U.S. Fish & Wildlife Service

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 in 2002 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 poorly designed 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.

Dead salmon fingerlings that failed to pass an improperly seated culvert. USFWS photo.

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.

Habitat loss, overexploitation, and introduction of non-native species pose well-known threats to Alaska's salmon populations. However, artificial barriers that block fish from essential freshwater 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 trails – block fish. On the Tongass National Forest alone, more than 700 culverts may restrict salmon from their traditional spawning or rearing waters. In fast-developing regions such as the Matanuska Valley and the Kenai Peninsula, multiple barriers on single watersheds could contribute to decreased escapements and eventual reductions in angling and subsistence opportunities.

Fortunately, local, state and federal agencies are becoming increasingly aware of the threats that improperly-designed culverts pose to salmon. New structures are generally being designed to ensure passage for all species and all life stages. The Fish Passage Program is an important cooperative effort to correct existing fish passage problems.

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

The removal of this abandoned dam on the Chatanika River near Fairbanks has re-opened more than 100 miles of fish habitat. USFWS photo.

Program Accomplishments

Since it was established in 1999, the Fish Passage Program and its partners have removed 44 barriers to anadromous fish across Alaska, opening more than 340 stream miles to salmon, trout, grayling, and other species. Most projects have replaced poorly-designed or undersized culverts with larger structures that allow movement by both adult and juvenile fish.

For example, a failed culvert on Cottonwood Creek in the Matanuska Valley was replaced with a footbridge. This simple project resulted in almost immediate use by adult salmon, and also improved safety for elementary schoolchildren who cross the creek daily.

Other projects have been larger, more expensive, and more complex. On Badger Slough near Fairbanks, a bermed stream crossing had blocked fish migration for decades. Our biologists contributed Service funds and technical assistance to the collaborative project, which replaced the berm with a timber bridge, providing safe passage for fish and vehicles at a fraction of anticipated costs.

Still other projects produce results that affect broad watersheds. The January, 2002, removal of a dam 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.

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

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