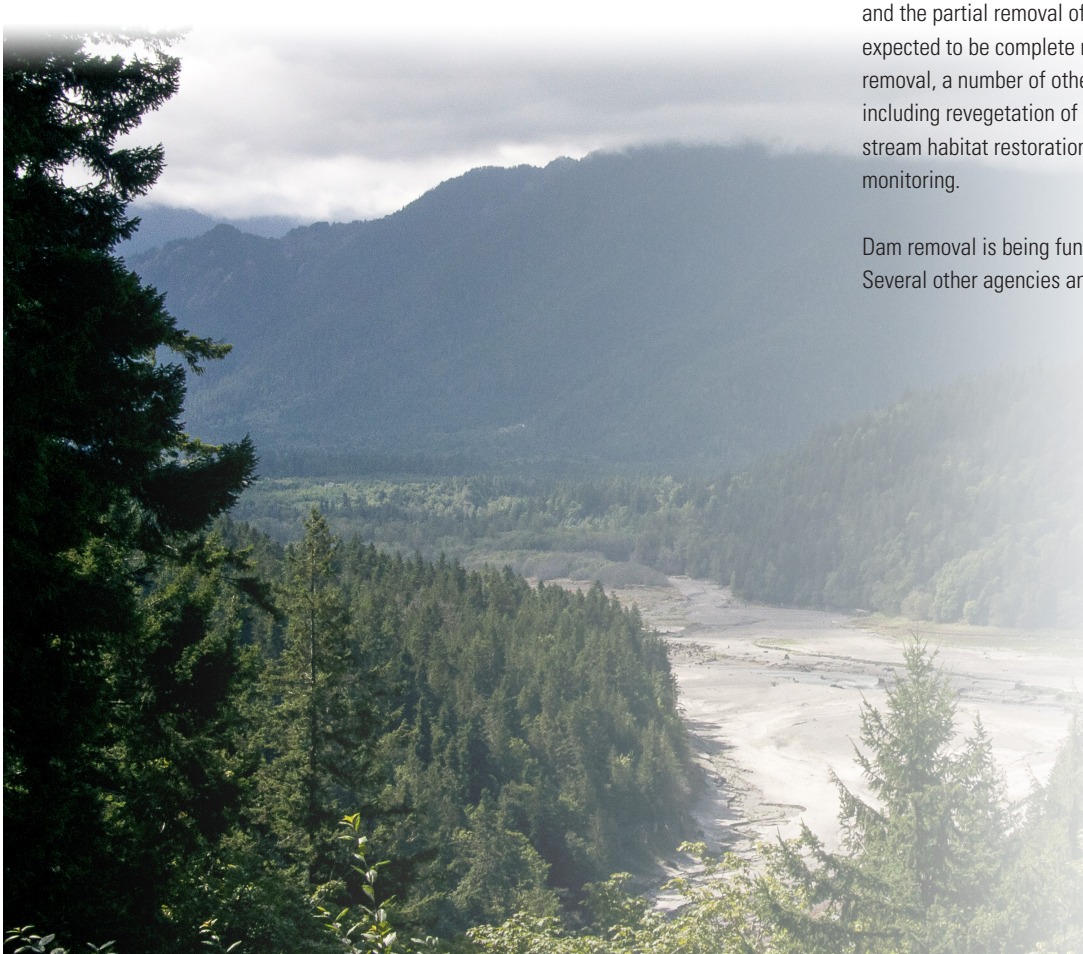
# Freeing the Elwha River



## Removing Dams for the Sake of Salmon

The Olympic Peninsula's Elwha River was once one of the richest salmon runs in the Pacific Northwest. All five species of Pacific salmon and other anadromous fish (species that migrate from fresh water to salt water and back again to reproduce) used to spawn in the Elwha by the tens of thousands each year—until two dams built in the early 1900s blocked access to all but the lowest five miles of the river.



View of former Lake Aidwel. The dam was removed (early 2012) in order to make the Elwha River available for salmon spawning. Photo Credit Ron Williams

Thanks to the largest dam removal project in U.S. history, the Elwha River will soon flow freely from its headwaters in the Olympic Mountains to the Strait of Juan de Fuca, giving salmon access to over 70 miles of river and tributary habitats for the first time in nearly 100 years.

## Project Milestones

Two Elwha River restoration milestones have been met in the last year: the completion of the Elwha Dam removal and the partial removal of Glines Canyon Dam, which is expected to be complete next summer. In addition to dam removal, a number of other ancillary projects are underway, including revegetation of the exposed reservoir bottoms, in-stream habitat restoration, fish restoration, and ecosystem monitoring.

Dam removal is being funded by the National Park Service. Several other agencies and organizations are assisting and funding associated ecosystem restoration activities, including the Lower Elwha Klallam Tribe, National Marine Fisheries Service, National Oceanic and Atmospheric Administration Restoration Center, US Fish and Wildlife Service, US Bureau of Reclamation, US Geological Survey, Washington Department of Fish and Wildlife (WDFW), Coastal Watershed Institute, Washington Sea Grant, University of Washington, Peninsula College, and several others.

## Restoring Salmon

Although the Elwha River and its tributaries above Glines Canyon Dam were in a natural state, the ecosystem was missing a key component—anadromous fish.

In spring 2012, scientists from the cooperating organizations began transporting adult coho salmon collected at the Lower Elwha Tribe's hatchery and wild steelhead to the pristine waters above the former Elwha Dam site in hopes that these fish would spawn in the wild and help recolonize the river in the future. This along with natural colonization by wild steelhead (early summer) and Chinook salmon (late summer and fall) into the river above Elwha Dam resulted in spawning in areas that haven't seen spawners in 100 years.

Fish restoration actions include collecting adult fish as brood stock to seed supportive breeding programs operated by WDFW and the Lower Elwha Klallam Tribe. The programs are designed to help preserve five species of

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anadromous salmon and steelhead in the river through the dam removal periods when lower watershed conditions will be inhospitable for natural-origin fish production, and assisting in their recovery to a healthier status so that recolonization of newly accessible habitat is accelerated. Other important restoration actions include removing brood stock from sediment-laden river water and moving them to clean water areas upstream of the Elwha Dam site as described above. These fish restoration actions are intended to protect ESA listed species from the high-suspended sediment levels that are expected to be lethal to fish during and shortly after dam removal.

Restoring salmon and other fish species will also increase the productivity of plants and wildlife throughout the watershed. Salmon and steelhead eggs, juveniles, and the carcasses that remain after fish spawn and die are an important part of Pacific Northwest river ecosystems. Salmon bring nutrients from the ocean when they return to spawn. These nutrients are used by hundreds of terrestrial and aquatic animals and provide nutrients for riparian vegetation.

## Long-term Benefits

Returning the entire Elwha River to a more natural state will restore one of the largest watersheds on the Olympic Peninsula and provide significant long-term benefits for Puget Sound recovery. More than 80% of this important watershed is located within the protected boundaries of the Olympic National Park and consists of high quality, primarily untouched habitat. Completing the removal of the dams will allow natural sediment transport that will improve river and estuarine habitat quality, reduce nearshore beach and bank erosion, increase intertidal and sub-tidal sediment, and support marine community diversity. Restoring the Elwha River will also assist in the recovery of Elwha River salmon, steelhead, and other key fish species.


Photos from the Elwha Dam removal webcam. Photo Credit: Elwha River Restoration Project