State Water Resources Control Board (Board), Cachuma Project Hearing Phase 2, U.S. Bureau of Reclamation Water Rights Permits 11308 and 11310

National Marine Fisheries Service (NMFS) Rebuttal Witness, Peter Alagona, PhD, Outline of Testimony

History of Steelhead in the Santa Ynez River

Qualifications

- Assistant Professor, Department of History & Environmental Studies Program, University of California, Santa Barbara
- PhD in history from UCLA in 2006
- For more than a decade, I have been studying the histories of land use, natural resource management, environmental politics, and ecological science in California and the American West.
    - The majority of my work has focused on the histories of wildlife and endangered species.
    - I have taught courses and published numerous articles related to this topic.
- Statement of qualifications attached

Our Study

- I recently explored and documented the history, including public use, of the steelhead resources of the Santa Ynez River system.
- This information can be used to assist the Board in understanding the historical distribution and abundance of steelhead and the nature and scope of the public trust interest in the Santa Ynez River system.
- Our group interviewed or corresponded with professional scientists, historians, and anthropologists, as well as local residents with knowledge of the area.
- We also conducted an extensive review of the archaeological, ethnographic, historical, and scientific information available for this system.

The Archaeological Record

- We did not find evidence in the archaeological record for Chumash Indian use of Santa Ynez River steelhead.
- Anadromous fish bones are underrepresented at many sites throughout California, including some areas with large historic fisheries.

The Historical Record

- Historical records for steelhead in the Santa Ynez River, as for all of California's anadromous fisheries, are incomplete.

- However, these records provide a source of information for documenting the general distribution and abundance of steelhead dating back to the late nineteenth century.

The Relative Size of the Santa Ynez River Run

- Records from throughout Southern California suggest that, from the late nineteenth century until the middle of the twentieth century (1875-1953), the largest runs of steelhead in the region occurred in the Santa Ynez River of Santa Barbara County.
- The size of these runs varied considerably from year to year depending in part on the prevailing hydrologic conditions.

The Distribution of the Steelhead in the Santa Ynez River

- Records dating back to the late nineteenth century suggest that, during years with favorable conditions, steelhead spawned throughout the Santa Ynez River watershed in all accessible streams with even minimally adequate conditions.

The Local Recreational Culture and Economy

- During the early twentieth century, the city of Lompoc, near the Santa Ynez River's outlet, courted a reputation as a sportsman's paradise based on fishing for steelhead, bringing considerable economic benefits to the community.

Fishery Mitigation and Improvement Efforts

- Beginning in the 1910s, management agencies attempted to augment the Santa Ynez River rainbow trout and steelhead fishery through fish rescue, transplanting, and stocking operations. Such programs occurred throughout the state.
- It remains unclear to what extent such programs resulted in gains for the fishery beyond an isolated location or single season.
- Recent DNA analysis has shown that there is little or no interbreeding between native and hatchery steelhead/rainbow trout genotypes.

Pre-Dam Population Estimates

- During years with favorable conditions, the Santa Ynez River produced vigorous steelhead runs well into the 1940s.

The 1948-1951 Drought and the Construction of Bradbury Dam

- The Santa Ynez River steelhead run decreased during the drought that lasted from 1948-1951. The drought did not, however, destroy the run.
- The completion of Bradbury Dam, in 1953, blocked about two-thirds of the river system's remaining spawning habitat, and proposed mitigation measures were never completed.

The Legacy for Santa Ynez River Steelhead

- The Santa Ynez River's steelhead population never recovered after the construction of Bradbury Dam.
- Restoration efforts will require addressing this problem in some manner.