



Carpenter Creek Estuary Restoration Project

ABSTRACT

Located where the Carpenter Creek Estuary drains into Puget Sound near Kingston, WA, a diverse 30-acre estuarine ecosystem was blocked by a 10-foot wide box culvert. To restore the ecosystem's natural flow, federal, state, tribal, local governments, and Stillwaters Environmental Center joined together to remove the culvert and help restore the environment back to its natural state.



OBJECTIVES

- Restore natural tidal hydrology
- Reclaim historical intertidal habitat
- Remove fish passage barriers
- Reduce problems of sediment scour and deposition
- Reduce habitat fragmentation of shoreline/upstream

BACKGROUND

The Carpenter Creek Estuary is a major migratory route for Chinook, Chum, Coho, and Sea-run Cutthroat Trout, and key habitat for migrating birds, insects, and invertebrates.



The culvert located under S. Kingston Road at the mouth of the estuary was disrupting these migrations and creating large, deep scour holes which trapped young fish making them easy prey.



In June 2011, after 11 years of planning, construction started to remove the culvert and build the new bridge, the Stillwaters Fish Passage. Once construction was complete,



monitoring started and continues to assess habitat restoration success.

RESULTS



The 90-foot single span bridge restored natural tidal flow, and the Carpenter Creek Estuary restoration continues. Removing the scour holes made fish less vulnerable to predators, allowing fish and invertebrates to move into and out of the 30-acre forested estuary habitat with ease.



WHAT NOW?

Each month data is collected to determine the effects of replacing the culvert with the new bridge.

Phase II of restoration includes removal of a 5-foot culvert on W. Kingston, also replacing it with a bridge.