

West Sand Island Restoration

Mouth of the Columbia River, Oregon



from top: Initial conditions; Assessing the site

With over 500 acres of intertidal and upland habitat, Oregon’s West Sand Island, located at the mouth of the Columbia River, is a crucial location for migrating salmonids and avian communities. Though geographically situated to provide habitat for 13 threatened and endangered salmon and steelhead species, its potential was not being realized because of hydrology altered to support the island’s previous use as a dredge disposal site.

Berms, constructed to contain dredge spoils, were preventing tidal inundation at base tide levels. Invasive species such as gorse (*Ulex europaeus*) were degrading wetland and upland habitat by threatening sensitive prairies and marsh.

Biohabitats collaborated with the Columbia River Estuary Task Force (CREST) to examine the feasibility of restoring fish and wildlife access and habitat through increasing inundation, enhancing and

A restoration feasibility study guides the restoration of critical habitat for migrating salmonids and avian communities on a 600-acre island at the mouth of the Columbia River.

managing native vegetation communities, and increasing the resilience of tidal habitats to climate change.

After leading a topographic survey and hydraulic analysis, Biohabitats developed four restoration alternatives to increase connectivity to the interior floodplain habitats through a combination of full and partial berm removal and interior channel creation, and provided a constructability review and cost estimate for each. Biohabitats then developed full design documents for the preferred alternative, which involved full berm removal, tidal channel excavation and floodplain reconnection, and invasive species management and long-term revegetation design strategies. Biohabitats supported CREST by collaborating with key stakeholders,

like USACE, to identify risks and appropriate design strategies, including minimizing disruption. Further, Biohabitats developed calculations and permitting materials to comply with Oregon’s Removal-Fill laws. The geographic location of an island at the mouth of the mighty Columbia River forced the team to consider advanced constructability means and methods that included using barges and boats to get equipment and staff to and from the project site.

The restoration builds upon CREST’s improvements to the ecology of the Columbia River Estuary.

SERVICES

- Inventory & Assessments
- Design
- Management
- Permitting

conservation planning
ecological restoration
regenerative design



800.220.0919
www.biohabitats.com

