Spring 2014

Central Valley Chinook Salmon & Steelhead Recovery Plan

NOAA FISHERIES WEST COAST REGION

Sacramento River winter-run Chinook salmon

- Listing Status: Endangered (listed as threatened in 1989, reclassified as endangered in 1994)
- Historical Spawning Distribution: Headwaters of the Sacramento River & Battle Creek
- Current Spawning Distribution: Sacramento River downstream of Shasta Dam

Central Valley spring-run Chinook salmon

- Listing Status: Threatened (listed in 1999)
- Historical Spawning Distribution: Headwaters of all major Central Valley rivers & numerous creeks
- Current Spawning Distribution: Several tributaries to the Sacramento River, confined below rim dams

Central Valley steelhead

- Listing Status: Threatened (listed in 1998)
- Historical Spawning Distribution: Headwaters of all major Central Valley rivers & numerous creeks
- Current Distribution: Tributaries to the Sacramento & San Joaquin rivers, confined below rim dams

Background

Millions of wild salmon and steelhead once returned to spawn in the foothills and mountains of California's Central Valley. Streams fed by rainfall, snowmelt, and cold water springs encircled the valley, fostering a diversity and abundance of Chinook salmon and steelhead. However, the mid-1800s ushered in sweeping changes to the landscape that ultimately led to declines in the abundance, distribution, and diversity of these fish.

Gold mining, dam construction, water and hydropower management, and other land uses limited fish populations from thriving in the Central Valley. By the 1990s, three of the valley's salmon and steelhead species were close to extinction and listed under the federal Endangered Species Act (ESA): Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead. Today, only a few of the historic populations remain but a new ESA recovery plan provides a framework for recovering Central Valley's iconic fish.

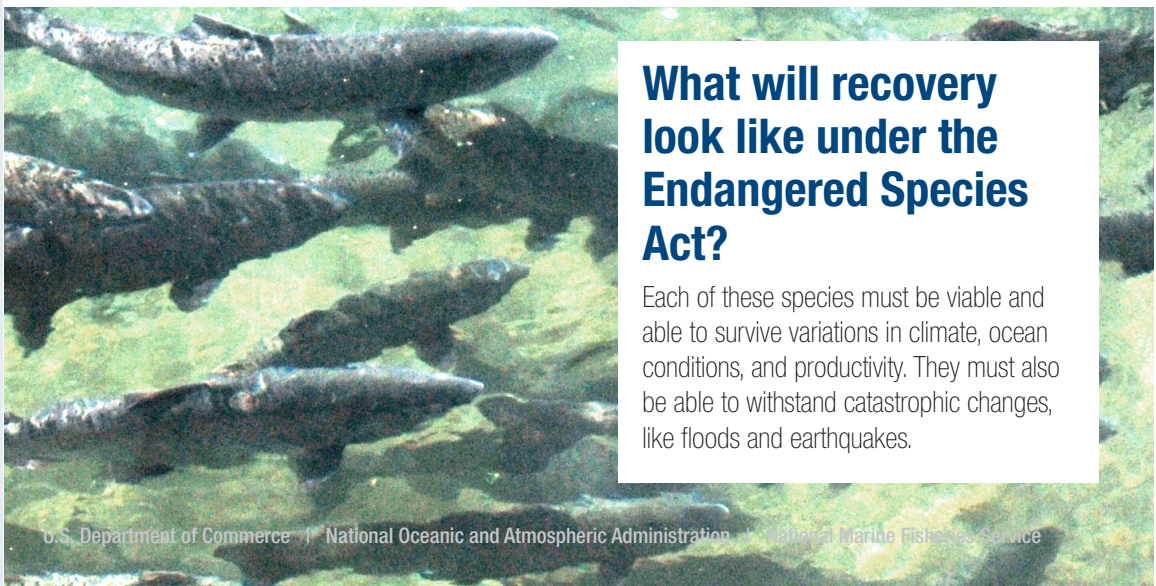
Plan provides a path for salmon and steelhead recovery

In the spring of 2014, NOAA Fisheries adopted a plan to recover Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead.

A recovery plan is one of the most important tools in the recovery process. It provides a sound scientific foundation and guides decision-making for partners implementing the plan and its actions. This recovery plan sets goals and prioritizes actions for the Sacramento-San Joaquin Delta and its watersheds, laying out steps to achieve species' recovery. It provides a framework for targeting conservation efforts and modifying actions based on new science and changing circumstances.

Recovery plans provide guidance and are voluntary; they do not have the force of law. As such, the success of recovery efforts ultimately depends on partnerships and cooperation to ensure the right actions are implemented to advance long-term species' recovery.

Spring-run Chinook salmon - photo courtesy Zeke Lunder



What will recovery look like under the Endangered Species Act?

Each of these species must be viable and able to survive variations in climate, ocean conditions, and productivity. They must also be able to withstand catastrophic changes, like floods and earthquakes.

Central Valley Chinook Salmon & Steelhead Recovery Plan

Recovery actions target threats

Currently, dams block Chinook salmon and steelhead from over 90 percent of their historical spawning habitat in the valley. Reduced flows and warm temperatures below the dams further compound this problem. In addition, 98 percent of riparian and floodplain habitat in the lower river and Delta is no longer available to support healthy fish runs. But lost and degraded habitat is not the only challenge these fish face. Water withdrawals, commercial and recreational fisheries, the introduction of non-native fish, and legacy effects of hatcheries all contribute to declining populations.

The recovery plan targets actions to these very threats. The idea is to support the biological needs of fish by addressing the threats they face, whether it be warm water temperatures below dams or habitat loss. By addressing these threats collectively, the recovery plan provides a framework for restoring these populations.

Key recovery actions

- Reintroducing populations into key watersheds;
- Conducting landscape-scale restoration throughout the Delta;
- Incorporating ecosystem restoration into Central Valley flood control plans, including breaching and setting back levees;
- Restoring flows throughout the Sacramento and San Joaquin River basins and the Delta;
- Reducing biological impacts of exporting water through Jones and Banks pumping plants;
- Meeting water quality criteria established in the Central Valley Water Quality Control Plan for all potential pollutants;
- Annually reviewing impacts from commercial and recreational fisheries and modifying regulations as necessary to allow for species recovery;
- Implementing projects to minimize predation at artificial structures; and
- Implementing the recommendations of the California Hatchery Scientific Review Group.

The recovery plan is guided by the best available science. It includes a range of actions to restore winter- & spring-run Chinook salmon, steelhead, & their habitats. It sets priorities to guide investments & incorporates an adaptive management approach to make adjustments based on new information.

Central Valley Chinook Salmon & Steelhead Recovery Plan

Strategy for recovery

The recovery strategy focuses on protecting existing populations while reintroducing populations into their historical habitats. We prioritized fish populations and actions so that resources are strategically invested. This strategy, coupled with actions that address threats, will contribute to restored salmon and steelhead runs. Here's what the plan envisions for recovery:

Spring-run Chinook salmon

- One viable population in the Northwestern California Region
- Two viable populations in Basalt & Porous Lava Region
- Four viable populations in Northern Sierra Region
- Two viable populations in the Southern Sierra Region

Winter-run Chinook salmon

- Three viable populations in the Basalt & Porous Lava Region

Steelhead

- One viable populations in the Northwestern CA Region
- Two viable populations in Basalt & Porous Lava Region
- Four viable populations in Northern Sierra Region
- Two viable populations in the Southern Sierra Region

Over time, salmon and steelhead evolved to their unique geographic surroundings. Whether it be low elevation rivers fed by rainfall or high elevation streams sustained by snow-melt, the populations adapted genetically to the flow, water temperature, and habitat conditions of particular regions. Diversity groups represent the varied landscapes and subsequent genetic identity of the salmon and steelhead populations. Recovering the species requires the protection and restoration of populations in each of the diversity groups shown on this map.

A more detailed map of Central Valley Salmon and Steelhead Diversity Groups is on the final page.

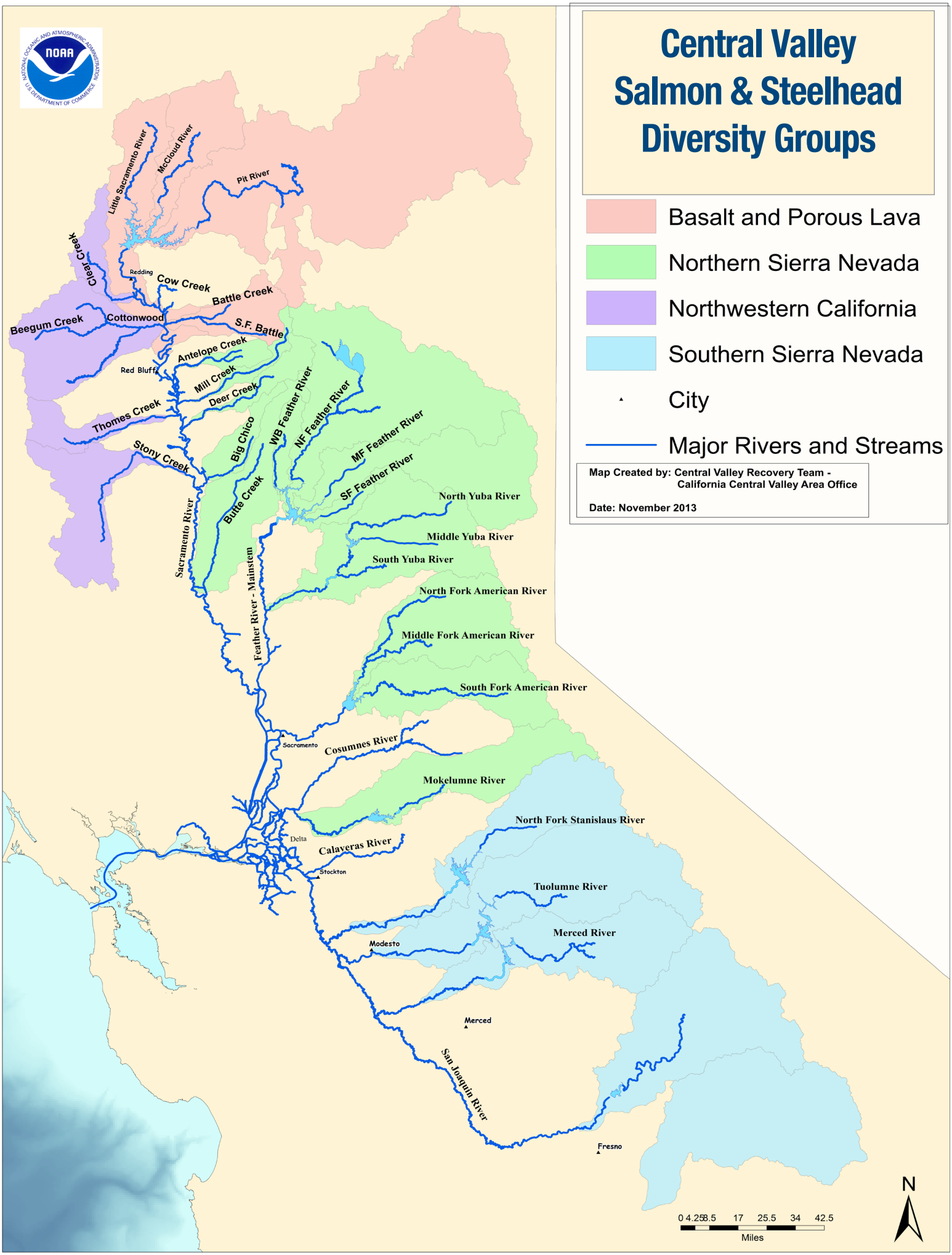
LEARN MORE…

To learn more about recovery efforts in California's Central Valley please visit:

On the web: westcoast.fisheries.noaa.gov/protected_species/salmon_steelhead/recovery_planning_and_implementation/california_central_valley/california_central_valley_salmon_recovery_domain.html

Central Valley Technical Recovery Team:

On the web: swfsc.noaa.gov/textblock.aspx?Division=FED&ParentMenuId=54&id=2260


Central Valley Salmon & Steelhead Diversity Groups
Basalt and Porous Lava
Northern Sierra Nevada
Northwestern California
Southern Sierra Nevada
City
Major Rivers and Streams
Map Created by: Central Valley Recovery Team - California Central Valley Area Office
Date: November 2013
Little Sacramento River
McCloud River
Pit River
Clear Creek
Redding
Cow Creek
Battle Creek
Beegum Creek
Cottonwood
S.F. Battle
Antelope Creek
Red Bluff
Mill Creek
Deer Creek
Thomes Creek
Stony Creek
Big Chico
WB Feather River
NF Feather River
MF Feather River
SF Feather River
Butte Creek
Sacramento River
Feather River - Mainstem
North Yuba River
Middle Yuba River
South Yuba River
North Fork American River
Middle Fork American River
South Fork American River
Sacramento
Cosumnes River
Mokelumne River
North Fork Stanislaus River
Delta
Calaveras River
Stockton
Tuolumne River
Merced River
Modesto
Merced
San Joaquin River
Fresno
0 4.25 8.5 17 25.5 34 42.5
Miles
N