



# Dugualla Bay

Dugualla Bay is located on the northeast side of Whidbey Island within the western portion of Skagit Bay. Upstream of the bay, Dugualla Lake was historically a large estuary and salt marsh system that was connected to Dugualla Bay. To create agricultural land, a dike and tide gate system was constructed at the inlet to Dugualla Lake around 1918. This eliminated tidal inundation into the lake and changed Dugualla Lake into a freshwater lake and marsh. Today, a pumping system controls water levels in the lake in order to limit waterfowl use, which poses a risk to low-flying jets approaching Whidbey Naval Air Station (NAS) Ault Field. The restoration would return tidal inundation to Dugualla Lake and restore the historic saltwater marsh and tidal channels. It would also create intertidal mudflats in Dugualla Bay to support eelgrass, herring, and juvenile salmon habitat in Skagit Bay.



IMAGE: Washington State Department of Ecology (2006)

## Processes Restored

- Movement of sand and gravel along shorelines.
- Natural erosion and accretion of beaches.
- Natural formation of tidal channels in estuaries.
- Unrestricted movement of saltwater through tidal channels in estuaries.
- Unrestricted movement and migration of fish and wildlife.
- Natural exposure to wind and wave action.

## Conditions Improved

- Restored coastal embayment 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.
- Increased area, length, and complexity of shoreline.



SOURCE: ESA (2011); USDA-NAIP (2009)

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

### Key Design Elements

The restoration would return historic tidal inundation to Dugualla Bay through the partial removal of Dike Road between Frostad Road and Frost Lane. The tide gate and pumping system would be removed and a starter channel would be excavated to allow tidal flow into the lake. Two barrier beaches that historically defined the tidal channel entrance would be created. A 750-foot-long bridge would span the opening, allowing continued vehicle passage along Dike Road. Portions of the road would be raised to elevate the roadway out of the newly inundated floodplain. A culvert under State Route 20 would be replaced with a 200-foot-long bridge. Private property and agricultural lands around Dugualla Lake and west of State Route 20 would be purchased.

### Site Summary Statistics

- Area of Restored Process: 572 acres
- Total Project Cost: \$72.3 million

*For more detailed information regarding this conceptual design, please visit our website at [www.pugetsoundnearshore.org/cdr.html](http://www.pugetsoundnearshore.org/cdr.html).*