

CLEAN WATER SERVICES

Fernhill South Wetlands Natural Treatment System

Forest Grove, Oregon



"Fernhill represents the very essence of Clean Water Services, where we couple the power of Mother Nature with technology in partnership with others to create elegant and beautiful water solutions."

— Diane Taniguchi-Dennis, Deputy General Manager, Clean Water Services

When Clean Water Services (CWS), an Oregon utility, wanted to restore three former sewage lagoons associated with the Forest Grove Wastewater Treatment facility, they turned to Biohabitats to lead the design team. Though the ponds were occasionally visited for wildlife viewing, they held untapped ecological and recreational potential. Biohabitats' design transformed the lagoons into a rich, 90-acre mosaic of riparian wetlands that provide natural wastewater treatment while also

enhancing ecological function and recreational and educational opportunities along the Tualatin River floodplain.

The restoration first involved draining the lagoons, drying more than 200,000 cubic yards of soil, and moving the soil to create precise contours and depths. Control structures were strategically placed to encourage the growth and establishment of 750,000 native wetland plants and 3.5 billion seeds that were planted for water quality and habitat. 180 logs and snags

Former sewage lagoons are converted into a valuable resource that provides wildlife habitat and recreational opportunities as it cools and cleans water that is discharged into the Tualatin River.

were anchored into place to provide wildlife habitat.

The diverse habitats created by the restoration include open water, mudflat, emergent marsh, scrub-shrub, and upland areas that support wildlife. The enhanced habitat for waterfowl and shorebirds, has helped make the wetlands an important stopover site in the Pacific Flyway. Birds and wildlife have taken to the site, and human visitors are flocking to enjoy trail improvements, new outdoor classroom areas and views of the emerging wetlands.

In terms of water quality, the wetlands reduce the temperature of the treated wastewater flowing into the Tualatin River, and serve to regenerate the complex systems of life and nutrients that exist in healthy waters. The treatment facility will treat 5-18 million gallons per day throughout the

year. The project accommodates diurnal and seasonal variation in wetland system giving flexibility to provide important ecosystem functions. Wetland hydraulic control structures provide the CWS with the ability to manipulate water levels in the wetland cells to more closely mimic typical seasonal variations.

By creating a wetland system that provides benefits in water quality, wildlife habitat, recreation, and education, CWS and Biohabitats are making a long-term investment in the health and resilience of the Tualatin River.

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