

# Dam Removals on the Elwha River

2011



**NOAA  
FISHERIES  
SERVICE**



## Anadromous fish that will benefit from dam removal:

- Puget Sound Chinook salmon (threatened)
- Puget Sound steelhead (threatened)
- Olympic Peninsula bull trout (threatened)
- Chum salmon
- pink salmon
- coho salmon
- Eulachon (threatened)

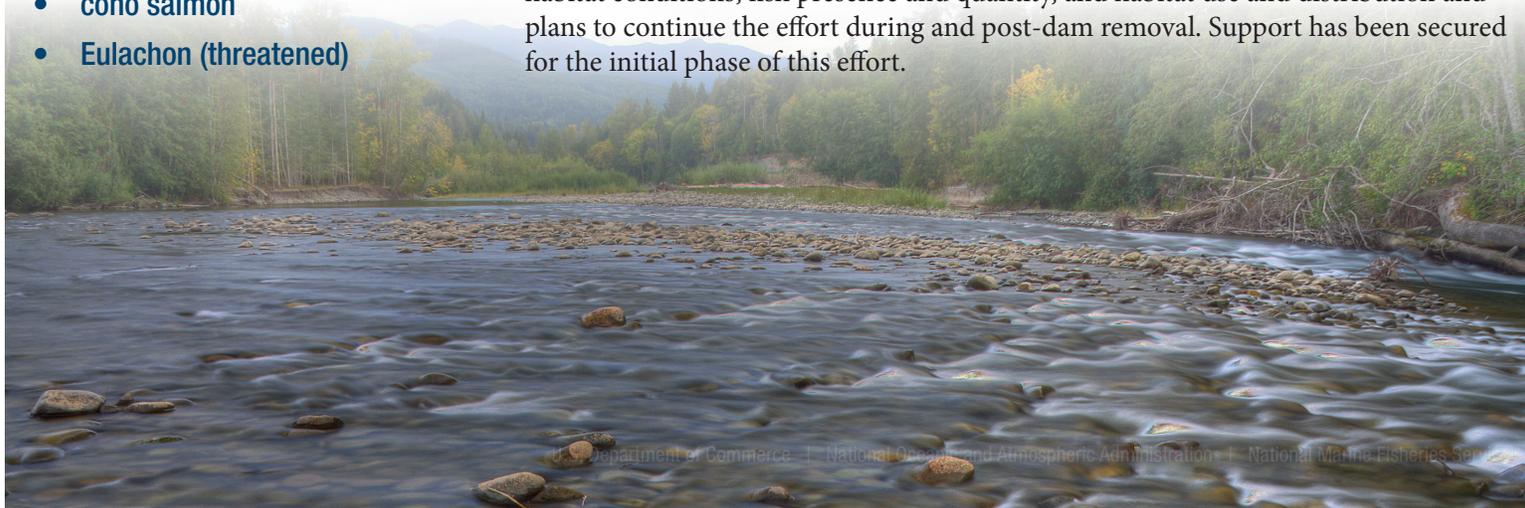
The nation's largest dam removal project begins in Sept 2011 on the Elwha River, located on the Olympic Peninsula in Washington State. The 108 feet (33m) high Elwha Dam and the 210 feet (64 m) Glines Canyon Dams will be dismantled, re-opening more than 70 miles of pristine salmon habitat in the Olympic National Park that has been blocked to anadromous fish passage for over a century. As a result of the presence of these dams, what was once one of the most productive salmon rivers on the Olympic Peninsula has been reduced to a fraction of its former productivity. In addition to blocking fish passage, the dams have trapped an immense quantity of sediment behind the dams, greater than 19 million cubic yards or enough to fill the Louisiana Superdome nearly five times. The removal of the dams is predicted to allow natural processes to resume, nourishing the lower river, estuary, and nearshore environment through the transport of sediment, large woody debris, and nutrients from the upper watershed.



## What will happen after the dams are gone?

A dam removal of such magnitude has never been undertaken. Monitoring the changes to the river, the estuary, and the nearshore habitat, as well as the impacts of these changes to society is critical to tell the story of what happens after the dams are gone. How will the fish use the newly opened habitat? How will the ecosystem recover and how quickly? How will the changes impact communities? Without the complete story of the Elwha after the dams are gone, we will miss an opportunity to better understand our river systems, manage our fisheries, and inform future dam removals.

NOAA has been continuously gathering information to understand the impacts that the removal of these dams will have on the Elwha River, the salmon populations, and local, regional, and national communities. In conjunction with its partners, NOAA is conducting long-term monitoring in the lower Elwha River to establish baseline habitat conditions, fish presence and quantity, and habitat use and distribution and plans to continue the effort during and post-dam removal. Support has been secured for the initial phase of this effort.



Some of the questions that NOAA and its partners are trying to answer:

- How many fish return and of what species?
- Are the fish recolonizing the entire river system? What habitats are the fish using?
- How many juveniles are supported by the river and of what species?
- How has the habitat condition changed over time since the dam removal?
- Will the fish survive by using the lower floodplain during dam removal?
- What is the effect on the public's welfare from dam removal and floodplain restoration?

NOAA is also working to assess the social and economic benefits resulting from the Elwha restoration actions. In addition to salmon recovery, dam removal is expected to bring increased value to local and national communities through new recreational and commercial opportunities and other economic, social, aesthetic, and spiritual benefits. Scientifically gathering this information will help us understand the societal impacts of large-scale restoration actions.

While the dams are the major impact on the Elwha River, the health of the lower floodplain has been significantly degraded by human activities. The Lower Elwha Klallam Tribe, in partnership with NOAA, is restoring habitat forming processes in the lower river to speed the recovery of the river and create refuge habitat for salmon to access during the dam removal. These actions include removing abandoned push up dikes and constructing engineered logjams that will allow the river to form side channels and reconnect to its floodplain. The Tribe is also reforesting the lower floodplain by planting native species and eradicating exotic plants. Additional actions have been identified in the middle and lower portions of the river as well as in the estuary and nearshore habitat that will further speed complete watershed recovery.

**Where can I get more information?**

- [www.nwfsc.noaa.gov/features/elwha\\_river/elwha-restoration.cfm](http://www.nwfsc.noaa.gov/features/elwha_river/elwha-restoration.cfm)
- [www.nwfsc.noaa.gov/research/divisions/fed/wpg/elwha.cfm](http://www.nwfsc.noaa.gov/research/divisions/fed/wpg/elwha.cfm)
- [www.elwhainfo.org](http://www.elwhainfo.org)
- [www.noaa.gov/recovery/](http://www.noaa.gov/recovery/) - click on mapper for info on Lower Elwha restoration work.
- [www.habitat.noaa.gov/about/habitat/ecosystemservices.html](http://www.habitat.noaa.gov/about/habitat/ecosystemservices.html)

**Partners include:**

- Lower Elwha Klallam Tribe
- United States Fish and Wildlife Service
- United States Geological Survey
- National Parks Service
- Washington Department of Fish and Wildlife



**Learn more and come see us in action**

Sharing our work with other scientists, policymakers, resource managers, and the public is important to us. To learn more about what we do, please visit our website at: [www.nwfsc.noaa.gov](http://www.nwfsc.noaa.gov). To obtain additional information, please call 206-860-3200.