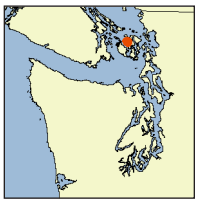


PUGET SOUND NEARSHORE ECOSYSTEM RESTORATION PROJECT (PSNERP)
POTENTIAL RESTORATION SITES

Deer Harbor Estuary

PUGET SOUND NEARSHORE ECOSYSTEM RESTORATION PROJECT

Deer Harbor contains the largest estuary on Orcas Island, which is part of the San Juan Archipelago of northern Puget Sound. Tidal flushing from Deer Harbor is constricted by fill and shoreline armoring associated with the Channel Road and bridge. Due to the reduced flushing of the estuary during tidal cycles, the inlet has become filled with sediment and water temperatures have increased. The estuary once supported native oysters, crab, and shiner perch, but due to land development activities in the watershed and the construction of the Channel Road bridge, only a small number of salmon and other native fish species currently use the estuary. The proposed restoration would replace the existing bridge with a longer span that would extend the entire mouth of the inlet, which would allow full tidal flushing throughout the estuary.

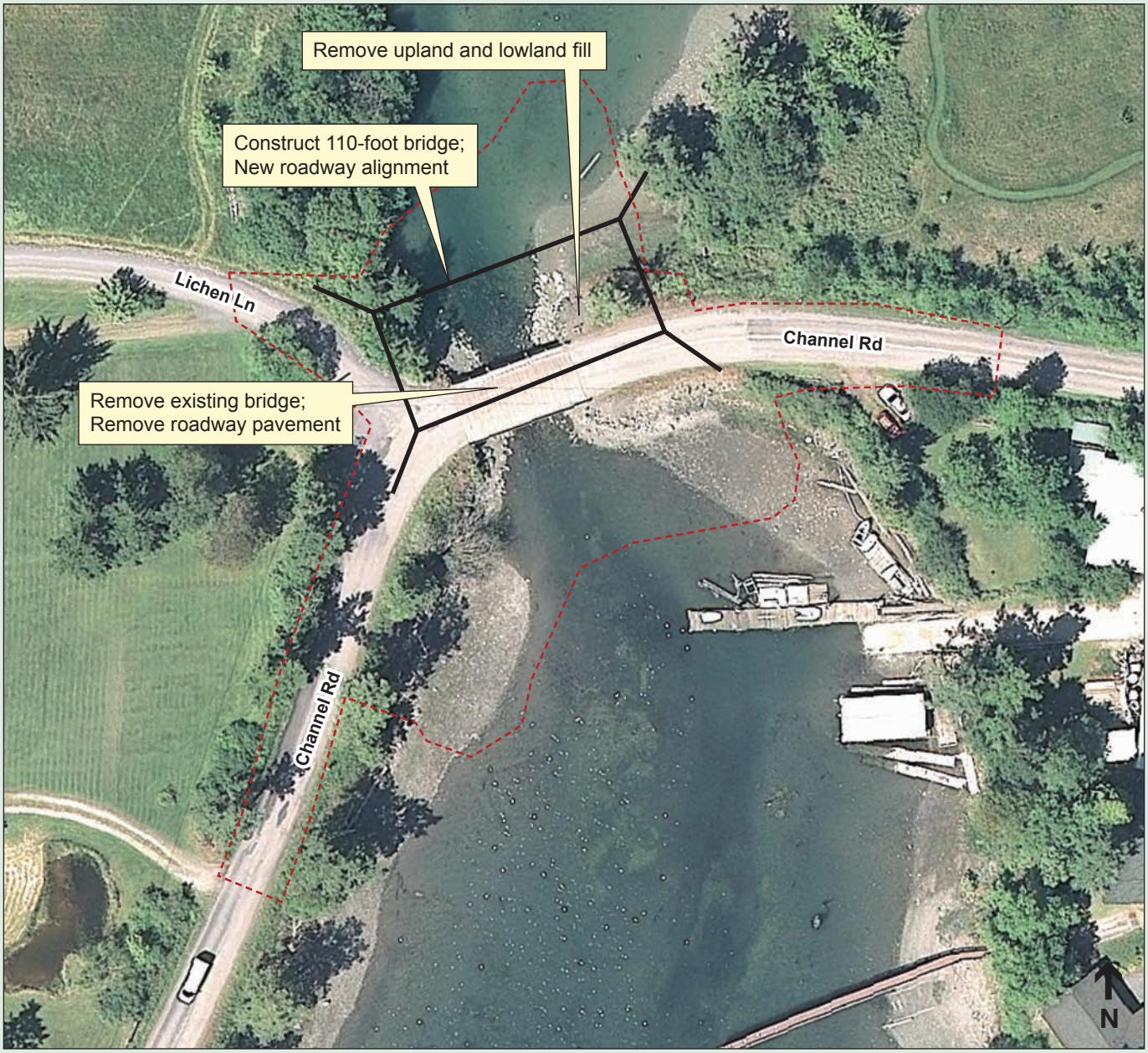
IMAGE: Google Earth (2011)

Processes Restored

- Natural formation of tidal channels in 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 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.
- 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.



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

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

Key Design Elements

The restoration would restore the estuary opening to pre-development conditions. It would entail removal of the existing 50-foot timber Channel Road bridge as well as removal of fill and riprap under the bridge. A new 110-foot-long bridge would be constructed across the opening of the estuary allowing complete tidal exchange, sediment supply and transport, and natural tidal channel formation.

Site Summary Statistics

- Area of Restored Process: 16 acres
- Total Project Cost: $6.7 million

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