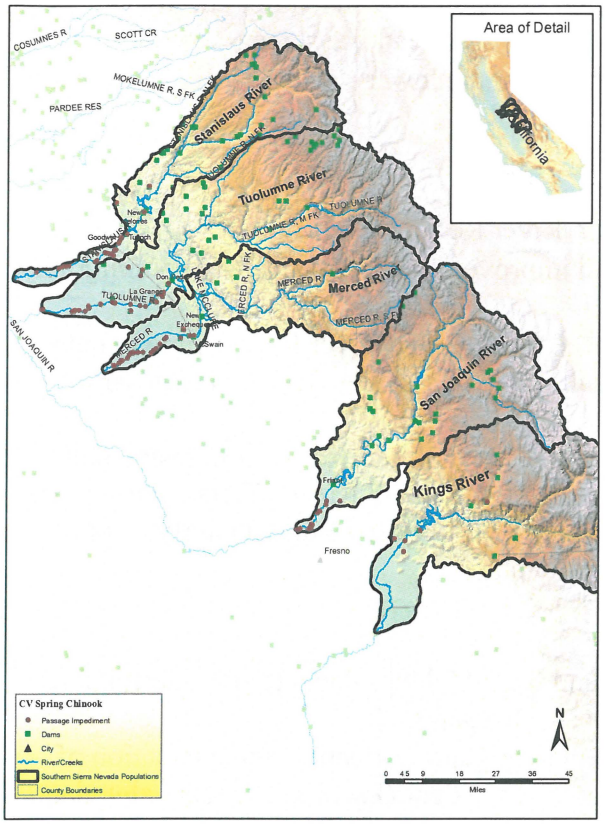
Southern Sierra Diversity Group and Mainstem San Joaquin River



Core 1 Population

- Calaveras River steelhead

Priority Areas for Reintroduction

- San Joaquin River from Friant Dam downstream to the Merced River (spring-run Chinook salmon)
- At least one other among the Stanislaus, Tuolumne, and Merced rivers (spring-run Chinook salmon and steelhead)

Core 2 Populations

- Lower Stanislaus River steelhead
- Lower Tuolumne River steelhead
- Lower Merced River steelhead

Key Threats

- Large passage impediments/barriers in the Stanislaus, Tuolumne, Merced, and San Joaquin rivers
- Small seasonal passage impediments/barriers and low flow conditions in the Mokelumne, Calaveras, and San Joaquin Rivers
- Low flows and warm water temperatures
- Loss of riparian and floodplain habitat affecting juvenile rearing and outmigration;
- Predation by non-native fish species
- Lack of biological data for steelhead in the Diversity Group

Priority 1 Recovery Actions for the Southern Sierra Nevada Diversity Group[1]

Calaveras River

- Develop and implement long-term year-round instream flow schedules and water temperature requirements that are protective of all steelhead life stages.
- Remove or modify all fish passage impediments in the lower Calaveras River to meet NMFS fish passage criteria

San Joaquin River

- Continue implementation of the San Joaquin River Restoration Program
- Develop and implement a suite of actions to improve salmon and steelhead outmigration survival through the lower San Joaquin
- Develop and implement an ecologically based San Joaquin River flow regime to help restore natural river processes and support all life stages of steelhead and spring-run Chinook salmon
- Implement projects that improve wastewater and stormwater treatment in residential, commercial, and industrial areas throughout the San Joaquin River watershed to ensure that the water quality criteria established in the Central Valley Water Quality Control Plan (Basin Plan) are met for all potential pollutants.

Stanislaus River

- Manage releases from Tulloch, Goodwin, and New Melones dams to provide suitable water temperatures and flows for all steelhead life stages.
- Develop a Stanislaus River steelhead team to help guide collection and evaluation of baseline data to help address hypotheses for why resident *O.mykiss* are more abundant than anadromous *O.mykiss* in the Stanislaus River.

Tuolumne River

- Manage releases from La Grange and Don Pedro dams to provide suitable flows and water temperatures for all downstream life stages of steelhead.
- Develop a Tuolumne River steelhead team to help guide collection and evaluation of baseline data to help address hypotheses for why resident O.mykiss are more abundant than anadromous *O.mykiss* in the Tuolumne River.

Merced River

- Manage the water storage in Crocker-Huffman and New Exchequer reservoirs in order to provide suitable water temperatures and flows for all downstream life stages.
- Work with State and Federal water acquisition programs to dedicate instream water in the Merced River.

[1] Only a few priority 1 recovery actions for this diversity group are shown here.