

# Cattail Lake Restoration: From Freshwater Lake to Tidal Estuary

## Naval Base Kitsap-Bangor Takes Action to Enhance Salmon Habitat

**FOR OVER 60** years, Cattail Lake has been a part of Naval Base Kitsap-Bangor in Washington State. But the 8-acre freshwater lake was actually created shortly before the Navy came to the area. Prior to the early 1950s, a road was built across the mouth of Cattail Creek estuary along the Hood Canal, thereby eliminating the estuary and preventing salmon from migrating up the creek to spawn.

Many Navy families have enjoyed Cattail Lake over the years. Fishing platforms and hiking trails were built, and bird watchers were attracted to the numerous freshwater and saltwater bird populations in the area, including osprey, great blue heron and bald eagles.

The idea of turning Cattail Lake back to its original state was devised as a mitigation measure. A construction project elsewhere on base resulted in the loss of wetland habitat. To offset this loss, the plan to restore tidal influence to the former estuary was hatched.

The restoration plan consists of converting eight acres of freshwater lake habitat to two acres of intertidal saltwater estuary and six acres of upland freshwater forest/shrub, riparian forest, and upland habitats. It also includes restoring another five upstream acres to wetland and upland riparian forests.



Naval Base Kitsap-Bangor is a U.S. Navy base located on the Kitsap Peninsula. The mission of Naval Base Kitsap-Bangor is to serve as the host command for the Navy's fleet throughout West Puget Sound and to provide base operating services, including support for both surface ships and submarines homeported at Bremerton and Bangor.



Cattail Lake before restoration work began in 2011. The lake looking north towards Cattail Creek (left) and the north end berm of Cattail Lake (right). Just beyond lie the tidal flats and waters of the Hood Canal in Puget Sound.

*David Grant*

### Progress to Date

The road and culverts across the mouth of the lake have been removed and a new 150-foot free-span bridge has been constructed to restore the flow of water between Cattail Creek and Hood Canal. A temporary sheet pile and silt retaining wall was installed to hold back stream flow and allow for the bridge and causeway construction. The

lake has been drained and the planting of native trees and shrubs has been completed.

Construction was scheduled to be completed and the temporary retaining wall removed in the autumn of this year, but workers found a Native American shell midden (mound of shell refuse) in the construction site. An archaeological investigation of the site is underway and the project



Ongoing restoration of Cattail Creek estuary from the de-watered Cattail Lake bed looking north towards the Hood Canal.

*David Grant*



Cattail estuary in July 2012 after re-vegetation (left) and new bridge construction (right) with the silt fence and sheet pile wall that will be removed once the archeological investigations are complete.

Allison Walters

## The Original Inhabitants of Cattail Lake

**THE CATTAIL LAKE** site is located in the traditional territory of the Twana linguistic and cultural group, although the vicinity was seasonally utilized by members of the neighboring tribes. The Twana people are also often referred to as the Skokomish, the “river people” (sqoq?bci in the Coast Salish Lushootseed dialect) as they were the largest of nine Twana-speaking groups.

The Twana language group is one of the two major Coast Salish languages in the Puget Sound area, and is one of the major unifying characteristics of the Hood Canal peoples. Rather than a political unit, the bands formed units based on territory and language. No permanent settlements are known to have been located in the direct vicinity of the Cattail Lake site; however, the Hood Canal’s northeastern shoreline reportedly contained numerous tribal camping areas in the summer, particularly during late clam season in August.

will be completed once the investigation has finished.

The site will be monitored for ten years to ensure the native vegetation survives. It is estimated it will take up to ten years for the mitigation site to reach the state of a stable, tidal estuary.

Although opportunities for recreation have decreased slightly due to restoration work, Navy personnel who have access to that part of the base will still be able to hike and enjoy the scenery.

The restoration project was coordinated with the U.S. Army Corps of Engineers, Washington Department of Ecology, and Native American tribes who have Usual and Accustomed fishing grounds in the vicinity.

“The Navy appreciates the collaboration and support from our regulatory partners and the tribes to help us undertake this project that contributes to restoring the health of the beautiful Hood Canal,” said Greg Leicht, the Environmental Director for Naval Base Kitsap-Bangor.

By restoring the tidal estuary, mudflats and tidal wetlands, salmon, shellfish and other species will seek a “new” habitat. The estuary will provide safe refuge and serve as a rearing area for juvenile salmon as they migrate to the sea. The opening of the estuary will also open the creek and the two square miles of watershed to these same salmon who may return to spawn. Tribal biologists estimate the creek may support spawning for up to 300 salmon, which are listed under the Endangered Species Act. Gradually, the mudflat of the former lake will populate with tidal plants, grasses, bushes, willows and native shrubs, augmenting the project plants. The restoration of Cattail Creek and the tidal estuary will benefit both Hood Canal and Puget Sound for years to come. ⚓

---

### CONTACT

Greg Leicht  
Naval Base Kitsap-Bangor  
360-315-5411  
DSN: 322-5411  
gregory.leicht@navy.mil