



U.S. Fish & Wildlife Service

Durham Dam Removal

114 Miles of Steelhead Habitat Re-Opened

Project Location: Yakima Indian Reservation
Miles of Fish Passage Re-opened: 114
Habitat Benefits: 1 barrier removed, re-opening 114 miles of fish passage
Species Benefitted: Steelhead, coho and Chinook salmon, Pacific lamprey



Durham Dam Removal and Fish Passage Project Area

Toppenish Creek Fish Habitat Restored

For almost an entire century in the Yakima River Basin, Durham Dam severely restricted upstream passage for steelhead and other species to Toppenish Creek and its tributaries. However, in September 2012, this fish passage barrier was removed, re-opening 114 miles of habitat, enhancing passage for native fish, and restoring natural flows. This achievement came about thanks to the Yakama Nation Fisheries Program, Bonneville Power Administration, U.S. Fish and Wildlife Service, and other partners.

Before dam removal, boggy, warm water wetlands filled the area. Now, along with reopening 114 miles, an additional four acres of floodplain and one-third miles of instream and riparian habitat has also been restored.

Removing an Obsolete Barrier

Durham Dam's irrigation structure was obsolete and unused, and local landowners supported its removal. The Dam's removal became a top priority to help recover Mid-Columbia Steelhead, a species listed as Threatened under the Endangered Species Act and considered a priority in the Toppenish Watershed Plan, Mid-Columbia Steelhead Recovery Plan, and numerous other plans.

Steelhead Benefit from Restoration

The largest naturally-reproducing populations of steelhead in the Yakima River Basin call Toppenish and nearby Satus creeks home. The project provides steelhead and other salmon species with greater amounts of habitat for adults to spawn and juvenile fish to grow. Pacific Lamprey, a culturally important species to the Yakama Nation, and other resident aquatic species will also benefit from increased habitat access and improved water quality.



Fish like this juvenile steelhead will benefit from Durham Dam's removal. Credit: Paul Kaiser/USFWS

Build It and They Will Come

Over several months, biologists and contractors worked to improve habitat in Toppenish Creek in preparation for dam removal. They removed the abandoned irrigation diversion and re-constructed stream banks using large woody debris in conjunction with fabric encapsulated soil lifts. The team



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also installed a riffle to provide resting areas for migrating fish, removed a road embankment, and re-vegetated disturbed areas with native plants to match adjacent flood plain surfaces. All these effort are intended to re-establish instream hydrology and riparian habitat better suited for native fish.



The former Durham Dam site now includes more native vegetation and newly-created in-stream riffle and pool areas designed to benefit native fish Yakama Nation

Progress, Progress, Progress

How will scientists measure the benefits of Durham Dam's removal? In 2011, an in-stream Passive Integrated Tag scanner was installed near the mouth of Toppenish Creek. This will estimate the number of adult steelhead entering the Creek, allowing biologists to compare passage before and after Durham Dam's removal. In addition, ongoing telemetry studies monitor steelhead movements throughout the Yakima River Basin. The studies will provide insight into adult movement and behavior within the project area after dam removal. Additionally, annual snorkel surveys at sites in Toppenish Creek will estimate the density and abundance of juvenile steelhead. Scientists also placed automatic temperature monitors throughout Toppenish Creek, including a site just downstream of the project area. These efforts will help document changes to the landscape over time, as well as quantify the impacts dam removal has on Toppenish Creek's species.

Stages of Removal



Before deconstruction. USFWS



Completed dam removal project. USFWS

"The Durham dam removal is a great stride in improving fish passage and is critical to ensuring that Middle Columbia River Steelhead are able to migrate to crucial spawning habitat.

The Yakama Nation values our partnership with the FWS and the NFPP has provided resources needed to implement this important passage project that supports fish habitat restoration within the Yakama Reservation."

**–Shannon Adams, Yakama Nation Member,
Yakama Reservation Watershed Project Leader.**



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