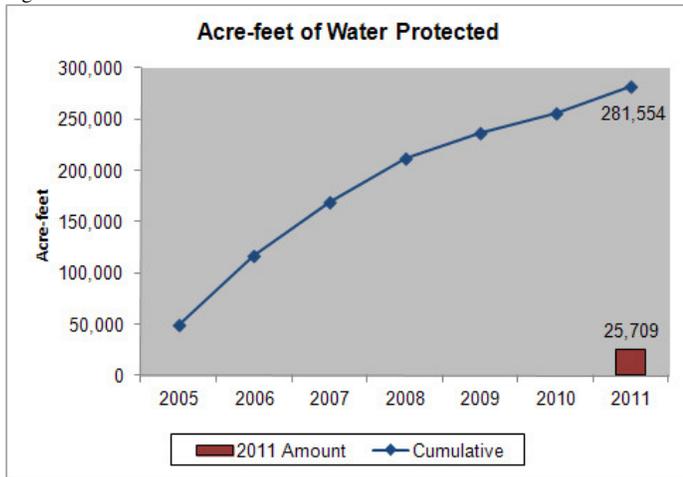


FCRPS BiOp tributary habitat accomplishments from the Action Agencies' 2010 Progress Report

Figure 1



Water Added to Streams

(Fig. 1 and Fig. 2)

Irrigation and other water withdrawals during the peak growing season can cause stretches of many streams and rivers run low – and sometimes dry.

One of the most effective and immediate steps the Action Agencies may take to improve fish habitat is to lease or purchase water rights or install water efficiency improvements to increase the amount of water in streams

Since 2005, the Action Agencies acquired instream water to conserve or protect close to 282,000 acre-feet and more 1,700 cubic feet per second (cfs) of water in the Columbia River Basin.

Figure 2

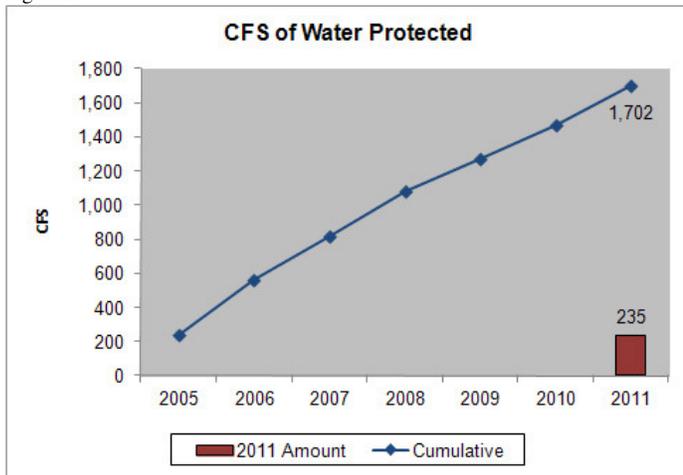
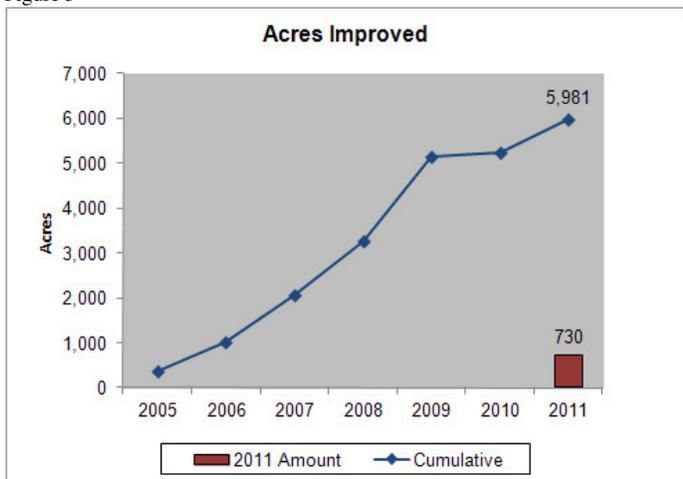


Figure 3



Riparian Habitat Improved

(Fig. 3)

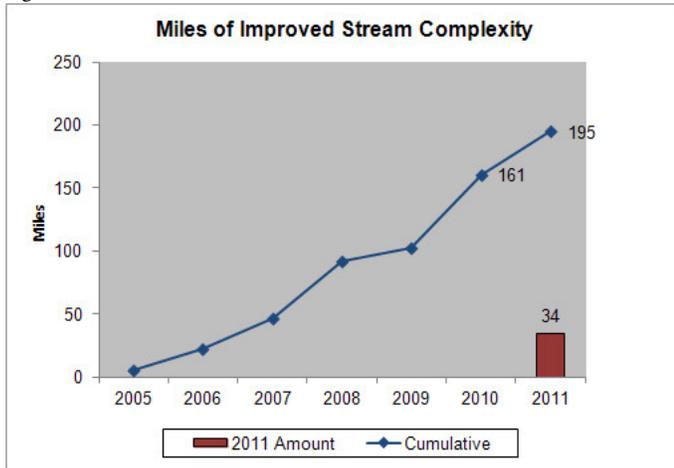
Riparian habitat—the streamside environment—makes a major contribution to water quality and long-term salmon survival. Riparian habitat can be protected through land purchases or conservation easements. Plantings or natural revegetation can reestablish a viable riparian zone by providing shade and other benefits for the stream.

Because they can help keep water cool and clean, these projects are an important hedge against the longer term effects of climate change.

Nearly 6,000 acres of riparian habitat have been improved since 2005.

FCRPS BiOp tributary habitat accomplishments from the Action Agencies' 2010 Progress Report

Figure 4



Stream Complexity Improved

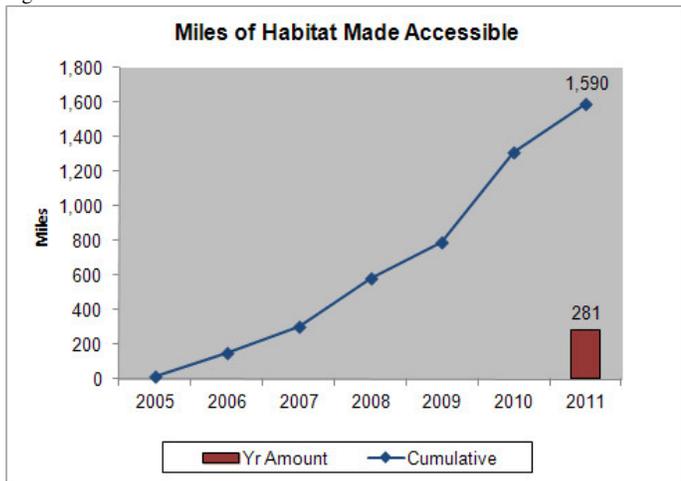
(Fig. 4)

Salmon evolved in streams that meandered, created multiple channels, and flooded seasonally. The complex habitats these processes created provided important rearing areas for juvenile salmon and steelhead, as well as cool-water refuges during the heat of summer. Human development has changed the nature of most of the Columbia River basin's river systems, depriving salmon of some of these habitat attributes.

Action Agency habitat projects help improve channel complexity by reconnecting side channels and, where feasible, increasing floodplain function.

Since 2005, the Action Agencies have improved almost 200 miles of spawning and rearing stream habitat, with more than 30 miles completed in 2011.

Figure 5



Habitat Opened to Fish

(Fig. 5)

In many Columbia River tributaries, human development has restricted access to significant portions of the historical range of Columbia River basin salmon and steelhead. Many of these blockages can be fixed with negligible economic impact, providing a big biological boost to fish.

In 2011, the Action Agencies funded projects that opened more than 280 miles of salmon and steelhead spawning and rearing habitat.

The federal agencies that manage the system of dams in the basin include the U.S. Army Corps of Engineers, Bureau of Reclamation, and Bonneville Power Administration, collectively known as the Action Agencies. Together, they are implementing actions to improve the survival of salmon and steelhead listed under the Endangered Species Act, as called for in NOAA Fisheries' Biological Opinion for operation of the federal hydrosystem.