



Deschutes River Estuary

The Deschutes River Estuary is located in the City of Olympia in southern Puget Sound. Known locally as Capitol Lake, the mouth of the river was dammed in 1951 to create a freshwater reflecting pool below the Washington State Capitol campus. Compared to the historical estuary, the current lake contains more sediment resulting from a lack of tidal exchange, has a developed shoreline with sparse riparian, and the 5th Avenue dam is a barrier to migrating salmon. Historical mudflats and intertidal habitat have disappeared due to manipulation of water levels and the construction of roadways, a railroad, and municipal marina. The proposed restoration would restore tidal processes in the estuary by removing the dam and replacing it with a new bridge along 5th Avenue. Some of the accumulated sediment in the lake basin would be dredged prior to dam removal to reduce downstream impacts and used to build up areas along the western shoreline to restore intertidal habitat, including saltmarsh and riparian vegetation corridors.



IMAGE: Washington State Department of Ecology (2006)

Processes Restored

- Natural formation of tidal channels in estuaries.
- Unrestricted flow of freshwater rivers and streams into estuaries.
- Unrestricted movement of saltwater through tidal channels in estuaries.
- Accumulation and retention of organic material from fish and wildlife.
- Unrestricted movement and migration of plants and animals.

Conditions Improved

- Restored large river delta that provides valuable nursery habitat for threatened species of juvenile salmon such as Chinook, increasing their survival and supporting population recovery in Puget Sound.
- Re-established intertidal and shallow subtidal areas to encourage the growth of kelp and eelgrass, increasing nearshore productivity for fish, birds and other marine species.
- Improved quality of the water flowing through the estuary.
- Improved resiliency of the shoreline to respond to changes in the environment such as rising sea levels and increasing frequency of storm events.
- Improved public access to the shore and recreational opportunities.



Image above depicts major project features. See design report for additional details.

SOURCE: ESA (2011); (20)

Key Design Elements

The restoration proposal would include dredging portions of the lakebed and removal of the 5th Avenue dam. Dredged material would be used to create intertidal habitat along the western side of the estuary. A 500-foot-long bridge would be constructed in the location of the removed dam that would span the entire estuary mouth allowing unrestricted tidal exchange between Budd Inlet and the estuary basins. Existing roadways, including Deschutes Parkway, and bridge crossings, including I-5, would be reinforced to address potential scouring from restored tidal exchange. This proposal would also include realignment of stormwater outfalls and reinforcement of concrete structures to maintain the integrity of existing infrastructure along the shoreline of a restored estuary.

Site Summary Statistics

- Area of Restored Process: 275 acres
- Total Project Cost: \$177.5 million

For more detailed information regarding this conceptual design, please visit our website at www.pugetsoundnearshore.org/cdr.html.