Salmon Rebound in the West Fork Smith River

Douglas County, Oregon

60 years of Oregon Department of Fish & Wildlife monitoring data confirms the positive effects of investments in habitat restoration.

Summary

Long-term investments by multiple partners in stream restoration in the West Fork Smith River are bringing back native fish. Adult Coho Salmon (*Oncorhynchus kisutch*) have increased by 1,780% since the late 1970s. Chinook Salmon (*Oncorhynchus tshawytscha*) abundance has increased by 300% and Lamprey (*Entosphenus tridentatus, Lampetra richardsoni*) numbers are also increasing.*

* As indicated by measurements observed at ODFW monitoring station.



The West Fork Smith (West Fork) River is a 15-mile-long tributary to the Smith River that drains 17,045 acres of land. The Smith River's headwaters begin in the Coast Range near Eugene and reach the ocean through the Umpqua River estuary at Winchester Bay, the second largest estuary on the Oregon Coast.



Over 40 years of

investment results in watershedscale restoration to improve salmon habitat.



13,000 boulders positioned







Changes to the River

Beginning in the late 1800s, land management activities began impacting the river, and indirectly the fish. Early logging operations and splash dams flushed logs downstream for transport. While an efficient means of transporting logs at the time, it had a dramatic impact on the physical condition of the river, scraping away important river features. Stream cleaning commonly occurred from 1972-1994 and removed more submerged wood needed by fish. By the 1980s, Coho Salmon had reached historically low levels.



The large wood and boulders placed throughout the West Fork Smith River have improved spawning and rearing habitat for salmon.

Restoration Over Time

The first efforts to restore the stream began in the early 1980s. The Coos Bay District of the Bureau of Land Management (BLM) wrote an aquatic habitat management plan detailing the human impacts to aquatic habitat and outlining measures to restore fish populations. Throughout the 1990s, the BLM placed boulders and large wood in the stream, increasing deep gravel beds that salmon quickly used for spawning. Culverts were replaced to increase fish passage. With Oregon Watershed Enhancement Board support, the Partnership for Umpqua Rivers received funding in 2010 to work with Roseburg Forest Products and the BLM to do large-scale restoration. The investment resulted in the placement of thousands of boulders and pieces of large wood back into the river and its tributaries, restoring 23 miles of stream.

Long-term Monitoring Provides Valuable Data

Oregon Department of Fish & Wildlife (ODFW) has monitored salmon in Beaver Creek, a tributary to the West Fork, since 1958. It is one of the longest running annual Coho Salmon surveys in the state. Data collected shows that Coho Salmon have increased by 1,780% in Beaver Creek from 1970's spawning levels. In 1998, as part of the Oregon Plan for Salmon and Watersheds, ODFW began a program to monitor survival and downstream migration of salmon in select watersheds, including the West Fork. The Salmonid Life Cycle Monitoring Project has provided a unique and rich data set to evaluate population trends over time. Both these data sets reveal one measure of the success of the decades-long restoration efforts.

Promising Rebounds in Native Fish

Restoration of spawning habitat was successful for all target species. Since a major flood event in 2007/08 and subsequent restoration treatments, lamprey also show improving trends. Though the winter steelhead population remains stable, Coho and Chinook Salmon populations have continued to increase.



A Coho Salmon trapped at the ODFW monitoring station on the West Fork River near Reedsport.



Next Steps

Scientists have determined that Chinook Salmon could still benefit from additional spawning habitat in the West Fork. Research also reveals that summer and winter rearing habitats are now the most significant limiting factors for Coho, steelhead and lamprey recovery. In response, the Smith River Watershed Council is working with partners to design phased-restoration that uses traditional approaches, like instream wood and boulder placement, as well as streamside forest restoration. By improving the forest structure and allowing timber to mature, trees will fall into the stream naturally over time allowing the system to self-sustain.

Partners

