



Sal Creek Restoration Project

Prince of Wales Island, Alaska



Before restoration, the above portion of Sal Creek was shallow and had no big logs to create deep pools. On the right, a hemlock tree was used to build a log jam to create a more complex habitat. Today, this portion of Sal Creek is deeper, its banks are protected, and deeper pools offer fish habitat. Photos: USFS

Stream Ecosystem Restoration

The Sal Creek watershed is one of the more popular recreational destinations for residents and visitors of Prince of Wales Island due to its well-maintained road access and its proximity to the communities of Thorne Bay and Coffman Cove. The Stream Ecosystem Restoration project on Sal Creek will improve water quality and enhance habitat for Pacific salmon, black bears, Sitka black-tailed deer and bald eagles. This endeavor will protect and improve Sal Creek's recreational value, as well as restore the environment for the resident fish and wildlife species.

Sal Creek

Sal Creek is located on Prince of Wales Island in Southeast Alaska within the Tongass National Forest. The Sal Creek watershed drains about seven square miles and supports more than eight miles of perennial mainstem streams from its headwaters to the estuary. Historically, Sal Creek provided high quality spawning and rearing habitat for coho, pink and chum salmon, as well as steelhead and cutthroat trout, and Dolly Varden char.

As largely unregulated timber harvests in the 1960s grew in scope with 50-year Forest Service contracts, Sal Creek and other watersheds were heavily logged. In many places, conventional harvest practices led to soil disturbance, filling streams with sediment. Over time, red alder began to replace what had been a hemlock forest. While alder contributes nitrogen to the soil, it has little value as in-stream woody debris because it decays rapidly.



Sal Creek watershed on Prince of Wales Island. © Dave Albert/TNC

Fast Facts

The recreational value of the Sal Creek watershed will be enhanced by the restoration of fish production and biodiversity.

Between 1966 and 1971, 33 percent of the timber within the Sal Creek watershed and the entire floodplain was harvested.

The First Large-scale Restoration Project on Sal Creek began in 2006 and continued through the summer of 2007. The project was a cooperative effort of The Nature Conservancy, Trout Unlimited, the U.S. Forest Service and the National Oceanic and Atmospheric Administration. The overall goals of the project were to increase bank stability, improve sediment transport, and promote healthy and stable fish populations. The work involved placing and constructing engineered log jams, large wood and rock structures in Sal Creek.

Ecosystem Benefits and Accomplishments

The two-year restoration project on Sal Creek:

- Placed over 380 young growth trees on nearly five miles of mainstem floodplain stream
- Decommissioned 1.5 miles of logging roads -- some of which were 40 years old
- Thinned over 350 acres of second-growth riparian and upland forest
- Provided 1,680 hours of work for local equipment operators
- Re-established fish access to more than two miles of off-channel rearing habitat
- Removed four log culverts that blocked fish access to one mile of habitat
- Reconnected 23 tributary streams blocked by one mile of abandoned logging road

Social and Economic Benefits

Watershed restoration projects such as this benefit local communities by boosting local employment, involving local people in resource management, and, ultimately, increasing the abundance of the fish and wildlife that are so important to the recreation and subsistence lifestyles of the residents of Prince of Wales Island.



Historical practices such as logging riparian forests led to impaired stream function and reduced diversity of habitat, as in the photo at left. Fallen logs and woody debris, right, create large pools, undercut banks and other cover that provides high quality habitat for salmon. Photos: Scott D. Tiegs



These root wads were placed in the stream channel to stabilize the stream bank and improve fish habitat. Photo: USFS

Working Together

The Sal Creek Watershed Restoration Project was a collaborative effort of The Nature Conservancy, the U.S. Forest Service, Trout Unlimited and the National Oceanic and Atmospheric Administration.

After several years of extensive surveys and evaluation, the team determined that the ecological conditions in Sal Creek would not improve naturally for several decades. So the Thorne Bay Ranger District decided that active restoration of the Sal Creek watershed was warranted and had a good chance of success.

The joint project aimed to redirect and accelerate recovery of riparian, geomorphic, and aquatic processes to ultimately restore fish production and biodiversity within the watershed.

The mission of The Nature Conservancy is to preserve the plants, animals, and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive.



The National Partnership between the NOAA Community-based Restoration Program and The Nature Conservancy implements innovative conservation activities that benefit marine, estuarine and riparian habitats across the United States. The NOAA Restoration Center has worked with community organizations to support locally driven projects that provide strong on-the-ground habitat restoration components that offer educational and social benefits for people and their communities, as well as long-term ecological benefits.

for more information

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