

WHAT YOU CAN DO TO SAVE WILD STEELHEAD



Wild steelhead have been known to leap 10-foot high falls. Photo: Dave Moskowitz

*An action plan
produced in concert with*



**The LAST
STEELHEAD**

An Eco-Rock Opera



The Columbia River Gorge, Oregon. Photo:©CanStockPhoto/appalachianviews



STEELHEAD: TOTEMIC FISH OF THE PACIFIC NORTHWEST

Steelhead are native to the Pacific Rim and can be found from the Baja Peninsula to the Aleutian Peninsula in the Eastern Pacific, and to the Kamchatka Peninsula in the Western Pacific. Steelhead are a river-born but ocean-going rainbow trout that migrate to the estuaries and oceans for one to four years, often growing to substantial size before returning to spawn in their natal rivers. Unlike Pacific salmon species, steelhead often survive spawning and may spawn multiple times throughout their lives.

There are six sub-species of steelhead that return to rivers of the Columbia Basin, some traveling as far as Idaho's Salmon River – a journey of 800 miles - to spawn. Of these sub-species, five are considered either threatened or endangered. (Steelhead populations in the Puget Sound and throughout California are also listed as threatened or endangered.)

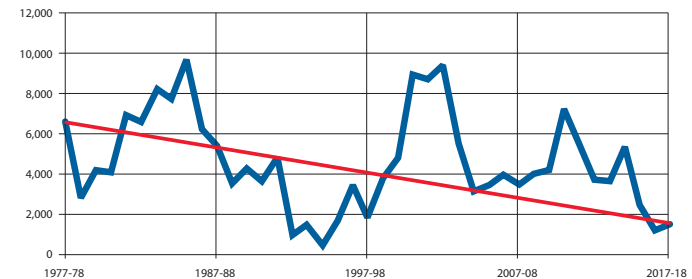
As recently as 2009, over 171,300 wild summer steelhead passed Bonneville Dam. In 2017, the third-lowest total in history, 29,986 wild steelhead passed Bonneville Dam. For 2018, the projected return of wild steelhead past Bonneville Dam is 51,200 fish.

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WHY ARE WILD STEELHEAD POPULATIONS DECLINING?

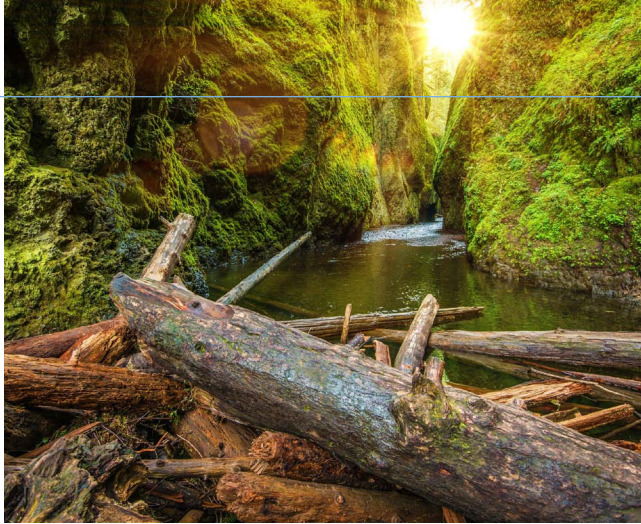
Populations are declining for many reasons. Conservationists and biologists generally agree on four significant factors impacting these totemic Pacific Northwest fish: habitat, harvest, hatcheries (e.g., hatchery steelhead) and hydro (e.g., high dams). Each of us can do something about every one of these factors impacting our favorite fish!

The downward trend of spawning wild steelhead on the Deschutes River reflects the larger trends for other rivers in the Columbia Basin.



Wild Columbia River Summer Steelhead. Photo: Dave Moskowitz





A tributary of the Columbia River, Oregon. Photo:©CanStockPhoto/welcomia

HABITAT LOSS AND DEGRADATION

PROBLEM:

Wild steelhead will thrive and survive in watersheds that retain connections with multiple small streams. Small streams deliver clean water, a continuing supply of fresh spawning gravels and woody debris large enough to trap, sort and store those gravels. Wild steelhead need complex habitats like side-channels and beaver ponds as they grow and migrate downstream. They will also need functioning estuaries with abundant food and cover from predators as they transition to their ocean feeding migrations. Connected freshwater and estuary habitats forge a vital bridge for wild steelhead between terrestrial and marine ecosystems. Maintaining habitat health is challenging when watershed productivity is continually diminished by an on-going assault of large and small human activities including land development that eliminates wetlands and increases impervious surfaces, poor logging and farming practices, everyday pollution run-off from automobiles and chemical lawn treatments, excessive water withdrawals from rivers, streams and groundwater, as well as poorly constructed and maintained bridges and culverts that block fish passage.

HOW TO HELP:

Threats to healthy freshwater and marine habitats remain, but in many places improved environmental regulation and efforts to restore and protect rivers and estuaries hold promise. With hard work we can continue to protect what remains and restoring watersheds that have been damaged, ensuring that healthy rivers sustain wild salmon and steelhead for generations to come. All of us can take action to reduce the number of interruptions that happen in our backyard, in our town, our counties and in our watersheds. Volunteer for stream restoration projects with local groups, attend public hearings to voice your support for salmon-safe development practices, and learn what you can do around your home or business to decrease day-to-day impacts to fish habitat. Protect the best. Restore the rest.

The John Day River, one of the Columbia Basin's most productive tributaries for wild steelhead.
Photo: Dave Moskowitz





A wild steelhead, caught with a barbless fly and about to be released.
Photo: Dave Moskowitz

HARVEST

PROBLEM:

For as long as there have been humans inhabiting the Pacific Northwest and the Columbia Basin, there has been steelhead harvest, including fish consumed by birds, bears, seals and many other animals. But the advent of large-scale commercial harvest of salmon and steelhead in the mid to late 19th century accelerated harvest levels at the same time habitat was being lost. By the time the large dam-building era ended in the 1970's, commercial and sport harvest of wild steelhead continued as hatchery production grew to replace the declining wild fish. The large number of hatchery steelhead masked the declines of wild steelhead. Though catch and release of wild steelhead became the rule for the sport fishery in the 1990s, overall commercial and tribal catch, as well as mortality in the sport fishery, continues to take up to 20% of the returning wild steelhead.

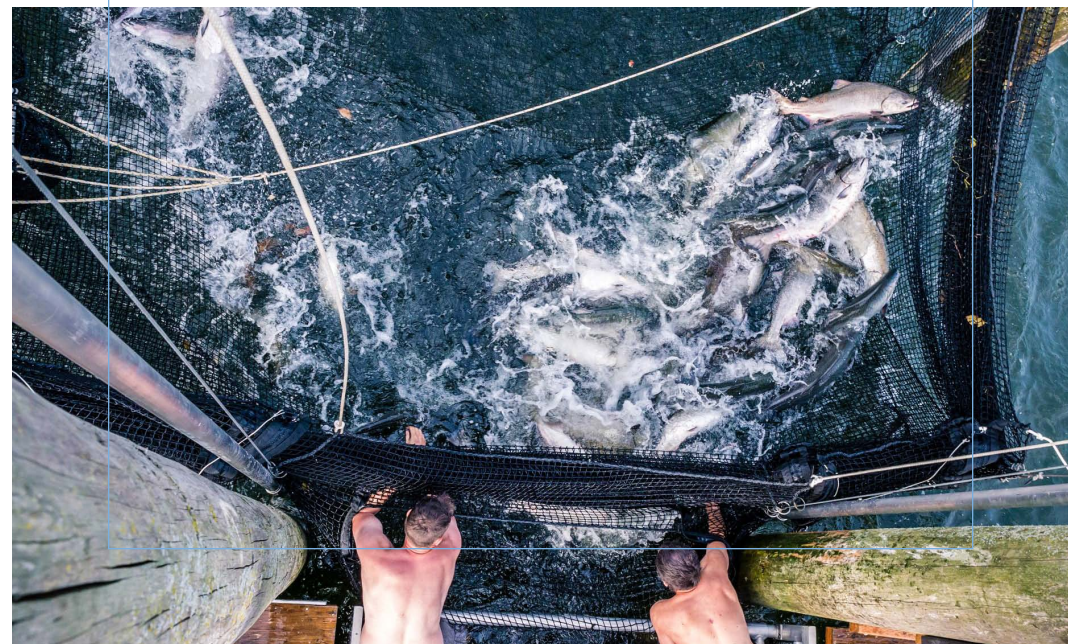
HOW TO HELP:

Sport anglers can practice the most conservative methods of gear selection, fish handling and release practices.

- Use single, barbless hooks
- Don't remove the fish from the water while releasing.
- Don't fish when water temperatures are over 68 degrees. Don't fish in cold water sanctuaries (places in the Columbia River where cold water tributaries or groundwater provide wild steelhead refuge from the Columbia reservoirs' warm water).
- Don't fish at times when steelhead are getting ready to spawn

You can also advocate for selective commercial fisheries – harvest methods and timing that allow the safe handling and release of wild steelhead to the river. Reducing the number of encounters and ensuring any encounters are treated with the utmost care will reduce wild steelhead mortality.

Selective fisheries, like the pound net (shown here) allow commercial fishermen to return endangered steelhead and salmon to the river unharmed and to harvest targeted species. Photo: Aaron Jorgenson





With artificial breeding, hatcheries ignore important selective pressures critical to successful wild fish spawning. Photo: Design Pics Inc / Alamy Stock Photo

HATCHERIES

PROBLEM:

Hatcheries have been widely used to produce steelhead for tribal and sport fisheries since the mid-1950's – largely to replace populations of wild steelhead that were declining from commercial overharvest and habitat degradation. Abundant scientific research shows that hatcheries will never adequately replace wild steelhead, and that large scale hatchery production is incompatible with healthy wild populations. Hatchery steelhead immediately become domesticated in their hatchery environment, exhibit lower fitness, less genetic diversity and reduced life history diversity. They also dramatically reduce the productivity of wild steelhead when they spawn together. There are also ecological impacts including predator attraction, residualization, predation on smaller wild fish and competition for rearing space and food. Their presence also masks the overall low abundance of locally adapted wild fish to create a false sense that all is well in our watersheds.

HOW TO HELP:

If we hope to recover wild steelhead in the Pacific Northwest, hatchery reform must occur. This means dramatically reducing the number of hatchery fish spawning in the wild, and eliminating hatchery programs altogether in watersheds where habitat conditions can support robust populations of wild fish. Wild salmon and steelhead have the capacity to be tremendously productive when allowed to return to their home watersheds, free from hatchery influence. It is up to us to have the courage to let them try.

A hatchery near the Columbia River in Oregon. Many fisheries biologists consider hatchery steelhead to pose the greatest threat to wild steelhead populations. Photo: Brian Legate/Shutterstock





2007 removal of the Marmot Dam, Sandy River, Oregon. Photo: NOAA

HYDROPOWER

PROBLEM:

On the west coast, hundreds of dams obstruct salmon passage. In the Columbia system alone, more than 50% of the historic wild steelhead habitat was lost to dam construction. While fish passage exists at many dams, the changes to wild rivers from dam construction cannot be alleviated simply by passing fish above them. Dams fundamentally alter the movement of water, sediment and fish through river systems, slowing and warming the water, impeding the upstream and downstream movement of fish, creating predator threats and halting the downstream movement of gravel and wood. During the peak of wild steelhead migration water temperatures often rise above 70°F, and under these conditions salmon and steelhead are subject to lethal water temperatures and survivors often cease migrating and seek out cold water refuges where they are subject to intensive fisheries.

HOW TO HELP:

For the first time in American history dams are being removed faster than they are being constructed and high profile dam removal projects on the Elwha, White Salmon, Sandy, and Rogue demonstrate the benefit of dam removal. A tentative agreement is in place to remove four dams on the Klamath by 2020. The wave of dam removals that is sweeping through the Northwest is ushering in hope for a century of dam removal, one that should include removal of the four lower Snake River dams. These dams are greatest impediments to salmon recovery in the Columbia system, and biologists agree that removing these dams is the best way to restore abundant populations of wild salmon in the pristine tributaries of the Snake River. By keeping abreast with legislative developments concerning dams (through organizations like Save Our Wild Salmon), you can be notified when to contact state and federal elected officials in support of efforts to remove “deadbeat dams” and to make others as “steelhead-friendly” as possible.

There are 8 major dams in the Columbia Basin system. The four dams on the Snake/Salmon River system – Lower Granite Dam (shown here), Little Goose Dam, Lower Monumental Dam and Ice Harbor Dam – are under consideration for demolition. Photo: GAJH Mobile Photography/Shutterstock



LEARN MORE ABOUT THE SCIENCE AND POLICY OF WILD STEELHEAD.

Wild Steelhead are amazing animals that have been present in the Pacific Northwest for 10,000 years. There are many organizations advocating for science-based policies to benefit wild fish. These include:

The Wild Steelhead Coalition

(<http://wildsteelheadcoalition.org>)

Wild Steelheaders United (an initiative of Trout Unlimited)

(www.wildsteelheaders.org)

The Conservation Angler

(www.theconservationangler.com)

Protecting wild steelhead for future generations is possible if we take reasonable efforts to allow the fish to return and spawn in their home rivers. By supporting the organizations above – and becoming more informed about the issues impacting wild steelhead – you can play an important role in their long-term survival.



SIMMS.



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