Salmon and Steelhead in the Columbia River Basin

Restoring healthy salmon runs is a regional challenge

Partnerships among government and tribal entities, non-governmental and private organizations are critical to restoring healthy salmon runs and securing the economic and cultural benefits they provide.

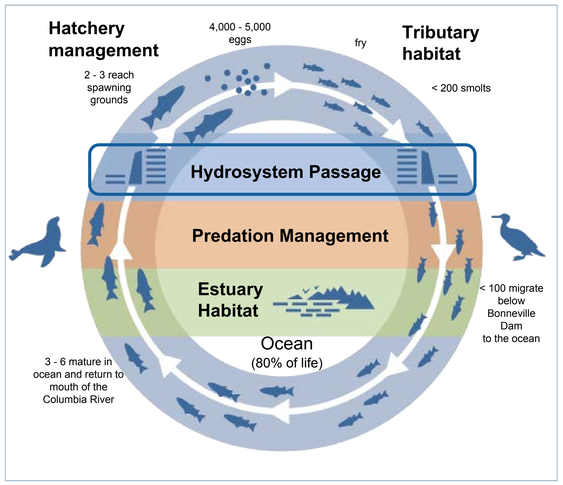
The life cycle of salmon and steelhead make them vulnerable to human and environmental impacts, and their recovery a complex issue.

Columbia and Snake River salmon and steelhead were listed for protection under the Endangered Species Act in the 1990s as a result of steep declines in the numbers of adult fish returning to spawn.

This regional challenge requires regional solutions

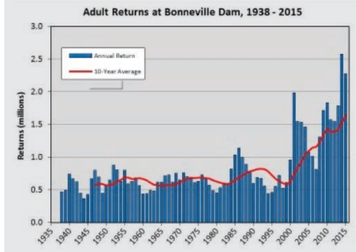
The lifecycle of salmon and steelhead requires the fish to rely on different environments as they grow and mature. Each stage of their lifecycle comes with its own survival challenges.

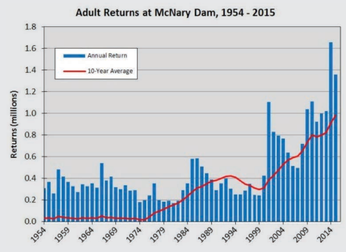
Salmon and steelhead have been impacted by more than a century of human and environmental impacts including:

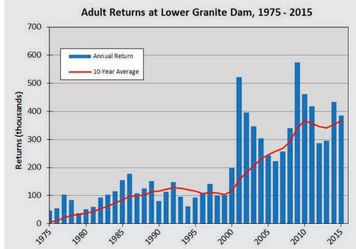


- Dams and water diversions
- Fishing
- Hatchery practices
- Habitat degradation
- Mining
- Ocean conditions
- Predation
- Water quality

Fish ladder counts help tell part of the salmon story







About this graph: The total count includes listed and non-listed salmon, natural-origin and hatchery-origin fish, and adults and approximately 120,000 jacks (young males that mature and return to spawning grounds earlier than others in their age class). Currently, hatchery fish comprise approximately 80% of the returning adults.

Major dams along the Columbia and Snake River systems have fish counting stations to monitor adult salmon and steelhead migrations. The combination of natural-origin and hatchery-origin adult fish returning from the ocean is higher than in the 1990s and since dam counts first began.

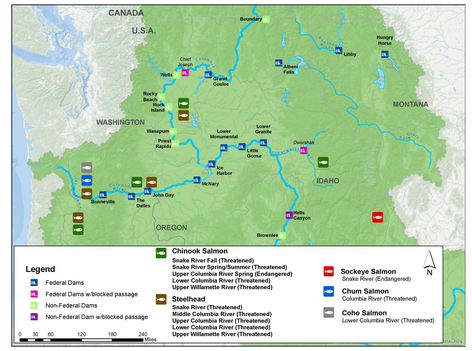
Several factors contribute to these improvements in abundance, including:

- Fish passage improvements
- Fish travel time improvements
- Habitat enhancement
- Harvest management
- Hatchery actions
- Ocean conditions
- Predation management actions

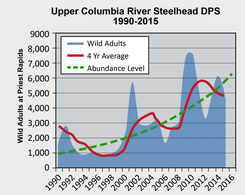
How are salmon and steelhead in the Columbia River Basin doing?

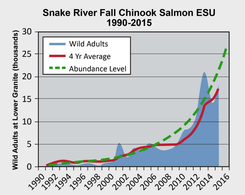
In the Pacific Northwest, the status of salmon and steelhead is evaluated by measuring several factors, including abundance (the number of adult fish that return each year to spawn).

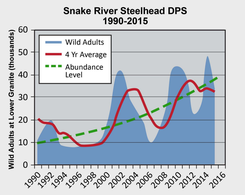
In 2016, NOAA Fisheries completed a five-year status review of all ESA-listed West Coast salmon and steelhead – including the 13 stocks of the Columbia River Basin – and found that no changes in ESA listing status are warranted.

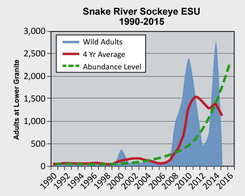


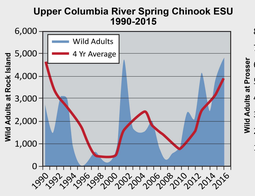
The following graphs show abundance levels from 1990-2015 for the seven natural-origin salmon and steelhead stocks that spawn above Bonneville Dam

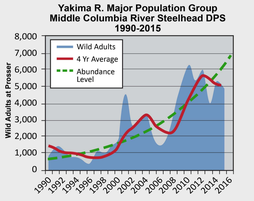


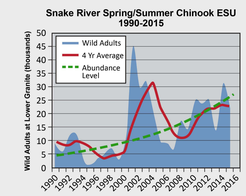












About the graphs: These graphs represent natural-origin fish only and do not include listed hatchery fish (with the exception of the Snake River Sockeye stock, which is sustained through a captive broodstock program). Fish populations tend to vary widely from year to year due to changing conditions. In these graphs the annual data is in blue, and a four-year average is plotted in red to smooth out some of that annual variability. In six of the seven populations, a statistically-significant increasing trend in abundance is illustrated in green.