



Duckabush River Estuary

The Duckabush River is one of several major river systems that drain the east slopes of the Olympic Mountains to Hood Canal. The broad estuary contains salt marshes, eelgrass beds, and extensive mud and gravel flats that are productive shellfish beds. The Duckabush Estuary is also home to harbor seals, bald eagles, and regionally significant winter waterfowl. Constructed in 1934, Highway 101 cuts across the intertidal river delta and estuary wetland complex. This roadway and other surface streets accessing residential areas (Duckabush and Shorewood Roads) severely affect tidal exchange, sediment transport, and estuary development. The proposed restoration would reconnect the river to its floodplain and intertidal wetlands by removing and bridging existing surface streets and elevating Highway 101 onto a bridge.



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 plants and aquatic animals.
- Unrestricted movement and migration of fish and wildlife.

Conditions Improved

- Restored tidal wetlands, which are highly productive habitats that support biodiversity and provide connectivity between the land and sea.
- 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.
- Restored intertidal and shallow subtidal areas that are habitat for recreationally and culturally important shellfish such as oysters, mussels, and clams.
- Improved quality of the water flowing through the estuary.
- Improved connectivity between nearshore and adjacent uplands.

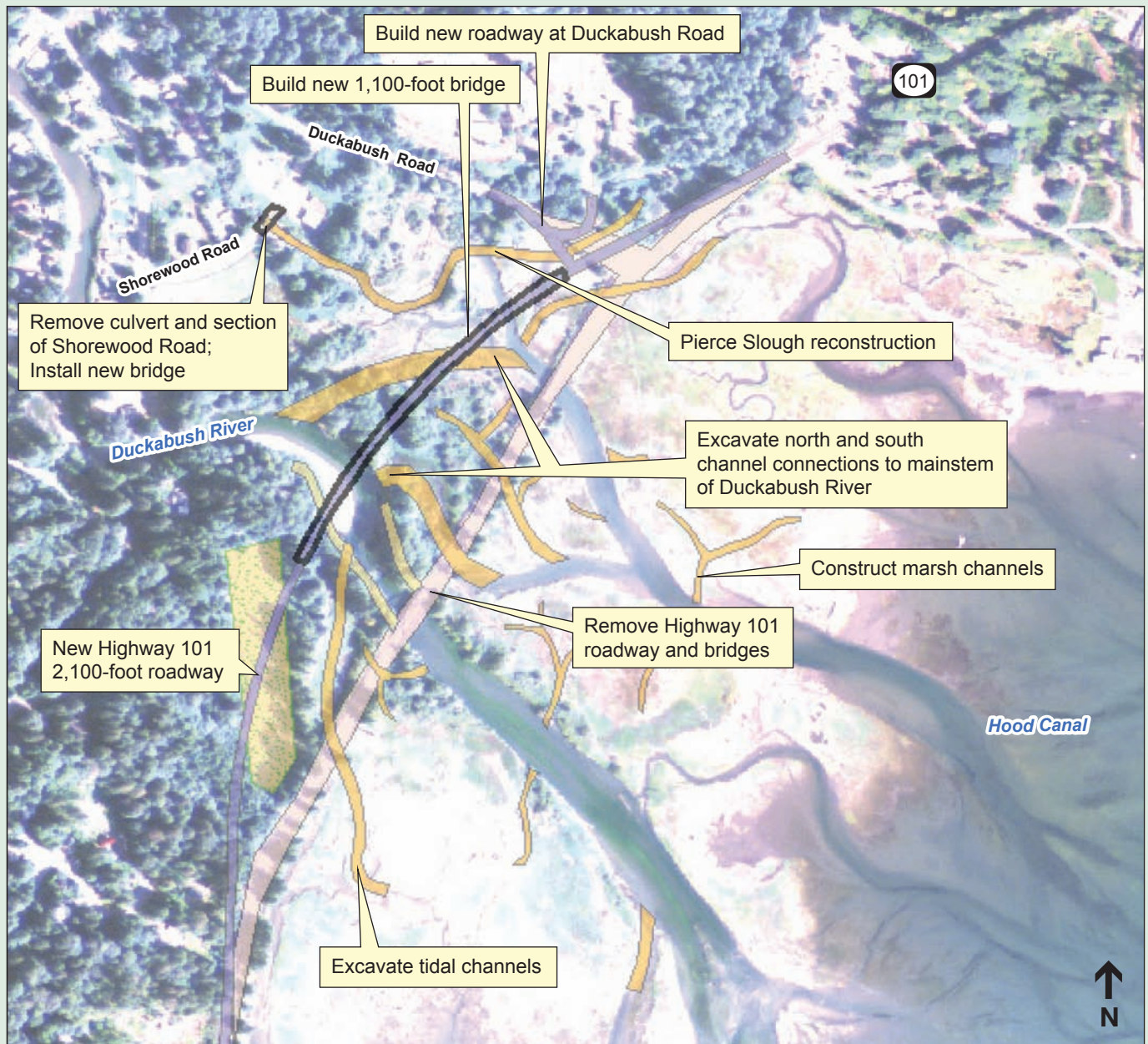


Image above depicts major project features. See design report for additional details.

SOURCE: ESA (2011); (20)

Key Design Elements

The restoration proposal would include the removal of the Highway 101 causeway and bridges across the estuary. An elevated roadway on a 1,100-foot-long bridge would be constructed in a new alignment further upstream from the existing highway. Duckabush Road would be realigned to connect with the new highway bridge and would be elevated to allow for tidal connection to the marsh to the northwest. A 70-foot-long section of Shorewood Road and associated culvert would be replaced with a bridge to allow for restoration of Pierce Slough. Berms along the river would be removed to restore channel migration and channels would be excavated at or near their historical configurations which would reestablish tidal and freshwater connections throughout the estuary.

Site Summary Statistics

- Area of Restored Process: 38 acres
- Total Project Cost: \$58.4 million

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