

# Binford Lake – Butler Creek Greenway

in Gresham, off Southeast 190th Avenue and Binford Lake Parkway



## AFTER

*Reintroduced native plants thrive in a previously degraded area*



## BEFORE

*The area lacks plant diversity*

The habitat value of Binford Lake/Butler Creek Greenway, a tributary to Johnson Creek, had been degrading for some years prior to receiving the Metro grant. The entire area was originally a dairy. Binford Farms established a series of three ponds, fed by Butler Creek, to irrigate pastures. The farmland was eventually sold and developed with approximately 2,000 homes. In the early 1980s, the surrounding residential area began to grow with several more subdivision developments. This

growth led to the dedication of the lake and surrounding riparian and upland forest areas to the city of Gresham as public open space.

The project addressed four main issues:

- The enormous number of visitors and other uses of the greenway without the benefit of resource management. Without a master plan for the greenway, resources may be compromised and not encompass the entire affect of implementing such decisions.
- The declining water quality caused by bank erosion and siltation. If the banks were not stabilized, erosion would have continued to decrease water quality and contribute to a loss of fish habitat.
- Ceasing the dumping of yard debris and trash into the greenway by local residents. If the behavior were to continue, it would not only make it aesthetically unpleasant, but dangerous to wildlife and people.
- The removal of invasive non-native plants. Non-native plants were “choking out” native vegetation. Blackberry bushes were spreading out, depleted the habitat and food sources essential to the survival of some animals in the area.

A master plan was created and implemented the following year. The plan included further bank stabilization, improving and creating spillways, devising a dredging plan for sediment removal every few years, and providing paths for pedestrians and bicyclists, and for trucks removing sediment or doing maintenance.

## Benefits

The project had broad-reaching benefits including water quality, wetland, creek and pond enhancements, recreational trail improvements, wildlife habitat improvements, youth development and social skill training, and public education of area residents. The wetlands plantings prevented soil movement and filtered nutrients, toxins and sediments before the water enters the lake and continues toward Johnson Creek. The boardwalk allows for non-obtrusive wildlife viewing. Portland State University students prepared interpretive information about native flora and fauna. Monitoring regimes both in water quality and botanical information provide local high school students with hands-on data collection methods that can be used by the city of Gresham.

## Budget

Proposed – \$43,488

Actual – \$38,426

Metro/US Fish and Wildlife grant award – \$7,500

## Helpful hints – what worked, what didn't

- Long-term broad-scope master plan, segmented into short-term projects.
- “Publics” involvement: neighbors, schools, agencies, staff, not-for-profit group
- Leverage resources: cash, supplies, rentals, materials, time
- Ongoing monitoring by agency and “publics”
- Market, market, market
- Begin project mobilization early
- Plan extra site projects in case of accelerated project scheduling
- Track expenses routinely to expedite project close-out

## Timeline and tasks

October 1992; January, April 1993 .....	Water-quality retesting, Centennial High School
October 1992; January, April 1993 .....	Plant inventory, Gresham High School
November 1992 .....	Replacement of low-flow inlet structure and other water structures; grading of sediment basin and swale; reconstruction of path and turnaround; planting wetland edge; hydroseed bank and swale
December 1992 .....	Construct boardwalk; install and relocate lights; import boulders to form retaining wall
January 1993 .....	Install interpretative sign
March 1993 .....	Plant upland on west

## Partners

City of Gresham Parks and Recreation  
 Soil and Water Conservation District  
 Oregon Youth Conservation Corps  
 Southwest Gresham Neighborhood Association  
 Centennial High School Biology Department  
 Oregon Department of Agriculture  
 Friends of Trees  
 Gresham High School Biology Department  
 Urban Streams Council  
 Eagle Scout Troop 544  
 Leach Botanical Garden

## Contact

Lora Price, city of Gresham Parks and Recreation Division, 618-2531

# Binford Lake – Butler Creek Greenway

in Gresham, off Southeast 190th Avenue and Binford Lake Parkway



**AFTER**  
*Bank is stabilized with native plants*



**BEFORE**

*Binford lake was dredged during construction of the viewing area. Notice the accumulated sediment at the south end.*

- Returning the primary flow of the lake to the original stream channel and increasing the lake’s flood storage capacity by lowering lake level.
- Removing accumulated sediment at south end of lake.
- Creating islands for waterfowl habitat.
- Diverting medium flows from the creek channel through a wetland diversion course to trap sediment and filter pollutants.
- Establishing wetland plants and riparian shrubs along the water quality pond, wetland swale and the lake’s edge. Plant native shrubs and trees on the upland bank to provide additional shade and buffer.

This project was a joint venture of the city of Gresham’s Stormwater and Parks divisions. The project embodies joint goals of addressing increased runoff, impacts caused by higher density development in the watershed. The project also included enhancing Binford Lake as a natural resources and recreational resource by improving water quality, expanding and enhancing wildlife habitat and improving wildlife viewing access.

Components of the project include:

- Stabilizing an eroded spillway downstream from the lake.

**Benefits**

Natural resources were enhanced overall by improving water quality and wildlife habitats, reducing flooding and erosion hazards, and increasing public awareness and enjoyment of the greenway.

The water quality was improved by removing sediment from the lake. An area of the lake was designed to collect and contain sediment for future removal. The water quality pond and a wetland swale to filter pollutants from water before it enters the lake were also constructed.

Wildlife habitat was expanded and diversified by the creation of islands and the wetland swale and water

quality pond. Twenty-four species of native wetland plants and shrubs were planted. The flooding and erosion hazard was reduced by returning the lake flow to the original channel and by reinforcing the high-water spillway channel.

## Budget

Proposed – \$192,166

Actual – \$189,422

Metro/US Fish and Wildlife grant award – \$17,500

## Helpful hints – what worked, what didn't

### Earthwork

- The earthwork for this project required substantial adjustment in the fields, with the grading plan serving more as a guide than an absolute measure. This requires a contractor who communicates well and can adjust to the needs of the project.
- A number of existing trees were saved by adjusting the configuration of the water quality pond and swale.
- The contractor also added a substantial base of rock beneath each of the viewing areas before filling because the gradient of the lake bottom was much steeper than the survey indicated.

### Plants and planting

- The timing for planting wetland plants and shrubs worked well.
- The use of bare root stock also worked well.
- The protective fence is a reasonable deterrent to foot traffic along the lake edge.
- The major impediment to the successful establishment of trees, shrubs and wetland plants was and is persistent vandalism and general bike and foot traffic.
- Foot and bike traffic has become a problem on wildlife islands and shallow water areas.
- Larger plants would be less likely to be trampled.
- Relocating the ducks prior to planting would have increased the success of the wetland plants. However, this would have been a very contentious issue with the community since they are almost all wild ducks.

## Timeline and tasks

June 1993 .....	Finalize permit conditions
July 1, 1993 .....	Contract bidding and selection
Aug. 12, 1993 .....	Start of construction
Aug. 16, 1993 .....	Erosion control measures
Aug. 25, 1993 .....	Transplant existing shrubs
Sept. 20, 1993 .....	In-stream construction
Oct. 8, 1993 .....	Construction of protective fence
Oct. 15, 1993 .....	Hydroseeding of project area
Oct. 26, 1993 .....	Wetland planting
Nov. 4, 1993 .....	Educational outreach at Centennial High School
Nov. 20, 1993 .....	Bareroot tree and shrub planting
Dec. 10, 1993 .....	Erosion control measures
May 25, 1994 .....	Complete irrigation installation
June 2, 1994 .....	Wetland plants and shrub planting
June 4, 1994 .....	Planting and plant maintenance
June 29, 1994 .....	Transplant willows and cattails
Monthly .....	Water-quality testing
Ongoing .....	Monitoring and maintenance

## Partners

Walker & Macy Landscape Architects

Oakley Engineering

Brant Construction, Inc.

Centennial High School biology and leadership classes

Boy Scout Troops 760 and 160

Southwest Gresham Neighborhood Association

## Contact

Lora Price, city of Gresham, 618-2659