth(s) of feet

General Site Observations: Knotweed 1-3 ft. Totals may > 100 percent because of multi-tiers

Recommendations:

***Note: 1) TPA = Trees Per Acre; SPA = Shrubs Per Acre; PPA = Plants Per Acre and APC = Average Percent Cover. 2) All references to 'Species present' or 'Species' represent species monitored specifically from data plots.

GRESHAM WOODS 2002 FINAL REPORT

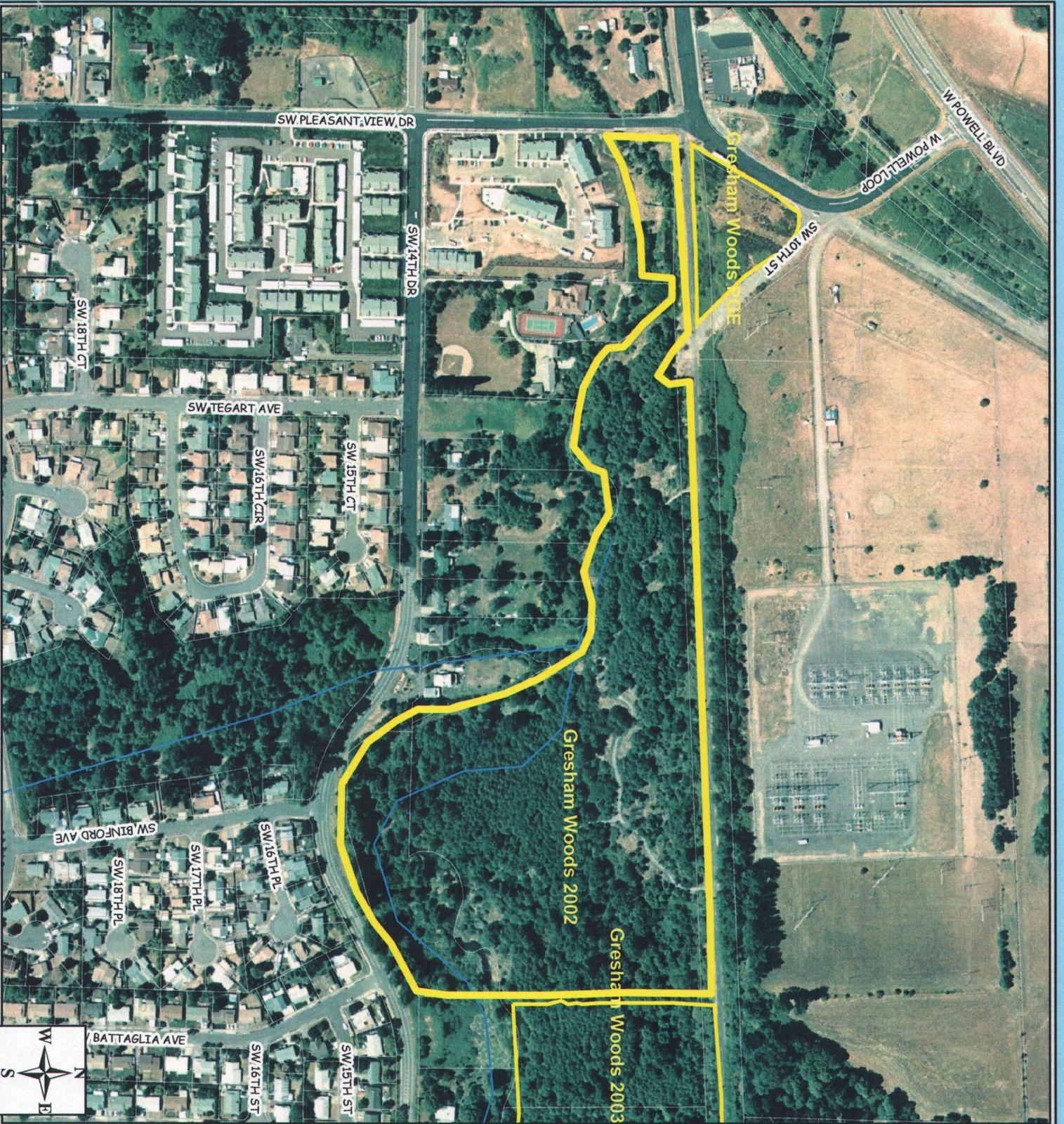
Before Project Conditions – June 2001



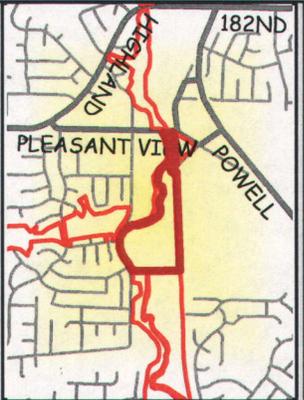
GRESHAM WOODS 2002 FINAL REPORT

Current Conditions – November 2003





Revegetation Site Map

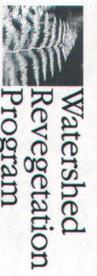


Project Information

Project Name : Gresham Woods 2002
 Site ID : 1284
 Acres : 23
 Plant Year : 2002
 Agreement End Date : 12-31-06
 Watershed : Johnson Creek
 Waterbody : N/A
 Project Manager : James Allison
 Maint Manager : DC
 Project Contact : Kathy Majidi
 Contact Phone : N/A
 Thomas Guide : 628

 Project of Interest

1 inch equals 3,163.957055 feet
 0 875 1,750 3,500 Feet



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