

## **Puget Sound Recovery: Partnering with Federal, State, and Tribal Governments on Fish Passage and Nearshore Restoration on Multiple-Benefit Projects**

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The Seattle District USACE is effective in coalition building to support large-scale ecosystem restoration projects with multiple benefits in Puget Sound. Many of these projects focus on restoring habitats for ESA-listed salmon species, which thereby benefits the ESA-listed Southern Resident killer whales that prey on salmon. Challenges include working in the transportation arena, which is not a USACE mission, and developing unique engineering solutions that are still in research and design. Two case studies for projects with multiple benefits and challenges are the Duckabush Estuary causeway replacement and the Howard Hanson Dam downstream juvenile fish passage facility.

The Duckabush Estuary aquatic ecosystem restoration project involves removing two bridges and substantial fill across the mouth of the river and replacing a segment of State Route 101 with an elevated bridge. This ecosystem restoration project will open a free-flowing river outlet and tidal channels, restoring tidal wetlands and estuarine mixing habitats for greater biological diversity including ESA-listed salmon. The project benefits transportation by replacing nearly 100-year-old bridges. Partners include WDFW and WSDOT, and coordination with the Skokomish Indian Tribe due to interests in shellfish harvesting at this location.

Howard Hanson Dam provides flood risk management to Seattle and King County, Washington and provides additional municipal and industrial water supply for Tacoma. The USACE will construct a downstream fish passage facility at this high head dam in partnership with Tacoma Public Utilities who has already constructed the upstream adult fish passage facility. Coordination includes working with the Muckleshoot Indian Tribe to support salmon resources in their Usual & Accustomed fishing areas and to ensure maintenance of Tribal Treaty Rights. The USACE is also collaborating with a technical working group to include biologists and engineers within NOAA Fisheries, WDFW, and King County.

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