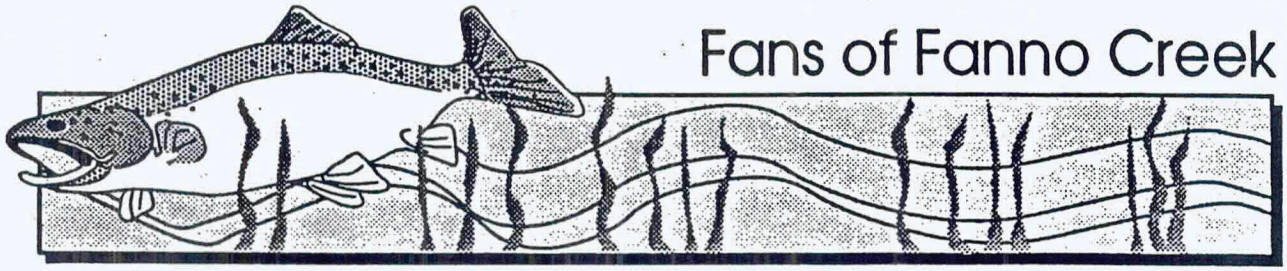
FANNO CREEK RESTORATION PROJECT
ENGLEWOOD PARK

HISTORY AND STATUS REPORT

Spring 1999



Volunteers dedicated to the restoration and protection of Fanno Creek and its tributaries

FANS OF FANNO CREEK

and the following partners

CITY OF TIGARD ♦ METRO GREENSPACES PROGRAM

OREGON COMMUNITY FOUNDATION ♦ OREGON DIVISION OF STATE LANDS

UNIFIED SEWERAGE AGENCY

FANNO CREEK RESTORATION PROJECT

ENGLEWOOD PARK

HISTORY AND STATUS REPORT

Spring 1999

Prepared for:

METRO GREENSPACES

Prepared by the:

FANS OF FANNO CREEK
P.O. Box 25835
Portland, Oregon
97225

PROJECT DESCRIPTION

The Fanno Creek Restoration Project at Englewood Park is a volunteer-based effort to enhance the water quality and habitat of Fanno Creek and its riparian and wetland systems. The restoration action is planned to return the creek to a more self-sustaining, "natural" condition. The project was begun after seven years of creek restoration in smaller sites upstream. The site was determined by the Fans of Fanno Creek (Fans) and by the Unified Sewerage Agency (USA) as a prime location for substantial restoration efforts. The site was also identified in the comprehensive USA Fanno Basin Watershed Planning Project as a priority location for water quality and stream restoration.

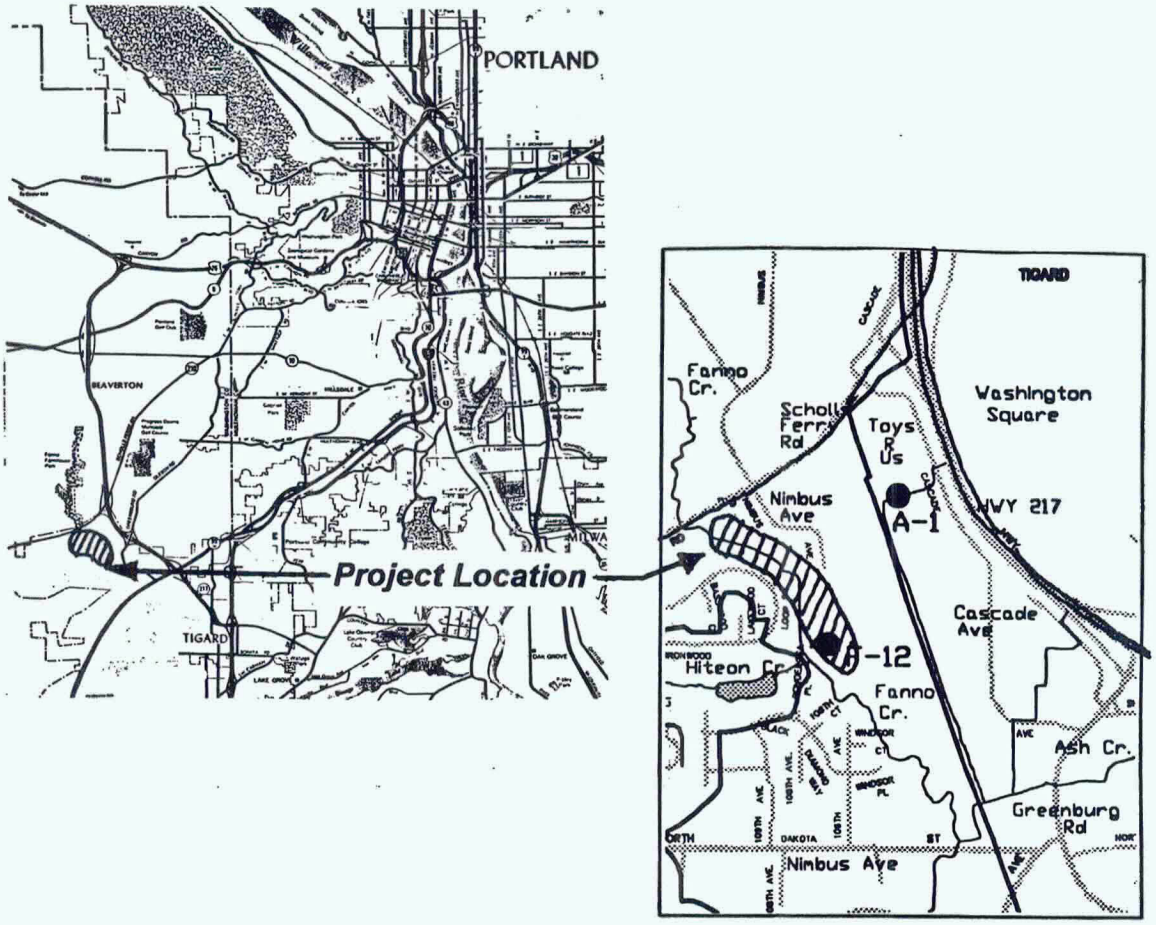
The success of the Englewood Park Project to date has resulted in the Fans' restoration of an area of about 2.5 acres in size. Already 20 months into the project, the project partners are looking at another three to five years of restoration efforts to complete the project. At the end of this period, Fanno Creek will be the beneficiary of over 15,000 new plants, 10 acres of restored habitat, and thousands of hours of effort.

The community, however, will gain in less measurable but no less important ways. Introduction to environmental stewardship and community service may affect the futures of the volunteers from school and scout groups. Increased wildlife and water quality will be enjoyed by the users of the Tigard Park. Aquatic ecology improvements will directly benefit threatened and endangered species found in Fanno Creek. And certainly, the partnerships forged between the agencies, civic, and community groups will continue to be employed in the continuing efforts to restore Fanno Creek.

Project Location & Site Description

The project site is located in Englewood Park in the City of Tigard (see below). It lies just south of the bridge where SW Scholls Ferry Road crosses Fanno Creek. The park is the property of the City of Tigard and is designated ***Recreation / Open Space*** in the City's Comprehensive Plan.

The Tigard Greenway Trail runs along the western edge of the park with pedestrian and service connections through to the adjacent residential neighborhoods. Only passive recreation, hiking, walking, and wildlife observation, is provided for in the Tigard Comprehensive Plan designation of Recreation/Open Space. The Draft Tigard Parks Plan calls for the continued protection of Englewood Park and its use as Open Space.



PROJECT LOCATION MAP ***NORTH ▲***

NOT TO SCALE

Urbanization in the areas around the park occurred during the 1970's and 1980's substantially increasing the percent of impermeable surface area. The lack of absorption and the increase of storm water runoff has created a condition called "flashiness" in the creek during and immediately after storm events. This reach of Fanno Creek has also continued to degrade because of diminished floodplain and wetland connections to the creek, lack of shading to protect water quality, and the extensive invasion of reed canarygrass. The combination of these factors has substantially reduced the fish and wildlife values in the area.

At the beginning of the project, the site was surveyed by Fans to establish the baseline for measuring the changes made during the course of the project implementation and maintenance. In 1997, it was estimated that 99% of the entire area (other than the creek bed) had an established cover of exotic grasses. Only 1% of the area was covered by native plant species.

Project Objectives

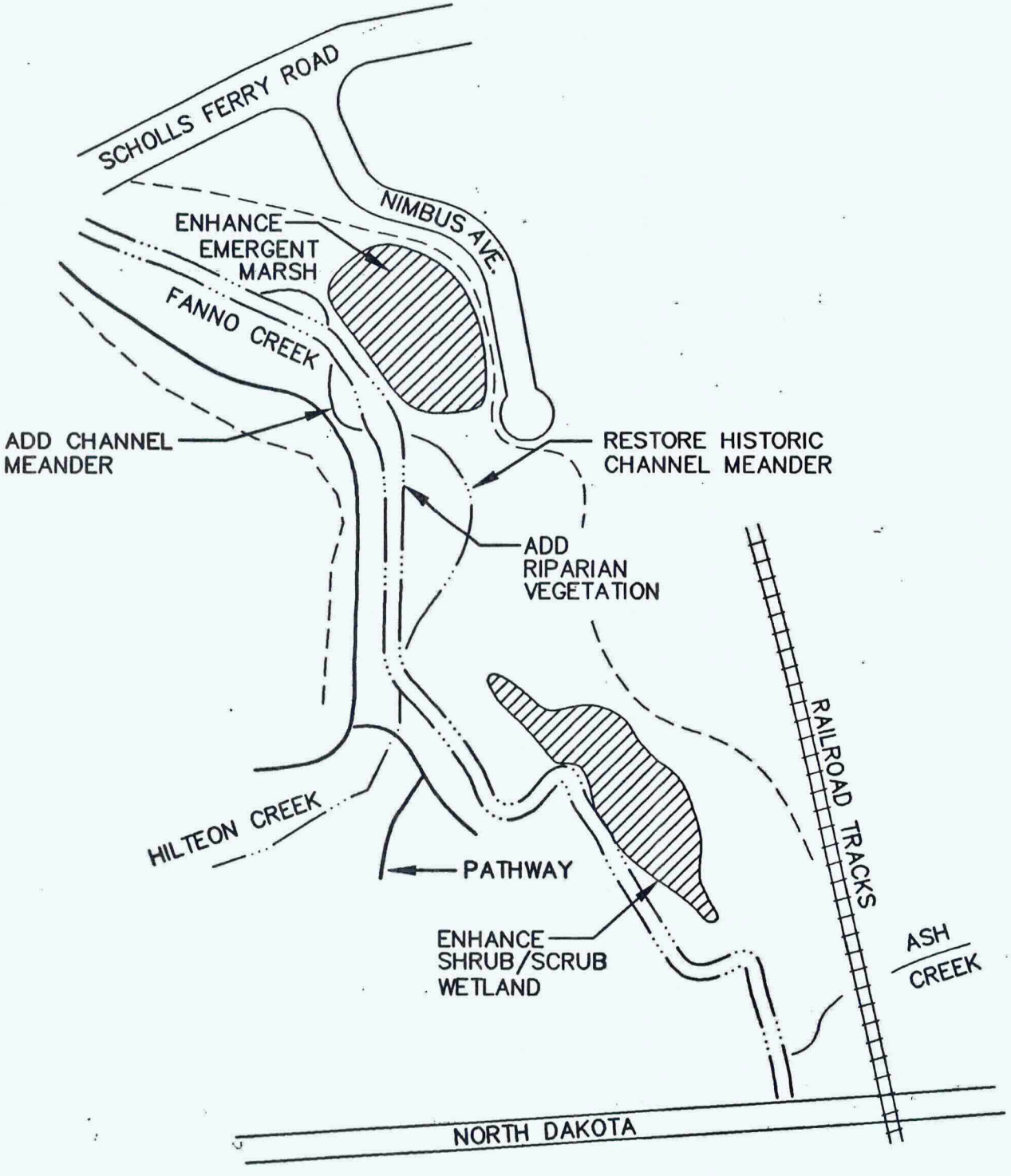
In order to mitigate these negative impacts, the Englewood Park Restoration Project established the following objectives.

- Restore native vegetation for fish and wildlife.
- Shade the creek and provide more diverse water quality enhancement capabilities.
- Create wildlife habitat structures
- Restore stream meanders and overflow channels.
- "Daylight" existing storm sewer pipes to return to surface swale systems.
- Create native pollinator habitat for broader riparian corridor health.
- Promote a greater public awareness of this public resource.
- Provide opportunities for community participation in restoration.
- Educate the community and local schools.
- Encourage business participation in community/environmental efforts.

Project Description

The strategy of the project partners is to experiment with and monitor different enhancement methods and techniques to better understand the most effective means of enhancing an urban stream's wetlands, water quality functions, fish and wildlife habitat, and native pollinator habitat. New technologies are being employed for reed canarygrass conversion to native vegetation communities, with the assistance of USA and the City of Tigard.

This phase of the project involved re-establishing functioning wetland and riparian habitats, allowing for historic stream meander functions, "daylighting" storm drains to return form and function, adding limited large woody debris to restored meanders and floodplain where hydrologic and hydraulic conditions are favorable (hydrological



PROJECT DIAGRAM

NORTH ▲
NOT TO SCALE

and geomorphologic expertise is on the project team), grading and re-vegetating the wetlands and a short section of streambank to increase plant diversity, shade, and improve habitat.

Approximately 1000 lineal feet of streambank and cover has been restored by grading and bioengineering using accepted methods. Two storm drains have been removed and meander swales restored for surface water treatment. Two perches were constructed using tall snag trees brought in from off-site and erected, as has been successfully done at the Fernhill Wetlands Mitigation site in Forest Grove. An area of about 1/8 acre has been planted for native pollinator habitat to address the substantial losses of native pollinator habitat and corridors experienced in the Willamette Valley. This action will promote native pollinator feeding and nesting habitat to improve pollinator conditions in the Fanno Basin.

A total area of 2.5 acres has been restored through grading, revegetation, enhancement, and management. Completed in the Spring of 1999, this work has returned about 2.5 acres of wetlands and riparian area of Fanno Creek to a self-sustaining more "natural" condition. Maintenance and monitoring of the site will continue through the summer of 2003.

In addition to the physical enhancement of the corridor, Fans of Fanno Creek used this project to expand its volunteer base and continue its promotion of creek stewardship through community planting, monitoring, and maintenance efforts. The project has trained both volunteers and public works staff regarding streamside construction, wetlands and habitat restoration/enhancement methods, and management techniques. Over the years, these people have returned to share their knowledge and enthusiasm with the new recruits. USA and the City of Tigard will continue to use the project for training park operational and maintenance staff in environmentally sensitive methods for stream enhancement activities.


Planting Area
Direction of Flow
Planting Area
Limit of Project
NORTH
FANNO CREEK
Englewood Park
Tigard, Oregon


Storm Sewer Daylight
Planting Area
Planting Area
Restored Meanders
Direction of Flow
Limit of Project
NORTH
FANNO CREEK
Englewood Park
Tigard, Oregon

PROJECT WORKPLAN AND SCHEDULE
Contract period, January 1998 to June 1, 1999

June through October 1997

- Plan and design first phase of the project
- Develop site maps
- Meet with DSL, ODFW, USA, and City to develop project logistics
- Apply for required enhancement permit to ACOE, DSL and Sensitive Lands permit from City of Tigard
- Undertake initial clearing of first phase planting area
- Plan and undertake October volunteer planting day, coordinate with Tigard "Make a Difference" Volunteer Day
- Order and secure seed, plants, compost, plant protection material

October 1997 through February 1998

- Seed and provide erosion control throughout site
- Line up scout troops, school groups for volunteer labor
- Order plants and protection materials
- Undertake annual Tree Planting Festival with special focus on this site
- Install protection measures around plant material
- Develop a maintenance and monitoring program

February through May 1998

- Undertake annual Tree Planting Festival with special focus on this site
- Conduct volunteer planting and project maintenance
- Critically evaluate project performance and opportunities to date
- Prepare grant proposal for next phase, if appropriate, to OCF
- Plant native pollinator habitat
- Install perch snags (2)
- Install protection measures around plant material
- Design and order water meter and irrigation system

June through October 1998

- Refine site maps
- Undertake utilities in-place locations assessment to ensure avoidance
- Arrange for equipment and operators and undertake grading
- Grade back creek banks, add a high flow channel meander to replicate historical condition
- "Daylight" two storm drains
- Remove reed canarygrass in selected areas by scraping with machinery
- Add large woody debris and snags to area
- Undertake annual Tree Planting Festival with special focus on this site
- Install protection measures around plant material
- Install irrigation system

Spring 1999

- Order and secure seed, plants, compost, coir, large woody debris, plant protection material
- Arrange for equipment and operators for grading
- Undertake annual Tree Planting Festival with special focus on this site
- Install protection measures around plant material
- Adjust the maintenance and monitoring program
- Prepare second monitoring report
- Continue project maintenance
- Prepare project report for OCF/DSL/USA/Tigard/Metro

All items above have been completed. Items below either have been completed or are underway now.

July through September 1999

- Add large woody debris, rock riffles to stream channel
- Seed and provide erosion control throughout site
- Continue monitoring and maintenance
- Use automatic irrigation system for watering as needed

PROJECT PARTNERS

Fans of Fanno Creek

The Fans of Fanno Creek is a friends group dedicated to preserving, protecting and enhancing the natural resources of Fanno Creek and its tributaries. This all-volunteer group is committed to the proper management of the valuable environmental resources of this Tualatin River subbasin which provide important biological, scenic, and educational amenities for all inhabitants of the watershed.
In the past year, the Fans have achieved outstanding leadership and community involvement in the watershed through their organization of habitat enhancement activities, public education programs, and encouragement of community partnerships. Their biggest event, the 8th Annual Fanno Creek Tree Planting Festival, attracted over 300 volunteers to plant 3000 native trees and shrubs this past March. The festival was part of a larger, multi-year restoration effort the Fans have organized at Englewood Park which includes re-establishing an historic stream meander, adding large woody debris to the stream channel, replanting the streambanks and floodplain with native plants, and installing wildlife boxes to improve habitat.

In addition to the Tree Planting Festival, the Fans have sponsored smaller plantings, published a regular newsletter (The Fans Flash), hosted a Fanno Creek Watershed Workshop to educate and involve neighborhood activists in stewardship activities in the basin, and have been a resource to citizens requesting information about the creek.

Partners in the Community

The following partners, as well as countless individuals, have supported Fans and the Englewood Project in a variety of ways. They have provided community support, volunteer labor, goods (donated and discounted), services (donated and discounted), and expert advice and assistance.

FUNDING/SERVICES
- City of Tigard
- Metro GreenSpaces Program/US Fish and Wildlife Service
- Oregon Division of State Lands
- Oregon Community Foundation
- Unified Sewerage Agency

VOLUNTEERS
- Boy Scouts of America
- Oregon Episcopal School
- Beaverton High School
- Sunset High School
- West Sylvan Middle School
- Bridlemile School
- Tualatin Riverkeepers
- Friends of Beaverton's Johnson Creek

SUPPLIES
- Albertson's
- H. D. Fowler
- Northwest Natural Gas
- Samuel J. Rich Nursery
- Wild Birds Unlimited
- Odwalla

CONTRACTED HELP
- Stephen L. Buchmann, Entomologist
- Julio Construction, General Contractor
- Dennis O'Connor, Wetland Restoration Ecologist
- Cascade Education Corps

PROJECT REPORT

The following questions are adapted from the OCF and Metro GreenSpaces grant reporting requirements.

How did we meet our measurable objectives?

- Daylighted 1,500 feet of storm sewer pipe and reestablished inundation areas by removing fill and recontouring 0.5 acres.
- Reestablished creek channel meanders and channel width variations.
- Placed large woody debris in channel and flood plain.
- Approximately 3,500 native trees, shrubs, and grasses planted in the spring of 1999.
- Approximately 1,200 native trees, shrubs, and grasses planted in the fall of 1998.
- Approximately 450 volunteers, including scout troops, high school student clubs, grade school classes, neighborhood associations, and individuals participated in the two planting festivals and/or plant maintenance work parties.
- Wrapped and mulched 60 percent of the shrub and small tree plantings.
- Staked and fenced 90 percent of the large tree plantings.
- Constructed native pollinator habitat in 3 locations, in coordination with a national program to enhance pollinator conditions in the West.
- Placed 15 wood duck, songbird, and bat houses.
- 10 local businesses participated through donation/price reduction of supplies and services.
- Installed a city water meter for project use and moveable irrigation system (consisting of pipes, hoses, sprinkler head, etc).

How have we met the objectives of the Metro GreenSpaces Restoration Program?

- Water Quality Restoration – The ongoing efforts at Englewood Park are strongly supported by the Unified Sewerage Agency and are considered a high priority in the "Fanno Creek Watershed Management Plan". The addition of vegetation will add shade to the creek and will help take up nutrients, thereby helping Fanno Creek meet water quality requirements for phosphorus and temperature. The reestablishment of channel meanders and inundation areas will help reduce flashiness and scouring after storm events, helping reduce turbidity downstream.
- Restoration and Enhancement – The project has restored and enhanced a 2.5-acre area of floodplain, wetlands, and fish and wildlife habitat.
- Education – The multi-year project has had a positive influence on various users and neighbors of Englewood Park who have observed the progress

and become interested and involved. This is in addition to the more specific education benefits that the volunteer groups receive during the tree planting and maintenance effort. Four schools are directly involved in restoration and monitoring efforts.

How have we met our budget goals?

The Fans of Fanno Creek have administered all grants and donations for the project and have remained within the established budget. The Request for Reimbursement submitted earlier provided a full summary of the project's budgets, grants, and expenditures.

A significant reason the project has been able to remain within the budget is the donation of many peoples' time, energy and expertise. The project has had the benefit of in-kind donations from numerous volunteers at tree planting and maintenance events. It has also had the expert services of USA, DSL, and professional scientists, engineers, and landscape architects provided *pro bono.*

Who has been served by this project?

Two high schools are actively participating in habitat restoration and monitoring efforts. Approximately 300 citizens participated in the spring 1999 planting and about 20 citizens in the fall 1998 planting. The City of Tigard and its citizens are directly benefiting from substantial improvements to city lands. USA has benefited by tremendous cost savings (this project was estimated to cost ten times its actual cost to date) and by on-the-job training of staff for Tualatin Basin restoration efforts.

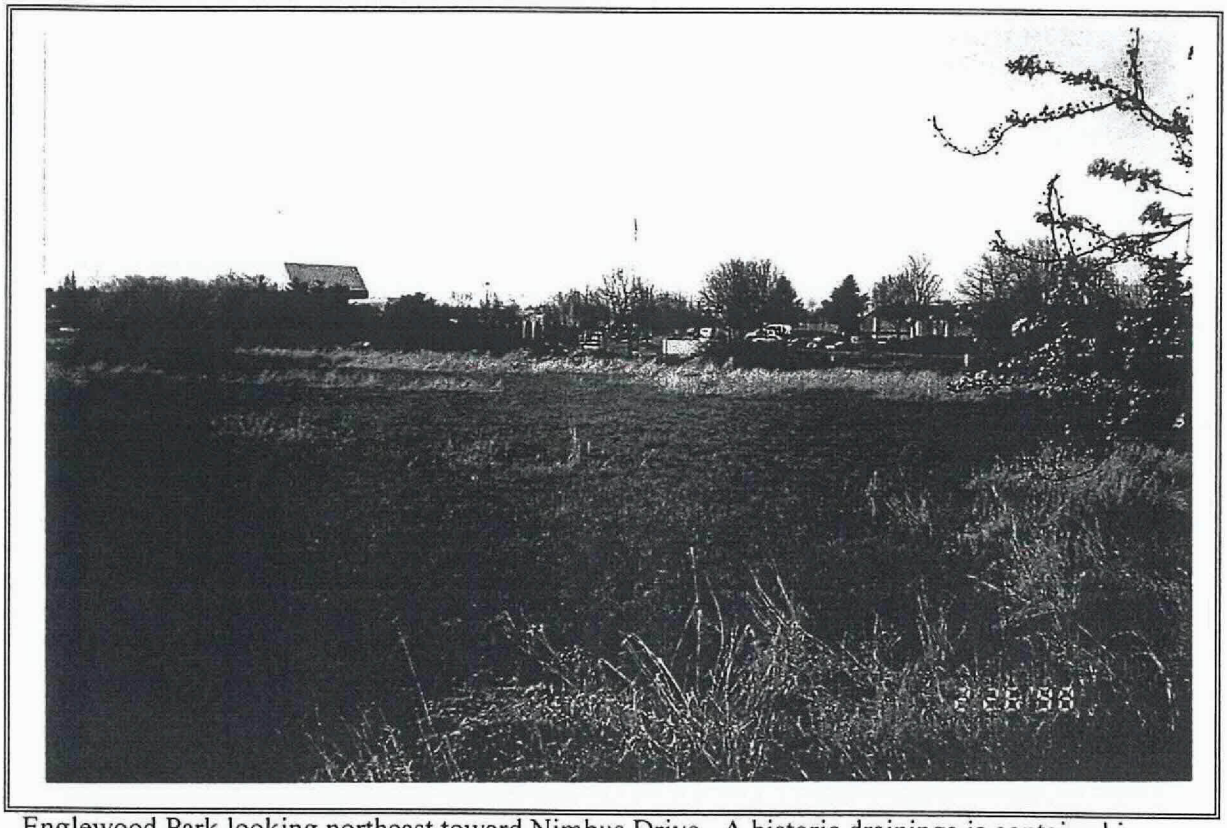
Is the project a success?

The project has been a success in the following ways. Over the next phase of the project, the Fans will be monitoring the project to collect measurable evidence of the physical achievements of the project in terms of habitat restoration and water quality improvement. Less empirical are the continuing gains made in the level of public interest and support.

- Continuity – The project is successful in maintaining its funding and support base over a number of years (1996-1998). Not only does Englewood Park benefit from returning volunteers, but it has also received the continued participation and cooperation of numerous public agencies, including the City of Tigard, the Unified Sewerage Agency, Metro GreenSpaces, the U.S. Fish and Wildlife Service, the Oregon Division of State Lands, and the Oregon Department of Fish and Wildlife. This has allowed the actual restoration work to be the focus of the Fans of Fanno Creek.

- Progress – The supporting documentation shows the physical progress made in terms of acres restored and native plants planted.
- Public Involvement and Support – The project has been noticed by various public and private citizens, particularly with the grading and soil removal efforts last fall. Once concerned citizens are now pleased with the revegetation of these areas. One notable visitor to the site was Governor John Kitzhaber, who was touring exemplary projects as part of his salmon habitat restoration platform.
- Building on successes and learning from minor failures – tree protection, irrigation, and volunteer organization.
- Monitoring in next few years will prove out initial intuition of success in habitat and water quality.

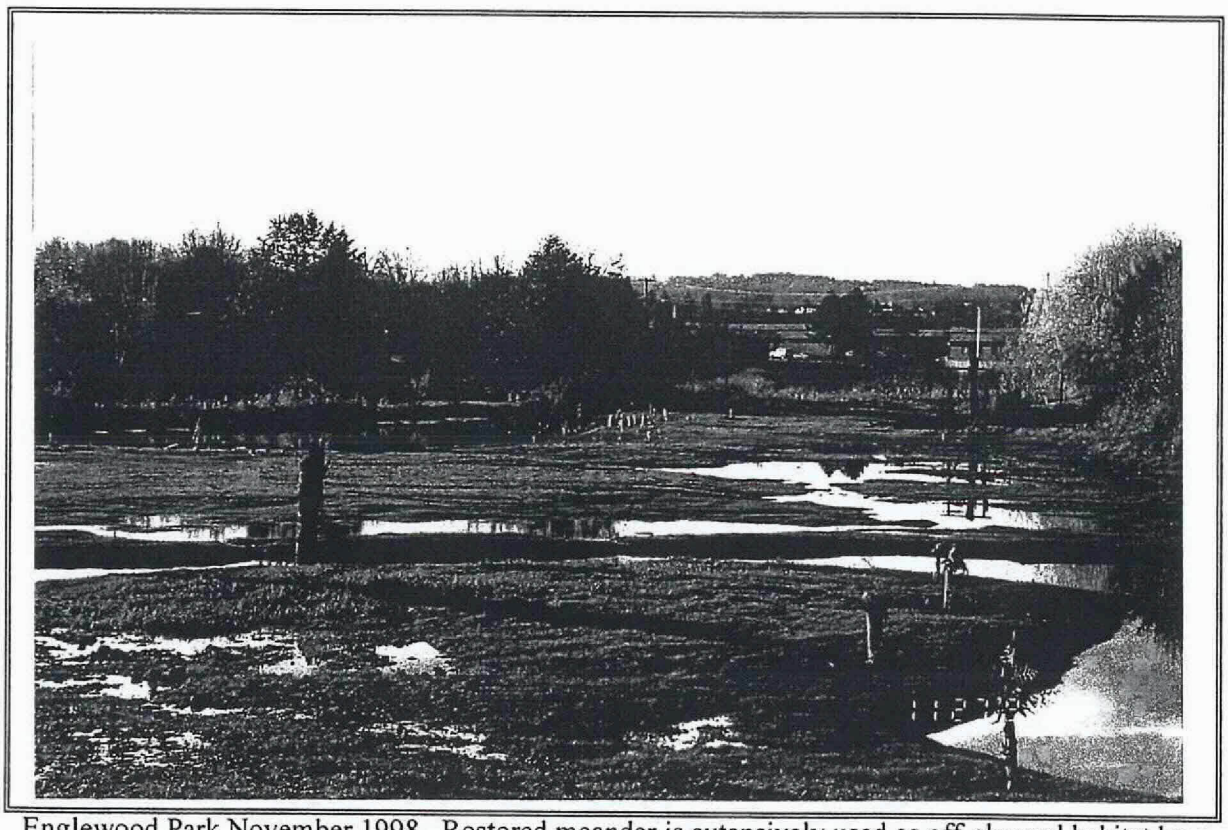
REPORT APPENDIX



Englewood Park looking northeast toward Nimbus Drive. A historic drainage is contained in a culvert that discharges directly to creek.

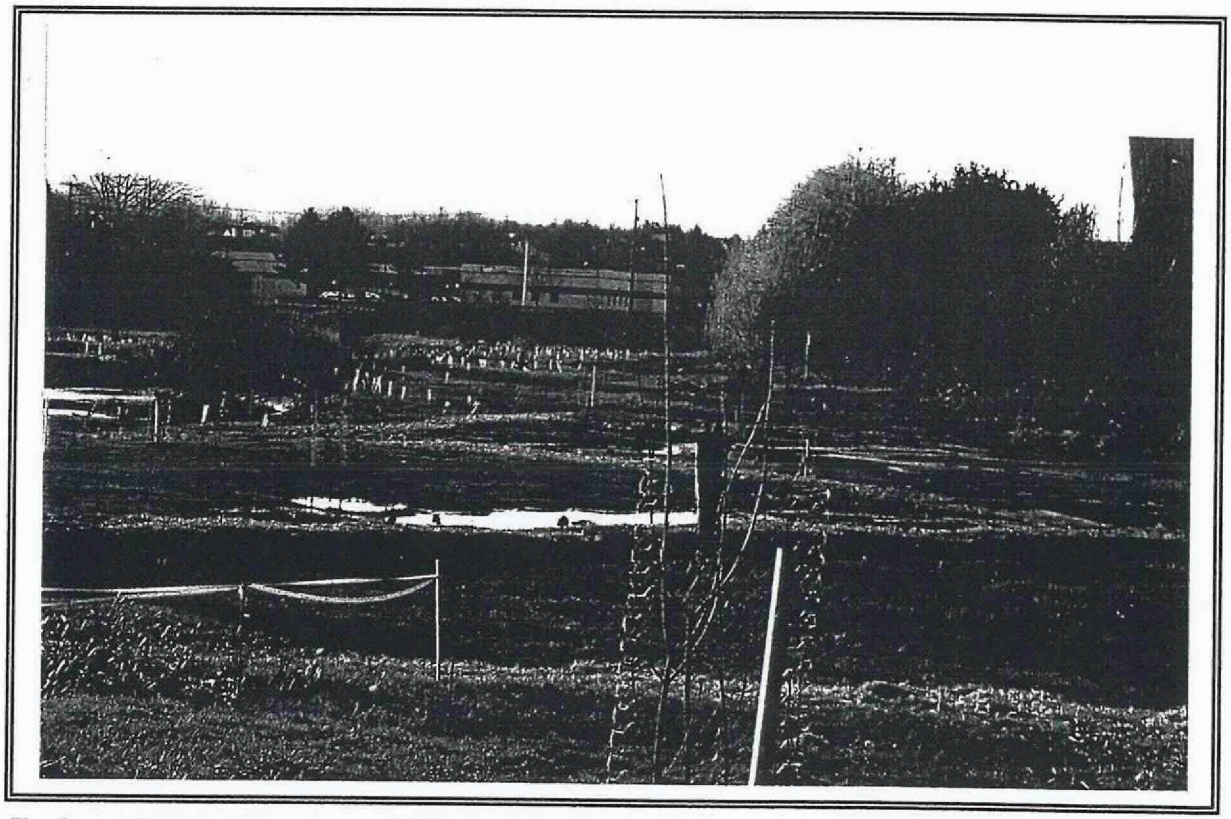
Same view after grading. The culvert has been removed and the drainage is now a meandering creek.

Englewood Park November 1998. Large woody debris has been installed. Fish have been observed in the restored creek.

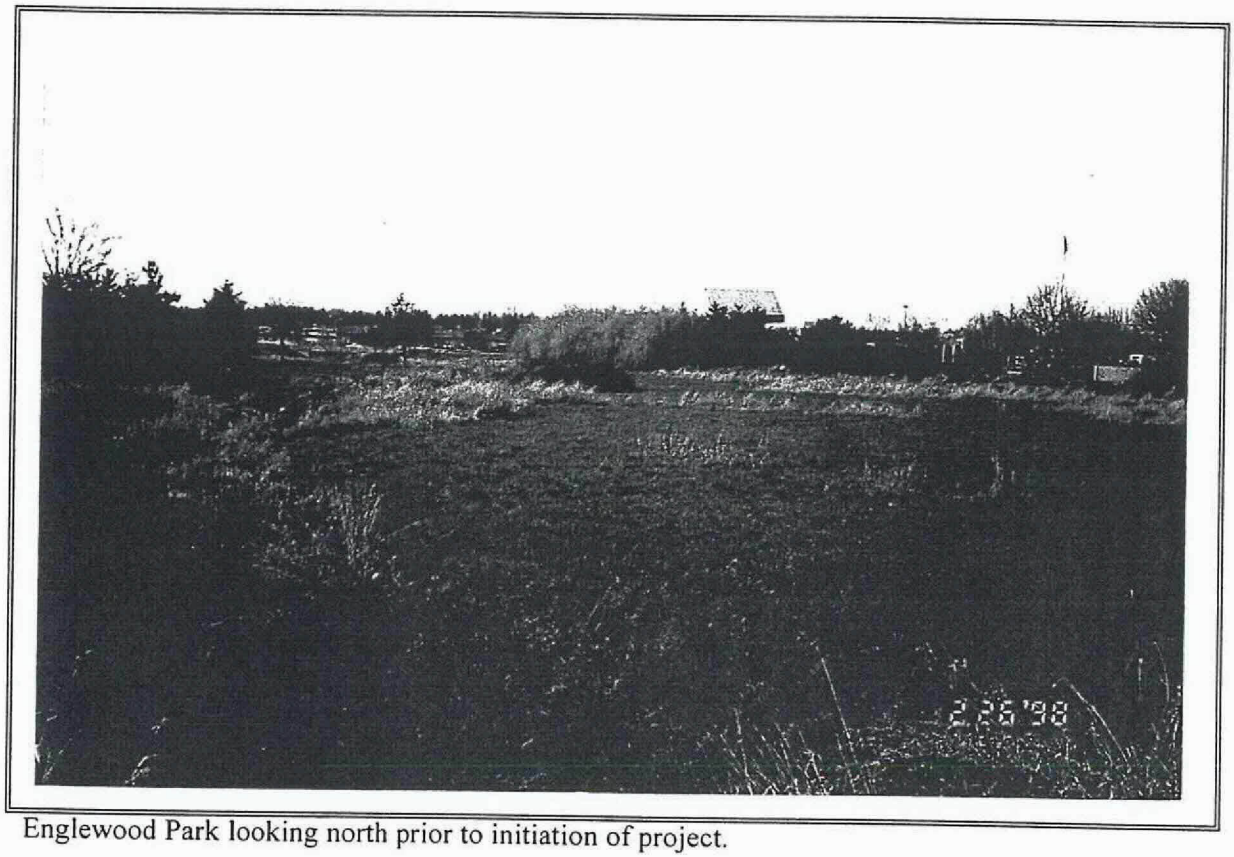


Englewood Park November 1998. Restored meander is extensively used as off-channel habitat by a variety of water fowl.

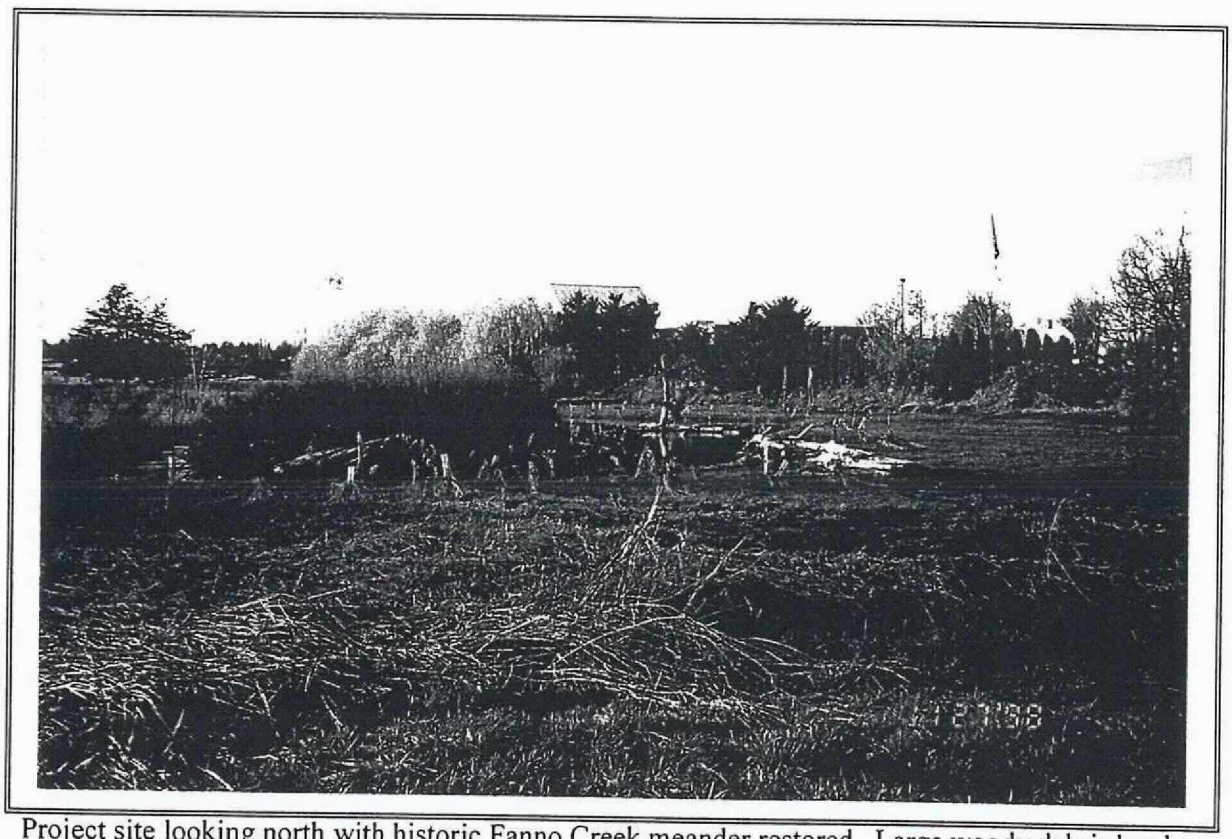
Same view of restored meander with new evergreen trees planted during the 1999 Tree Planting Festival.



Englewood Park with spring and fall plantings showing in background. Pink tape in foreground marks existing wetland vegetation.



Englewood Park looking north prior to initiation of project.



Project site looking north with historic Fanno Creek meander restored. Large woody debris has been installed. 3,000 additional plants were installed during the Tree Planting Festival.

View toward north showing large woody debris, nesting boxes, pollinator habitat, and plantings installed during the 1999 Tree Planting Festival.

View toward north showing restored historic meander after the 1999 Tree Planting Festival.

Fans of Fanno Creek

Volunteers dedicated to the restoration and protection of Fanno Creek and its tributaries

The Fans Flash

FEBRUARY 1999
VOLUME 5
ISSUE 1

FANS TO HOST EIGHTH ANNUAL TREE PLANTING FESTIVAL

The Fans of Fanno Creek Eighth Annual Tree Planting Festival will be held on Saturday, March 6 from 9:00 AM to Noon. This year, Fans is again sponsoring two planting events. The main event will be held at Englewood Park with a second, smaller event co-sponsored by the Bridlemile Neighborhood Association. A third planting will be held at Raleighwood Park on March 13 from 9:00 AM to 3:00 PM.

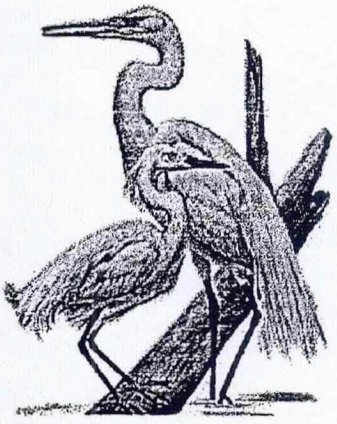
SIGN-IN AT TENT SOUTH END OF NIMBUS DRIVE

We plan to set the sign-in tent on the east side of Fanno Creek near the south end of Nimbus Drive. Please sign-in at the tent prior to planting.

The Englewood Park planting will mark the end of the first phase of our multi-year restoration project Fans has undertaken. This past summer we completed some major earthwork, placement of large woody debris, and followed by a fall tree planting.

Last years' concentration on quality rather than quantity paid off in spades. Plant survival and growth was the best we have ever achieved.

See you on the 6th! □



Snowy egret (*Egretta thula*)

REMEMBER...
NEXT FANS MEETING - FEBRUARY 11
7:00 PM AT THE FANNO HOUSE

President's Corner

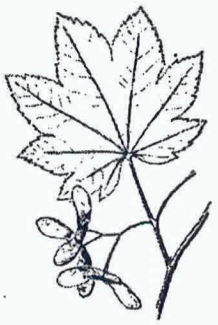
Welcome to 1999! FANS is looking forward to another successful year of promoting healthy watershed issues for the Fanno Creek Watershed. Each year, we worked to protect, restore and enhance Fanno Creek and its tributaries through our annual tree planting and other restoration projects. Our current restoration project is a big one, three acres of dirt moving and planting native vegetation in Englewood Park.

This years 8th Annual Tree Planting will be held Saturday March 6, 1999 at Englewood Park in Tigard and Raleighwood Park (hosted by the Raleighwood Stream Stewards) in Raleigh Hills. Look for details

(Continued on page 2)

Fans of Fanno Creek

Native Plants for the Home Landscape



Vine Maple (*Acer circinatum*)
This is a large shrub or small tree growing up to 20 feet tall. Most specimens have several trunks of bright reddish-green bark, topped with foliage displayed in a tiered pattern. It is best suited to woodland plantings as it is tolerant of shade. It can also be grown singly in the open of a lawn or against a building so long as it is not given too much exposure to the sun.

Red-Osier Dogwood (*Cornus stolonifera*)
This is a multi-stemmed shrub growing up to 15 feet tall. The twigs are often bright red. The 3-to-5 inch leaves turn deep red to purplish in the fall. The flowers are small, and borne in flat-topped clusters. Bunches of white or bluish berries are copiously produced by fall, which are a favorite of many species of birds. This is the ideal shrub for moist, poorly-drained areas.

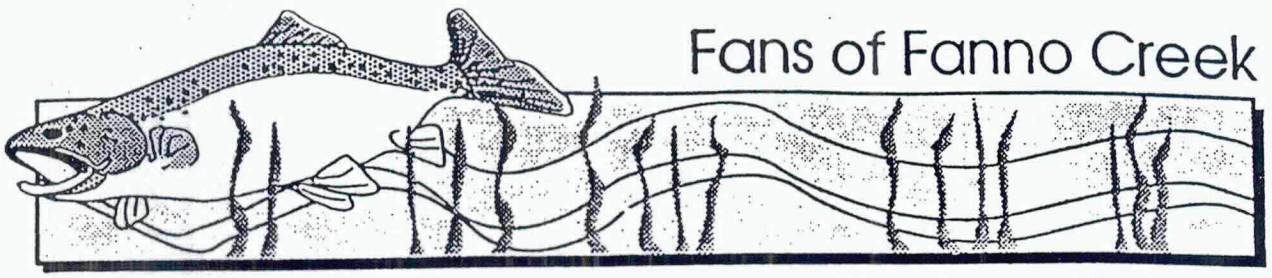
Western Serviceberry (*Amelanchier alnifolia*)
This is a deciduous shrub growing from 6 to 10 feet tall, often with a broad, multi-branched habit. In spring, white, compact flower clusters cover the plant. By late summer, clusters of pea-sized purplish black berries are nestled in the foliage. In fall, the foliage turns to reds or yellows. This species likes well drained soils and is suited to areas exposed to full sunlight.

Mock-Orange (*Philadelphus lewisii*)
Mock-Orange is a medium-to-large, many stemmed deciduous shrub. The snow-white large and fragrant flowers are borne in elongate clusters. It is a favorite of many native pollinators. This species likes well drained soils and is suited to areas exposed to full sunlight. It can be used in shrub borders or as an isolated specimen.

Pacific Ninebark (*Physocarpus capitatus*)
This tallish deciduous shrub is common along water-courses. Its leaves resemble those of our native currents. The small, whitish flowers are borne in dense pompoms, reminiscent of the snowball bush. The distinctive bark peels away form the stem. Pacific ninebark shubbery fits well into the wild garden and open areas. This species is suitable to poorly-drained areas of the garden.

Tall Oregon Grape (*Berberis aquifolium*)
This evergreen shrub is the State Flower of Oregon. While it can grow as high as 8-to-10 feet, it typically does not reach over five feet tall in gardens. It produces several erect stems bearing glossy compound leaves. The showy yellow bloom is confined to the tips of the stems which turn into the grape-like fruit for which it is named. It is commonly used in hedges, border plantings, or as a single specimen. It takes all degrees of exposure to light.

Red Elderberry (*Sambucus racemosa*)
Red elderberry is another multi-stemmed shrub growing up to 15 feet tall. The large pyramidal clusters of red berries are very attractive to a wide variety of birds. The large compound leaves are oppositely arranged. The pithy stems provide great nesting habitat for many native pollinators. This shrub is suited to a variety of habitats but prefers well drained soils.



Fans of Fanno Creek

Volunteers dedicated to the restoration and protection of Fanno Creek and its tributaries

THANK YOU FOR TAKING PART IN SOMETHING SPECIAL!!!

You have just helped make your community a little bit better by participating in the Seventh Annual **Fans of Fanno Creek Tree Planting Festival** in the Fanno Creek Watershed. Each year hundreds of trees and shrubs are planted during this half-day event. This year we are beginning a multi-year restoration effort along Fanno Creek at Englewood Park. In the first phase of this project we will:

re-establish an historic stream meander, grade banks - slows down flow, reduces erosion, helps to re-establish the natural function the floodplain

add large woody debris to the stream channel and floodplain - slows down flow, provides habitat for fish and other stream critters

re-plant the streambanks and floodplain with native plants - increases habitat diversity for birds, amphibians, reptiles, small mammals, and fish, provides shade to the stream making it a better home for fish (most native fish can't survive in warm water) Plants provide food and cover for wildlife, help to control runoff of stormwater, and reduce erosion.

place bird boxes, perches, bat boxes, and native pollinator boxes - provides nesting and resting structures for native birds, bats, pollinators. The placement of native pollinator boxes is part of a unique pilot project to provide nesting habitat structure for native pollinators (bees, beetles, butterflies, insects, hummingbirds). This is a way of increasing biodiversity a that YOU can do in your own backyard. We'll provide you with more information if you're interested.

WHAT WE'VE PLANTED TODAY:

TREES		SHRUBS	
Red Alder	Oregon Ash	Oregon White Oak	Vine Maple
Black Hawthorne	Pacific Willow	Western Serviceberry	Douglas Spirea
Black Cottonwood	Western Redcedar	Tall Oregon-grape	Pacific Ninebark
Red-osier Dogwood		Red Elderberry	Nootka Rose
		Mock Orange	

THE FOLLOWING ORGANIZATIONS PLAY AN IMPORTANT ROLE BY PROVIDING VARIOUS FORMS OF SUPPORT TO THIS PROJECT:

Oregon Community Foundation
Unified Sewerage Agency
Oregon Division of State Lands
Tualatin Hills Park and Recreation District
City of Portland Bureau of Environmental Services
PSU/BES Community Watershed Stewardship Program
U.S. Fish and Wildlife Service
METRO
City of Tigard
Tualatin Hills Park Foundation
Wild Birds Unlimited

REFRESHMENTS PROVIDED BY THE FOLLOWING BUSINESSES:

Brewed Hot Coffee
Albertson's
Howard's on Scholls
Odwala Beverage Company

TENTS PROVIDED BY: Northwest Natural