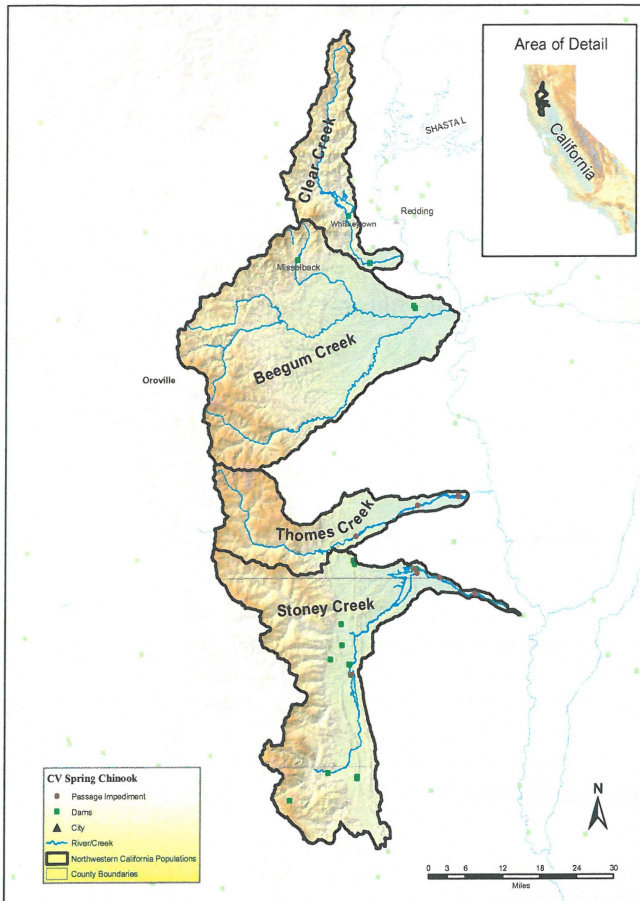




## Northwestern California Diversity Group



### Core 1 Populations

- Clear Creek spring-run Chinook salmon and steelhead

### Core 2 Populations

- Beegum Creek spring-run Chinook salmon and steelhead
- Thomes Creek steelhead
- Putah Creek steelhead

### Priority Areas for Reintroduction

- None

### Key Threats

- Hybridization between fall-run and spring-run Chinook salmon in Clear Creek
- Lack of spawning gravel
- Water temperatures and water quality affecting adult immigration and holding, spawning and embryo incubation
- Low flow conditions affecting all life stages
- Gravel mining and passage impediments on Thomes Creek
- Lack of biological data for steelhead in the diversity group



**Priority 1 Recovery Actions in the Northwestern California Diversity Group<sup>1</sup>**

- Continue operation of the Clear Creek segregation weir to create reproductive isolation between fall-run Chinook salmon and spring-run Chinook salmon.
- Develop a new spawning gravel budget and implement a long-term gravel augmentation plan in Clear Creek, including acquisition of a long-term gravel supply.
- Manage releases from Whiskeytown Dam with instream flow schedules and criteria to provide suitable water temperatures for all life stages, reduce stranding and isolation, protect incubating eggs from being dewatered, and promote habitat quality and availability.
- Implement channel maintenance flows in Clear Creek as called for in the 2009 CVP/SWP biological opinion.
- Develop water temperature models to improve Clear Creek water temperature management.
- Adaptively manage Whiskeytown Reservoir releases and water temperatures to increase anadromy in *O. mykiss*.

**Priority 2 Recovery Actions in the Northwestern California Diversity Group<sup>1</sup>**

- Implement gravel mining best management practices to allow for unimpeded upstream and downstream passage conditions for all life stages of steelhead.
- Implement floodplain restoration projects in Clear Creek
- Conduct a feasibility study on potential channel modifications that would improve upstream migration conditions in Thames Creek.
- Modify water releases from Black Butte Dam and water diversions in order to provide improved flows for all steelhead life stages in Stony Creek.

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<sup>1</sup> Not all priority 1 or priority 2 recovery actions for this diversity group are shown here.