

FINAL PROJECT REPORT

1. Project Title: Brown Property Riparian Restoration
Cooperative Agreement Number: 13420-04-J431
Date of Report: July 29, 2005
Project Time Period: June 2005 – July 2005

2. Project Descriptions, comparison of expected and actual goals, accomplishments and benefits.

The Brown project was designed to restore and enhance a variety of habitats, including riparian forest and oak woodland. The long-term goal of the project is to create sustainable and diverse communities of native plants. This grant advanced this goal by reducing noxious weeds on the site and installing several thousand native trees and shrubs.

3. Actual work tasks implemented and associated with the project schedule.

Site-prep mow	06/01/04
Site-prep broadcast spray	07/01/04
Fence-pulling and clean-up	09/01/04
Site-prep spot-spray	09/15/04
Native seed	09/15/04
Volunteer coordination	09/15/04
Seed application	09/01/04
Bare-root trees, shrubs, and cuttings	02/01/05
Bare-root planting	02/01/05
Tools and gloves for volunteers (set)	02/01/05
Maintenance spot spray	05/01/05
Maintenance mow	07/15/05
Maintenance spot spray	08/01/05
Vegetation management	08/01/05

4. List of project partners and their roles. Include number of volunteers and other participants involved, along with associated number of hours contributed to the project.

Ash Creek Forest Management: Project Supervisor
Restoration project planning and management.

Tualatin Riverkeepers: Community Outreach and Involvement
Ninety two Tualatin Riverkeepers volunteers contributed 313 hours to restoration and maintenance of the Brown property. Volunteers from P'nai Or synagogue, the Northwest

Service Academy (an AmeriCorps program of ESD 112), Recreation Equipment Inc. employees, Portland Community College, the Native American Youth Coalition and local residents participated in hands-on restoration that included: seeding native grasses and forbs, planting native plants and manual removal of invasive species. Youth from the Community Partners for Affordable Housing summer day camp program, an organization that owns low income housing complexes near the Brown property, participated in nature awareness field trips on the site.

Metro Parks and Greenspaces: Property Owner
In-kind site prep and long term maintenance.

City of Tigard
In-Kind site prep.

Oregon Watershed Enhancement Board
Provided 10,000 in project funding.

Oregon Department of Agriculture
In-kind weed removal and resources.

5. A description of the project area(s) and/or study location(s), including dimensions of the actual area affected and/or studied, and final project designs, plans and as build surveys, as applicable.

The Brown property is located within the Fanno Creek sub-watershed of the lower-Tualatin Watershed. The eleven- acre Brown Property was purchased by Metro in 1999 as part of a public greenspaces initiative designed to preserve natural habitat and provide public access to natural environments and waterways. The project included invasive weed removal and planting. The following list of plants were installed at the site:

<i>Euonymus occidentalis</i>	Western Wahoo	1-gal	100
<i>Physocarpus capitatus</i>	Pacific Ninebark	1-0 bare-root	1500
<i>Pyrus diversiloba</i>	Western Crabapple	mp-1 bare-root	150
<i>Rhamnus purshiana</i>	Cascara	1-0 bare-root	1000
<i>Sambucus racemosa</i>	Red Elderberry	1-0 bare-root	1000
<i>Symphoricarpos albus</i>	Snowberry	1-0 bare-root	3000
<i>Abies grandis</i>	Grand Fir	P-1 bare-root	1800
<i>Acer circinatum</i>	Vine Maple	1-0 bare-root	200
<i>Amelanchier alnifolia</i>	Western Serviceberry	mp-1 bare-root	200
<i>Holodiscus discolor</i>	Oceanspray	mp-1 bare-root	100
<i>Mahonia aquifolium</i>	Tall Oregon Grape	1-1 bare-root	1000
<i>Mahonia nervosa</i>	Long-leaf Oregon Grape	1-1 bare-root	100
<i>Mahonia nervosa</i>	Long-leaf Oregon Grape	1-gal	124
<i>Oemleria cerasiformis</i>	Indian Plum	1-gal	50
<i>Oemleria cerasiformis</i>	Indian Plum	c-1 bare-root	100
<i>Pseudotsuga menziesii</i>	Douglas-fir	1-1 bare-root	200
<i>Sambucus racemosa</i>	Red Elderberry	1-gal	576

Spiraea douglasii	Douglas Spiraea	1-gal	200
Spiraea douglasii	Douglas Spiraea	mp-1 bare-root	200
Thuja plicata	Western Redcedar	3-gal	50
Thuja plicata	Western Redcedar	P-1 bare-root	1300

6. A description of the methods used to implement the project and the effectiveness of those methods.

The project contractor used generally accepted forestry methods for removing weeds and planting vegetation. Crews cut weeds using chainsaws and mowers. Resprouting weeds were carefully treated with herbicides to avoid overspray and impacts to other resources. Crews installed seed, bare-root and container plants in fall and winter seasons to maximize survival and growth. Crews managed weeds during the following season by cutting and careful spot-application of approved herbicides.

7. On-going tasks that will continue beyond the term of this agreement, such as monitoring and maintenance or next steps.

Herbaceous cover, transect monitoring and photo monitoring facilitated by Ash Creek Forest Management bi-annually will continue for a period of 10 years.

8. Summary of expenditures and project costs, including the use of Service funding and the amounts and sources of monetary and in-kind matching contributions. Include an accounting for any real and personal property acquired with Federal funds or received from the Federal Government according to requirements of regulations referenced in "APPLICABLE REGULATIONS" section of this Cooperative Agreement.

See attached.

9. Summary and conclusions. Include observations and advice from this project experience that may assist others involved in similar work.

This project has worked fairly smoothly despite procedural incompatibilities between various funding sources and cooperating agencies.

Future projects may wish to consider a more aggressive approach to vegetation management. The efficacy of using heavy mowing equipment is evident on an adjoining property which was cleared late fall 2004. The response of native herbaceous and woody plants was phenomenal. This type of broadcast mowing also allows for much more complete and efficient removal of weeds through subsequent spot-herbicide treatment.

10. Supplemental information such as copies of data, documents, scientific papers, printed materials, or other products related to the project. A set of color slides or prints with descriptions must accompany the report to depict project activities and, for habitat restoration and/or enhancement work, site conditions before, during, and after project

implementation.

1. Photo Monitoring Documentation
2. Vegetation Monitoring Report



Volunteers from P'nai Or, a local synagogue, celebrate Tu' B' Shvat, the New Year of the Tree at the Brown Natural Area



Rabbi sings in celebration prior to planting.



AmeriCorps volunteer helps seed 11 acres with native seed mix at the Brown Natural Area.



Volunteer Stewardship Coordinator, Margaret Gim plants at a Community Restoration Event.

Brown Property Riparian Restoration Project

Brown

Treatment	Date	Units/ ac	Unit Cost/unit	Acres	Trtmt	Total cost	OWEB	USFWS	Metro	TRK	Tigard
Site-prep mow	06/01/04	1	ac	300.00	10	3000.00			3000.00		
Site-prep broadcast spray	07/01/04	1	ac	195.00	11	2145.00			2145.00		
Fence-pulling and clean-up	09/01/04	1	ls	600.00	1	600.00				600.00	
Site-prep spot-spray	09/15/04	1	ac	110.00	11	1210.00					1210.00
Native seed	09/15/04	15	lb	16.00	11	2640.00		2640.00			
Volunteer coordination	09/15/04	75	hr	20.00	1	1500.00	1500.00				
Seed application	09/01/04	1	ac	52.00	11	572.00				572.00	
Bare-root trees, shrubs, and cuttings	02/01/05	1200	ea	1.25	11	16500.00	3400.00	3700.00			9400.00
Bare-root planting	02/01/05	1200	ea	0.40	11	5280.00	1100.00	2660.00		1520.00	
Tools and gloves for volunteers (set)	02/01/05	20	ea	30.00	1	600.00	600.00				
Maintenance spot spray	05/01/05	1	ac	220.00	11	2420.00					2420.00
Maintenance mow	07/15/05	1	ac	300.00	10	3000.00	2000.00	1000.00			
Maintenance spot spray	08/01/05	1	ac	220.00	11	2420.00					2420.00
Project Management		50	hr	30.00		1500.00		1500.00			
Grant administration		60	hr	30.00		1800.00	900.00			900.00	
Vegetation management		20	hr	50.00		1000.00	500.00	500.00			
						\$46,187.00	\$10,000.00	\$12,000.00	\$5,145.00	\$3,592.00	\$15,450.00

italicized costs are in-kind

Monitoring Report

i. Project identification

1. Brown Property Riparian Restoration
2. Start Date: 6/1/04 End Date: 8/1/05
3. Project Construction Supervisor:
George Kral, Ash Creek Forest Management
9830 SW McKenzie Street
Tigard, OR 97223

ii. Photographic documentation of environmental conditions at the project site before, during and after project completion.

Photographs and descriptions are attached.

iii. Relevant habitat conditions that may include characteristics of channels, stream bank, riparian vegetation, flows, water quality, and other visual discernable environmental conditions at the project area, and upstream and downstream of the project.

The Brown property is located within the Fanno Creek sub-watershed of the lower-Tualatin Watershed. The eleven-acre Brown Property was purchased by Metro in 1999 as part of a public greenspaces acquisition initiative designed to preserve natural habitat and provide public access to natural environments and waterways. Fanno Creek and its tributaries within the city of Tigard have been severely impacted by agricultural and recent urban development. Characteristic of an urban stream, the banks are highly incised and invaded by non-native species such as reed canary grass and Himalayan blackberry as a result of previous disturbance (s) and introduction of exotic plant species.

The Tualatin River has total Maximum Daily Load (TMDL) standards for temperature, dissolved oxygen, phosphorous and bacteria. No fish passage barriers are present below the project area and ODFW has surveyed Fanno Creek and found cutthroat trout and winter steelhead.

Pre-treatment site conditions - Non-native, noxious species have invaded the forested, riparian and wetland areas of this site. Species of concern include reed canary grass, Himalayan blackberry, hogweed and knotweed. Tree canopy is insufficient along Fanno Creek, although there remains significant mixed forest stand, one of the few remaining in Tigard. Oregon Department of Fish and Wildlife (ODFW) have surveyed Fanno Creek and found cutthroat trout and winter steelhead present.

The Brown property is one of the few remaining properties in Tigard with intact riparian forest. As a Metro property, it will be protected from further development.

Project Results:

This project is part of a larger effort to restore a contiguous tract of riparian forest and wet prairie along Fanno Creek. The Brown Property Riparian Restoration project successfully advanced this goal by greatly reducing noxious weeds on the site and installing several thousand native

trees and shrubs. In spite of the drought in early 2005, vegetation monitoring on site conducted in July 2005 concluded that the overall survival rate of plantings was 80 percent.

Brown Property - Vegetation Monitoring July 2005

Location	Waypoint	Sambucus		Thuja plicata		Pseudotsuga menziesii		Mahonia aquaifolium		Rhamnus purshiana		Pyrus diversiloba		Acer circinatum					
		Med	Dead	Hi	Med	Dead	Hi	Med	Dead	Hi	Med	Dead	Hi	Med	Dead	Hi			
Site 1	2	4	6	4	2	1	1	4	2	1	3	1	2						
Site 2	3	1	1	1	1			11	5	2	4	1	10	1	1	2			
Site 3	4							3	1	2	1	2		4	1	1			
Site 4	no signal	2	2	1	1			4	3	1				5	1	1			
Site 5	5	2						3	3	1	1	2	1		1	1			
Site 6	6				2	2			1		4	2				1			
Site 7	7							2	2	1	2	5	3						
Site 8	no signal			3	1			3	2	1	1	1							
Site 9	8			6															
Site 10	9	2	7	2	1	5													
Site 11	no signal	2	1																
Site 12	10																		
Site 13	11																		
Site 14	12			7	1						2	1							
Site 15	13	1					1	2	5	1									
Site 16	14	7	1					2											
Site 17	15	1	1						2		3	1							
Site 18	16	1	3	1	1			2	1										
Site 19	17	1	1	1	2														
Site 20	18							10	1	2	1								
Totals		18	20	16	23	6	8	4	44	22	9	17	18	8	10	0	11	4	5

Species Survivorship 70%
 Overall Survivorship 80%

43%
 78%
 88%
 81%
 100%
 75%

Rosa	Physocarpus						
gymnocarpa	capitatus	Abies grandis	Spirea douglasii				
Hi	Med Dead Hi	Med Dead Hi	Med Dead Hi	Med Dead Hi	Med Dead Hi	Med Dead Hi	Med Dead Hi

12

1	2	3			
2	3	1	12	1	1
1	1				
	2				
	4	1	2	1	

3

10		2		4
10	5	2		3
	1	4	1	6
			3	

1

4		2		
1		2		1

41	6	6	5	7	1	13	3	15	16	1	1
89%			92%			52%			94%		

Brown Property Riparian Restoration Project – All Photos by George Kral



Fanno Creek
January 2004
Himalayan blackberry although dormant canes apparent
dominates riparian area.



Fanno Creek
April 2005
Himalayan blackberry post treatment. Native foliage
beginning to appear.



Fanno Creek
July 2005



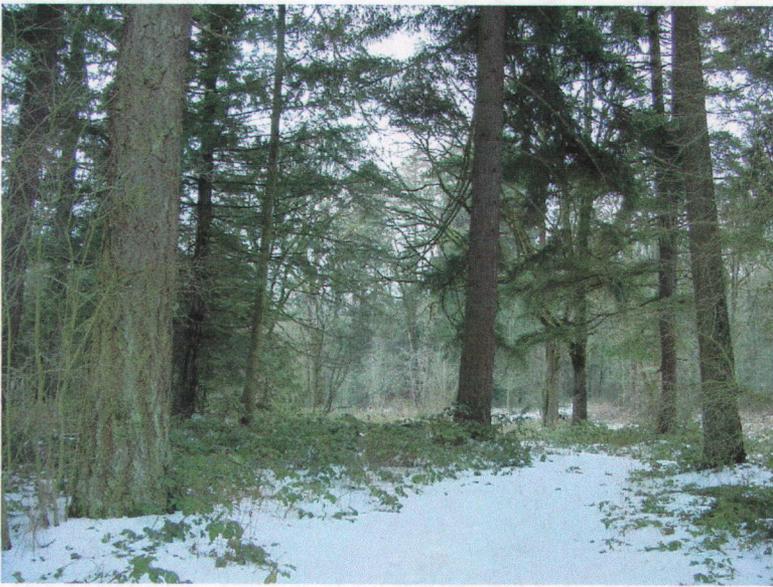
Oak Woodland
January 2004
Pre-project. Little to no native foliage apparent.



Oak Woodland
April 2004
Pre-Treatment Close up – Invasive Reed canary grass dominates open prairie.



Oak Woodland to Upland Conifer Forest Transition Area
July 2005
Conifer Forest - Native plants establishing in foreground.
Oak Woodland – Native grasses establishing in background.



Upland Conifer Forest
January 2004
Pretreatment - Little or no under-story vegetation present.



Upland Conifer Forest
July 2005
After Planting - Native plants successfully establishing.