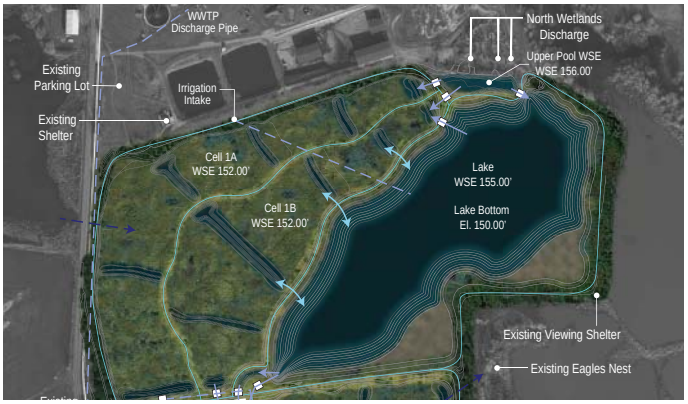
CLEAN WATER SERVICES

Fernhill South Wetlands

Forest Grove, Oregon



Detail of the restoration plan

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.

When Clean Water Services (the District), an Oregon utility service, wanted to restore a series of three former sewage lagoons associated with the Forest Grove Wastewater Treatment facility, they turned to Biohabitats to lead the design team. Though members of the local community sometimes visited the ponds to view wildlife, the area held ecological and recreational potential that was not being met.

The restoration will create a rich mosaic of riparian wetlands that will improve the ecological function of this section of the Tualatin River floodplain. In the place of the three sewage lagoons, Biohabitats created a natural treatment system that includes emergent woody and herbaceous wetland cells and an open water pond. The diverse habitats include open water, mudflat, emergent marsh, scrub-shrub, and upland areas that will support wildlife, provide recreational functions, and create educational opportunities. Biohabitats' design will also enhance the area's habitat for waterfowl and shorebirds, making the wetlands an important stopover site in the Pacific Flyway.

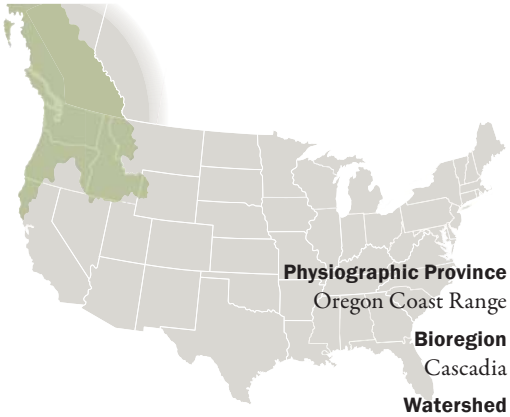
In terms of water quality, the wetlands will reduce the temperature of the treated wastewater flowing into the Tualatin River, and serve to regenerate the complex systems of life and nutrients that exist in healthy waters. Once operational, the treatment facility is expected to treat 5-18 million gallons per day throughout the year. The design had to accommodate the diurnal variation in the discharge of treated water into the wetland system, a response to variations in the rate of delivery. This presented both opportunities and challenges for the wetland system, because the hydrology does not conform to typical seasonal variations in flow in a natural stream or wetland, and it may not always be feasible to incorporate the seasonal dry period that provides important ecosystem functions. However, a system of hydraulic control structures is included in the design to provide District staff the ability to manipulate water levels in the wetland cells to more closely mimic typical seasonal variations.

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

SERVICES

Inventory & Assessments
Design
Permitting
Construction Management
Management
Public Outreach

conservation planning
ecological restoration
regenerative design



Physiographic Province
Oregon Coast Range

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Watershed
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