

WEST COAST REGION

Salmon & Steelhead Status Reviews: Steady Progress Toward Recovery

Overview

In May 2016, NOAA Fisheries' West Coast Region completed a five-year status review of all 28 West Coast salmon and steelhead species listed under the Endangered Species Act (ESA). The review found that no changes in status are warranted.

In terms of the review, the news for West Coast salmon is mixed. Some species, such as Oregon Coast coho salmon, mid-Columbia steelhead and Hood Canal chum, have rebounded strongly from the lows of past decades. Highly endangered Snake River sockeye are showing newfound promise for recovery thanks to a captive broodstock program. Others have not fared as well. The California drought and unusually high ocean and stream temperatures in recent years hit many populations hard. Simply sustaining imperiled fish through such trying conditions is an important success. In the case of Sacramento River winter-run Chinook salmon, for example, drought conditions and high stream temperatures reduced the 2015 survival of juvenile fish in the first stretch of river to just 3 percent, a difficult setback for recovery efforts.

Since the previous review in 2011, we have learned more about the biological status and needs of some species, while additional research and monitoring is needed in other areas to ensure species are on a path to recovery. We are seeing significant progress, but, as anticipated in our recovery plans, it is slow and steady. Progress will be measured, and achieved, over decades. This is because salmon are especially sensitive to environmental conditions, they experience wide fluctuations in population size, and the benefits from habitat improvements and recovery actions take time to accrue.

Photo courtesy Mike Peterson, Idaho Fish & Game



What the findings mean

The ESA requires NOAA Fisheries to review the status of all listed species every five years to determine whether they should be removed from the list of threatened and endangered species, or whether their status under the ESA should be changed. In this round of status reviews we found that while many species have either improved or held their own in the last five years, no changes in listing status are warranted. This means that the species' conditions have not significantly declined but also that they have not improved enough to reach the next threshold on the path to recovery.



Salmon & Steelhead 5-Year Status Reviews

Bringing fitness back

New studies in the last year have shown that naturally spawned Snake River sockeye salmon born in Redfish Lake are returning from the ocean at a higher rate than their hatchery counterparts, an essential step in recovering the population. In effect, the fish are regaining some of their wild fitness. The Snake River sockeye recovery plan adopted last year takes advantage of this important trend by promoting natural spawning.

The five-year status reviews assess the condition of each salmon and steelhead species under four criteria: abundance, productivity, spatial structure, and diversity. Each of the four criteria helps ensure the sustainability and resilience of the species over the long-term. Species must fulfill all the criteria, as outlined in recovery plans, before they are deemed recovered.

Scientists at NOAA Fisheries' Northwest Fisheries Science Center and Southwest Fisheries Science Center gathered and analyzed the latest data on each stock, and we also invited other scientists and the public to provide relevant information for the status review. Biologists from states, tribes and other organizations brought additional expertise to the reviews.

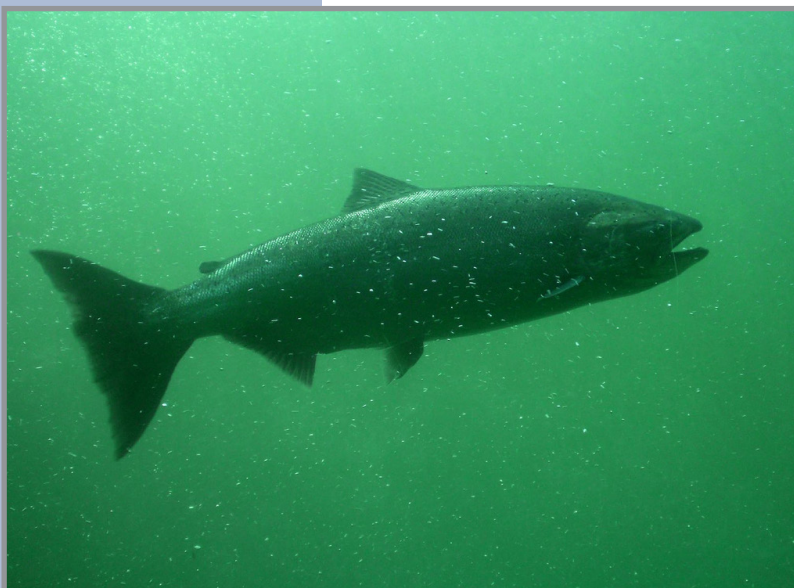
Highlights since the last review

These status reviews helped NOAA Fisheries understand the strengths and vulnerabilities of each salmon and steelhead population, as well as broad factors affecting multiple populations. Several key findings are pervasive across the West Coast landscape:

- habitat degradation and the lack of complex, cold water refuge continue to threaten the survival and recovery of many populations;
- hatcheries have successfully thwarted extinction for several species, but maintaining the genetic integrity of wild stocks continues to be a cornerstone of management efforts;
- ongoing collection of monitoring data is critical for refining recovery efforts on the ground; and
- perhaps most importantly, the recovery plans provide strong roadmaps to recovery, but more work remains to implement them.

Since 2011, new trend information—both positive and negative—has emerged for several populations. We had limited data for Snake River steelhead in 2011, for instance—abundance and productivity data from only two populations. Five years worth of new monitoring data for populations in Idaho and Oregon has significantly improved our ability to assess the abundance of wild fish and diversity across Snake River steelhead populations. Though a change in listing status is not warranted at this time, we do know that Snake River steelhead populations are holding steady since the previous review.

In southern Oregon and northern California the picture is not so clear. In 2014 and 2015, the Shasta River witnessed very low coho returns. Though new monitoring data is now online, we lack sufficient data—particularly related to key coho populations—to fully understand the trends for Southern Oregon/Northern California coho. Continued investments in population-level monitoring will deepen our understanding of this species' status and inform NOAA Fisheries' status reviews in the future.





Salmon & Steelhead 5-Year Status Reviews

Looking ahead

Looking forward, several environmental factors are likely to influence salmon returns in coming years—providing an opportunity to track the resiliency of the populations and their ability to handle the sort of natural environmental variations that have always influenced salmon numbers. For example, a warm expanse of water known as “the blob” began dominating the Pacific Ocean along the West Coast in 2013 before giving way to El Niño conditions in late 2015. Such warm conditions often reduce ocean productivity, including survivability of salmon and steelhead year classes that are in the ocean. NOAA Fisheries scientists are tracking the way these fish respond to such natural fluctuations.

At the same time many agencies, organizations, communities, and others along the West Coast are working hard to improve conditions for salmon and steelhead by restoring, improving, and reopening salmon and steelhead habitat. In 2015, for instance, the largest dam removal project in California history dismantled San Clemente Dam on the Carmel River, improving access for threatened Southern California Coast steelhead to 25 miles of important spawning and rearing habitat. In the inland Pacific Northwest, some farmers have altered irrigation practices to leave more water in streams for fish. In recent years, NOAA Fisheries has collaborated with states, tribes, and other authorities to develop several recovery plans for salmon and steelhead species that provide roadmaps for recovering the species, outlining high-priority actions designed to increase their populations and boost their resilience to environmental challenges, such as climate change and drought.

We do not know how much longer the record-setting California drought and recent unusual ocean conditions will continue. However, both pose serious challenges for California salmon and steelhead and those working for their recovery. Tracking their response to the drought and the unusually warm ocean and stream conditions, as well as extensive habitat improvement efforts, will both provide important information about their recovery and resiliency for the next round of status reviews in 2021.

Joining forces for fish

California farmers worked with NOAA Fisheries and the California Department of Fish and Wildlife to rescue and protect salmon that may have otherwise perished in the severe drought. Some farms adopted new water conservation measures to keep more water in streams for fish. The new partnership led to the rescue of thousands of salmon in streams about to run dry. Check out [videos](#) featuring the farmers and their work on behalf of salmon.

LEARN MORE

For details on the individual status reviews, including key threats and conservation accomplishments, please visit the following resources:

Status Reviews:

http://www.westcoast.fisheries.noaa.gov/publications/status_reviews/salmon_steelhead/2016_status_review.html

West Coast Salmon & Steelhead Recovery:

http://www.westcoast.fisheries.noaa.gov/protected_species/salmon_steelhead/recovery_planning_and_implementation/index.html