



Alaska's Fish Passage Program

Returning Salmon to Our Streams

The mission of the U.S. Fish and Wildlife Service Fish Passage Program is to restore native fish and other aquatic species by reconnecting habitat that has been fragmented by artificial barriers.

Did you know?

A single fish passage project at the Chatanika River near Fairbanks reopened more than 100 miles of Yukon River tributaries, waters that had been closed to migrating salmon and other fish for three-quarters of a century. Multiple barriers (such as culverts) on a single watershed can ultimately lead to reductions in sport, commercial, and subsistence fishing opportunities. Recent surveys have identified more than 1,000 fish passage barriers in need of immediate restoration in Alaska.



Sockeye salmon spawn in culvert with bottom designed to replicate the natural stream bed. Photo: Neil Stichert.



USFWS photos.

Project Snapshot: Moose Creek Reconstruction

Before and after photos (at left) show this project completed in southcentral Alaska in 2005. Chickaloon Tribal elders provide an oral history of Moose Creek filled with an abundance of five species of salmon. Coal mining and associated railroad building in the early 1900's caused extensive alterations of Moose Creek, re-routing the river and cutting off its meanders. On one of the meander cut-offs, a ten-foot high waterfall was created, completely blocking all access by salmon to miles of upstream river habitat. In partnership with the Service, the Tribe reconstructed a natural river channel and floodplain in the historic meander bend around the waterfall; within days adult Chinook salmon were spawning in more than five miles of high quality habitat upstream.

Alaska's Fundamental Fish

Salmon are essential to Alaska's economy and its social and ecological vitality. Salmon produced in Alaskan rivers support recreational and commercial fisheries valued at hundreds of millions of dollars annually and support the continued vitality of subsistence lifestyles. Salmon also play keystone ecological roles by transporting nutrients from marine to freshwater ecosystems, contributing to the productivity of rivers, lakes, wetlands, and forests. Other habitat losses pose a well-known threat to Alaska's salmon populations, however, man-made barriers that block fish from habitats pose equally serious hazards.

Fish Passage Problems in Alaska

With tens of thousands of spawning streams crisscrossing the 49th state, many in largely undeveloped watersheds, the fact that fish passage could be a significant threat to Alaska's salmon may come as a surprise. However, recent surveys have demonstrated that thousands of culverts – underlying major highways, city streets and forest roads – block fish at a range of water flows and fish life stages. In fast-developing regions such as the Matanuska Valley and the Kenai Peninsula, multiple barriers on single watersheds could contribute to decreased numbers of fish and eventual reductions in angling and subsistence opportunities.

What is the Fish Passage Program?

In Alaska, the Fish Passage Program provides technical assistance and federal funds to partners who wish to remove, replace, or retrofit culverts, weirs, abandoned dams, or other structures that impede fish movement.



The culvert pictured at left, on Widgeon Creek in Dillingham, was perched and undersized. A Fish Passage project replaced this barrier with a bottomless arch culvert (right), ensuring access to 10 miles of historic spawning and rearing habitat for five species of Pacific salmon. USFWS photo.

The program also supports surveys of fish barriers within watersheds. Funds may be used for projects on both public and private lands; cost sharing by partners is encouraged.

Program Accomplishments

Since it was established in Alaska (1999), the Fish Passage Program and its partners have removed 65 barriers to fish across Alaska, opening more than 500 stream miles to salmon, trout, grayling, and other species. Most projects have replaced undersized culverts with larger structures that replicate the streambed within the culvert to allow movement by both adult and juvenile fish.

The Fish Passage program is investing in culvert inventories and fish passage assessment state-wide. We have worked in partnership with state and local governments and local watershed groups to identify and evaluate over 1,100 stream crossing structures along thousands of miles of Alaska salmon streams. By completing an inventory we can prioritize the most ecologically important projects and implement these improvements first.



Removal of a dam (upper photo) on the Chatanika River east of Fairbanks, which had been in place since 1926 and abandoned for decades, opened more than 100 miles of Yukon River tributaries to the free movement of salmon and resident fish (lower photo). USFWS photos.

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