

Methow State of the Salmon

Salmon are woven into the fabric of our ecological, cultural, and economic communities, however populations have declined dramatically throughout the Pacific Northwest. Public awareness of and support for salmon recovery are critical to their success. This report provides an update on the current state of salmon and steelhead in the Methow watershed as well as local recovery efforts.

Historical salmon and steelhead returns in the Columbia River were estimated to be between **10-16 million** fish. Current returns are around **1 million**. In response to extremely low fish returns to the Upper Columbia in the late 1990s, spring Chinook salmon, steelhead, and bull trout received protection under the Endangered Species Act to prevent their extinction. Recovery efforts in the Methow include habitat restoration, land protection, and hatchery production.

How we got here: Historical salmon decline by the 4Hs

Harvest



Overfishing of adult salmon in the early 1900s decimated populations throughout the Pacific Northwest. In one year alone, 50 million pounds of salmon were harvested from the Columbia River.

Hatcheries



Hatcheries were developed to supplement declining salmon runs, but early practices were detrimental to wild fish. Some hatcheries now focus on conservation and reintroduction of imperiled species.

Habitat



Logging, removal of stream wood, road construction, riverside development, and unscreened irrigation diversions all reduce the quantity and quality of fish habitat.

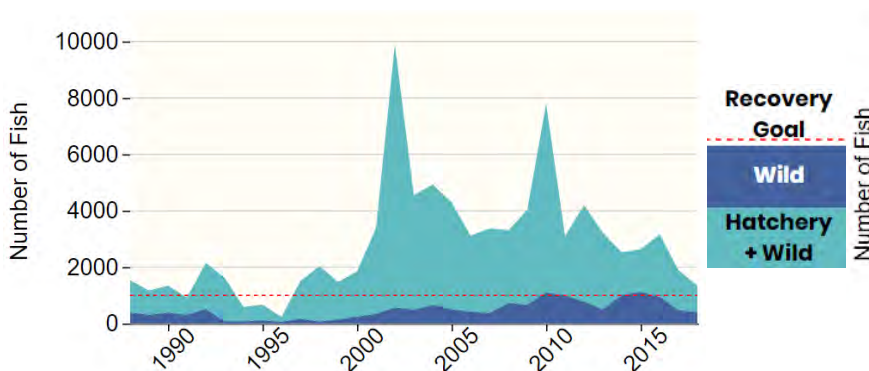
Hydropower



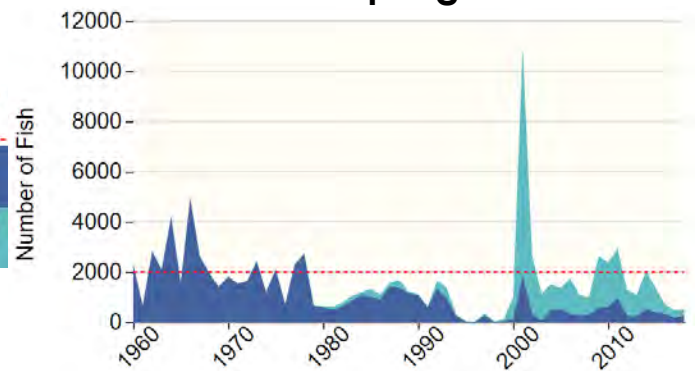
Dams and their reservoirs change fish migration patterns, reduce survival, and drastically alter aquatic food webs. The Methow River dam near Pateros blocked migrating fish for nearly two decades.

Current fish population status

Methow Steelhead



Methow Spring Chinook



To be considered for removal from Endangered Species Act protection, a population must no longer be threatened with extinction and the average return count of the wild population for the last 12 years must meet or exceed the recovery goal. Our populations have not recovered to delisting levels, so work to improve their status continues.

Current threats to healthy salmon populations

Salmon have a complex lifecycle, spending time in small headwater creeks and large rivers before travelling all the way to the Pacific ocean and back again. Some human activities on land, in streams, and in the ocean can degrade habitat that is critically important to the health of different fish life stages. It's all connected.

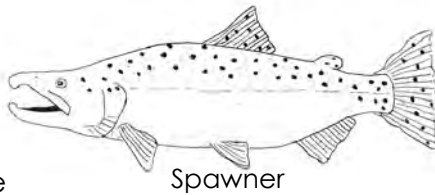
Ocean water quality

Elevated temperature and acidity and low oxygen levels from a warming climate reduce ocean productivity, prey abundance, and salmon survival.



Predation

Migrating adult and juvenile salmon are especially vulnerable to predation by marine mammals and birds. Columbia River dams and reservoirs create conditions that encourage predation.



Spawner

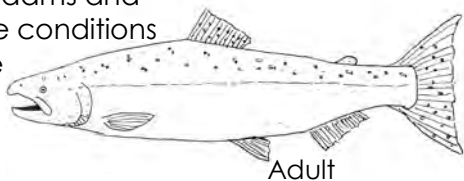


Eggs



Fish passage barriers

Barriers like culverts or dams limit the amount of habitat accessible to fish.



Adult

Salmon Life Cycle



Alevin

Water quality

Fish need cold, clear streams to thrive. Degraded water quality, such as from high temperatures and chemical pollution, is harmful to fish.

Harvest

Unintentional or illegal harvest of imperiled salmon runs is an ongoing threat.



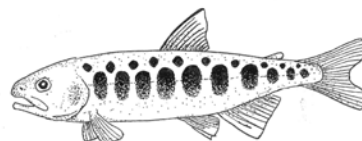
Smolt



Fry

Fish farming

Native fish runs are threatened by degraded water quality, disease, and competition risks from ocean farming of non-native salmon.



Parr



Floodplain development

Floodplains provide cover, food, and refuge, especially for young fish. Levees and riprap have reduced connections between the river and its floodplain.



Reduced streamflow

Low streamflow due to ground and surface water pumping and drought can elevate water temperatures and reduce available fish habitat.

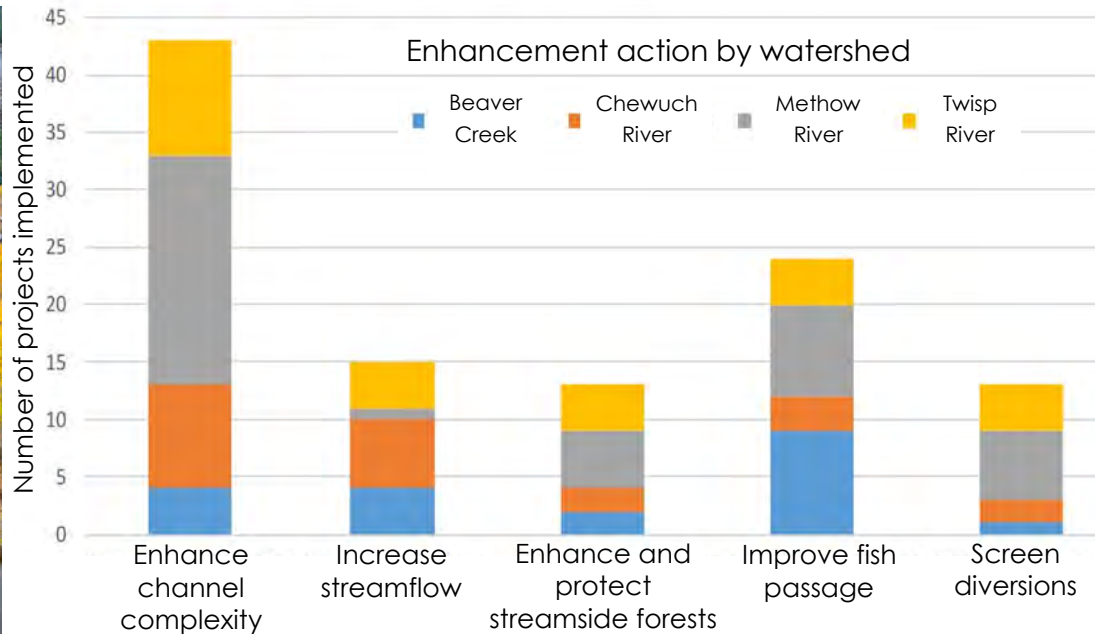


Restoration in the Methow watershed

Habitat restoration and protection actions are underway in the Methow to assist fish recovery. These actions are designed to improve habitat factors that limit fish growth and survival. Salmon begin and end their lives in our watershed, and it's critical that we continue to improve stream conditions here at home.

Restoration Action	Benefits
Streamside forest planting	Trees and shrubs provide shade to keep streams cool, falling bugs and leaves support the stream food web, roots prevent erosion, downed trees create cover and pools.
Barrier removal	Ensures fish access to their full range of habitat and allows downstream movement of water, wood, and sediment.
Large wood placement	Provides hiding and feeding places for fish. Wood distributes stream flow to create a variety of stream habitat, including pools and backwaters.
Side channel / floodplain reconnection	Increases quantity of available habitat, provides refuge from high flows and access to feeding areas, and slows flood flows.
Land protection	Preserves high-quality floodplain and riparian habitat.
Irrigation efficiency	Increases the amount of water in the stream and helps maintain water quality, especially cool temperatures.

Over 150 habitat restoration and protection projects have been completed in the Methow. Project monitoring shows improved quantity and quality of stream and riparian habitat and extensive fish use of newly created or enhanced habitats. While these projects help improve salmon survival in the Methow, they are unlikely to recover salmon on their own. Because salmon depend on a wide range of habitats beyond the Methow during their migration down the Columbia through the Pacific Ocean and back, threats to their survival must be addressed in these areas as well.



What is a watershed? "that area of land, a bounded hydrologic system, within which all living things are inextricably linked by their common watercourse and where, as humans settled, simple logic demanded that they all become part of a community"

—John Wesley Powell

Community involvement

We've made progress. The runs of wild steelhead and Spring Chinook are nearly double what they were 10 years ago. But these fish are still far from recovery, and the past few years of returns have been reduced by poor ocean conditions and low survival outside of the Methow.

High-quality habitat here at home is critical.

The waters and lands of the Methow River watershed sustain not only salmon and steelhead, but also the well-being of our community. Here are a few ways we can all get involved:

- **Keep our rivers healthy:** Proper disposal of waste, well-maintained septic systems, use of natural fertilizers and pesticides, and general water conservation all protect the quality of our waters.
- **Get involved:** Volunteer with local groups. The Methow Restoration Council is our local forum for salmon recovery and habitat restoration coordination. Meetings are open to all and held the third Tuesday of every month. Time and location are included in the Methow Valley News, or call 996-2787.
- **Protect or restore your land:** Many opportunities are available for habitat restoration and protection on private lands. Interested landowners can collaborate with a number of local organizations to develop projects that meet landowner needs and support fish recovery and river health.
- **Education:** To achieve salmon recovery, we need to be familiar with our watershed and understand the issues facing our fish and their habitat. Several local organizations provide education and information-sharing opportunities for both kids and adults.

Want to learn more or get engaged? Here's who to contact:



For information on habitat restoration and education, contact Kristen Kirkby, Kristen@ccfeg.org, www.ccfeg.org



For information on habitat restoration and education, contact Chris Johnson, chris@methowsalmon.org, www.methowsalmon.org



For information on irrigation efficiency, agricultural and residential conservation assistance, and education, contact Amy Martin, amy@okanogancd.org, www.okanogancd.org



For information on irrigation efficiency and habitat restoration, contact Crystal Elliot, crystal.elliott@tu.org, www.tu.org



For information on land protection, contact Jason Paulsen, jason@methowconservancy.org, www.methowconservancy.org



This report was funded by the Upper Columbia Salmon Recovery Board. For information on recovery efforts throughout the Upper Columbia region visit www.ucsr.org