UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
777 Sonoma Ave., Room 325
Santa Rosa, CA 95404-4731

August 28, 2009

In response refer to:
SWR/F/SWR3:DH

Victoria Whitney
State Water Resources Control Board
Division of Water Rights
Post Office Box 2000
Sacramento, California 95812

Dear Ms. Whitney:

NOAA's National Marine Fisheries Service (NMFS) would like to provide information on the conservation status of steelhead in the upper Salinas watershed as it is relevant to a water right complaint with your agency involving the Santa Margarita Ranch, LLC.

NMFS is responsible for administration of the Federal Endangered Species Act (ESA) as it applies to anadromous salmonids. This responsibility includes working with the State Water Resources Control Board (SWRCB) to resolve water resource issues in concert with conservation of threatened and endangered species (ESA 2(c)(2)). The diversion of water associated with this project may pose an adverse environmental impact and therefore be contrary to State and Federal law and not in the public interest.

A complaint by North County Watch against Santa Margarita Ranch, LLC was submitted to the SWRCB on July 16, 2008. The complaint alleges that significant reaches of Trout and Rinconada creeks have been dewatered as a result of vineyard development and associated use of previously inactive wells and other unauthorized diversions. NMFS registered similar concerns with the Santa Margarita Ranch, LLC in a letter dated July 7, 1999, and again with San Luis Obispo County on August 28, 2008. This renewed complaint, and the absence of and instream flow analysis, heighten our concern that hydrologic impacts have been occurring on this property.

The few steelhead in the upper Salinas basin are all that remain of what was once the largest inland population for the species.[1] Nacimiento, San Antonio, and Salinas dams have eliminated most of their spawning and rearing habitat. As a result, the upper Salinas basin, which was historically a minor component of the population, now contains some of its last individuals. In addition, this remnant population is at a very high risk of extinction due to highly degraded

[1] Boughton et al. 2006. Steelhead of the South-Central/Southern California Coast: population characterization for recovery planning. NOAA Technical Memeorandum, NOAA-TM-NMFS-SWRSC-394.

conditions in the basin (see enclosure).

Because the Santa Margarita Ranch project has the potential to substantially impact an already imperiled population that is important to the recovery of the species, we ask that you give this issue high priority. In addition, as the federal management authority for ESA listed steelhead, we would like to offer this, and future, technical assistance to help resolve this important water resource issue. If you have any questions regarding these comments, please feel free to contact David Hines at (707) 575-6098.

Sincerely,

Steven A. Edmondson
Northern California Habitat Supervisor
Habitat Conservation Division

Enclosure

cc: Mark Capelli, NMFS Recovery Coordinator
Brian Erlandsen, California Department of Fish and Game
Susan Harvey, North County Watch
Miranda Joseph
Bill Robeson, County of San Luis Obispo
Rob Rossi, Santa Margarita Ranch, LLC
Bill Struble, NOAA Office of Law Enforcement

Enclosure

National Marine Fisheries Service
Status of the Upper Salinas Steelhead Sub-population
Report excerpted from NMFS (2006)

Introduction

Figure 1 indicates the range and distribution of the Upper Salinas sub-population of South-Central California Coastal (SCCC) steelhead Distinct Population Segment (DPS). Although an argument can be made for including this population with that of the Nacimiento and San Antonio rivers, we differentiate the Upper Salinas based on its unique ecological context (drier than the Nacimiento watershed), the length of its migration route (the longest in the DPS), and its unique status (the Nacimiento/San Antonio sub-population is nearly extirpated because of the two large dams). The Upper Salinas area has approximately 126 miles of occupied stream habitat; including migration, spawning, and rearing habitat. It receives an average of 18 inches of rainfall per year and contributes about 32% of the runoff of the upper watershed (Nacimiento/San Antonio contributes 24%, and Estrella contributes 25%). Land cover is diverse and varied, but includes cropland, vineyards, grassland, oak woodland, and mixed chaparral. The principal land uses are agriculture, grazing, and urban/rural development (California 2002). Vineyard and urban/rural housing development have become the dominat land use trends in recent years.

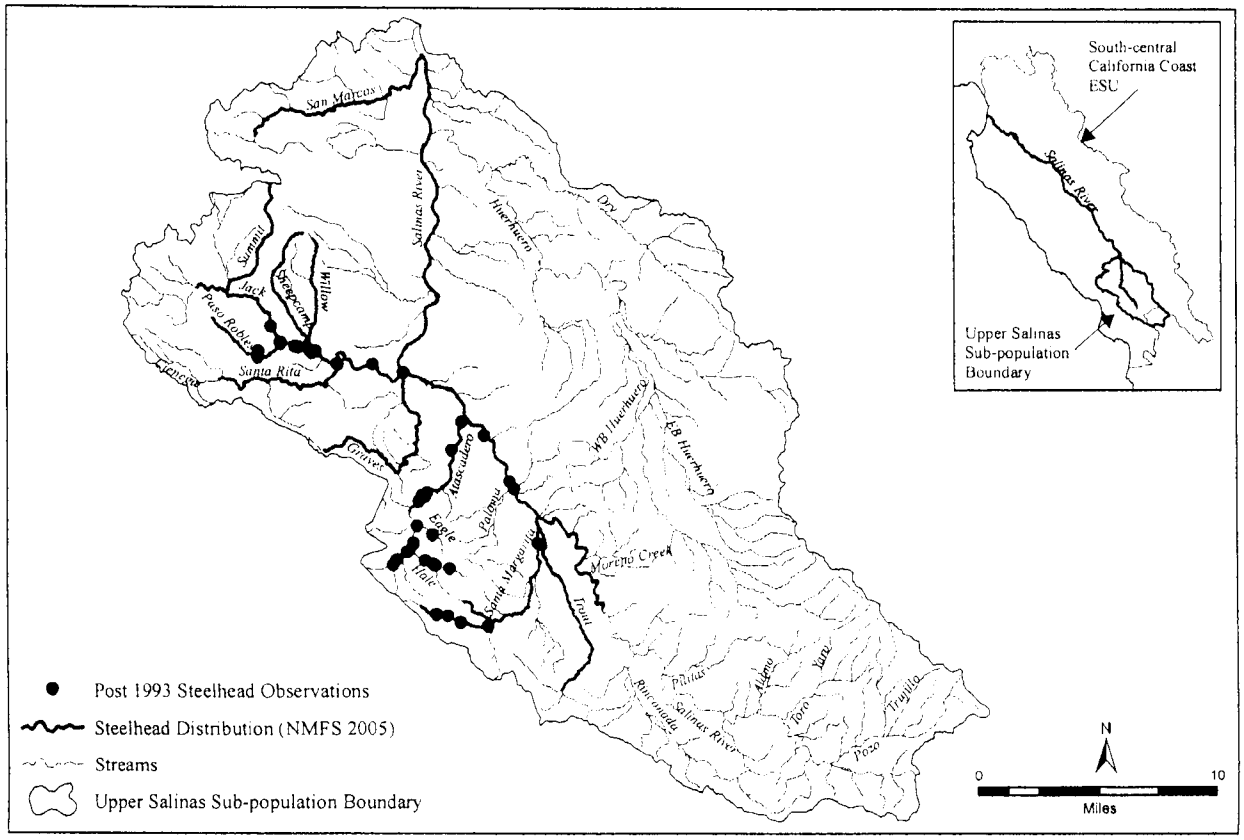

Figure 1. Recent observations of adult steelhead within the range and their current distribution.

Status

We infer from the following evidence that an anadromous run of steelhead still persists, albeit in extremely low numbers in the upper Salinas watershed. Abundant observations of adult steelhead in most of the perennial tributaries have been documented by Franklin (2005). The earliest observations date back to 1890, with most occurring in the 1930's and 1940's. In addition, Titus (2002) cites several surveys documenting steelhead presence in the 1950's. The NMFS Updated Status Review also identifies a small population in the Upper Salinas River (Good 2005).

Of course, the presence of a historic population does not mean that one currently persists, however, since 1993 there have been over 20 separate observations of adult steelhead throughout the area (Franklin 2005, Highland 1999) (Figure 1). The presence of steelhead has also been independently confirmed by California Department of Fish and Game (CDFG) staff (Nelsen Highland, personal communication, CDFG, 2006) who concur that anadromous reproduction of steelhead does occur when flow conditions permit successful migration of adults to the area; although they estimate these conditions are limited to only a few times per decade. Our own observations confirm that limited spawning and rearing conditions still exist at least in Paso Robles Creek and its tributaries, which would allow for some degree of reproductive success.

A resident population of *Oncorhynchus mykiss* (rainbow trout) also exists in the Upper Salinas and co-occurs with the steelhead in many areas of the upper watershed. It is likely that these populations play an important role in the population dynamics and evolutionary potential of the anadromous population. The contribution of resident trout to the ephemeral anadromous population via polymorphism[2] provides a plausible explanation for the apparent persistence of an anadromous population (NMFS 2004a). Straying from other sub-populations may also help explain their persistence, but the decline in source populations and habitat fragmentation has increasingly isolated the Upper Salinas population.

The existing condition of the steelhead population, however, is very poor. Our assessment of population viability is based on our evaluation of a comprehensive database of all fisheries related observations (CEMAR, NMFS databases), interviews with CDFG staff (Nelsen and Highland), and review of various other sources as indicated.

As with most sub-populations in the SCCC DPS, abundance in the Upper Salinas at all life stages is low relative to historic conditions. The introduction of serious threats (described below) and associated habitat degradation, has most likely substantially reduced its abundance. Although, the Upper Salinas sub-population is considered to have been historically small and sporadic relative to other populations (Good 2005), such as the Nacimiento/San Antonio.

Population growth rate is a measure of a population's reproductive performance (*i.e.*, its ability to replace itself). Our assessment of the population growth rate is that it declined sharply after installation of the three major dams (Nacimiento, San Antonio, and Upper Salinas) and that the anadromous population has been failing to replace itself since that time. This is evidenced by

[2] Polymorphism is the expression of alternative life histories within a population. In this case, parents of resident origin can give rise to both anadromous and resident phenotypes (NMFS 2004b).

extremely low abundance and the presence of habitat conditions that make successful completion of the species' life cycle at replacement values unlikely. This view is shared by the CDFG staff we interviewed, and is consistent with the record of observations, which indicates a corresponding decline in frequency of observations.

The spatial distribution of spawning and rearing within the geographic range of the Upper Salinas population is very limited and fragmented relative to its historic condition. This is primarily due to widespread loss of surface water in summer months which limits rearing, outmigration, and to some extent successful spawning. Multiple barriers to anadromy from small dams and road crossings also limit distribution. The Salinas Dam which impounds Santa Margarita Lake is responsible for the largest reduction in anadromous habitat of any of the barriers within the range of the Upper Salinas sub-population.

Genetic variability represents the reservoir upon which future evolutionary potential of the population depends (Busby *et al.* 1996). While we have no direct evidence of genetic diversity for this sub-population, significant changes in environmental conditions have likely constrained the diversity of life history traits this population must have previously possessed. For example, favorable conditions necessary for early season migration have been largely eliminated by retaining early storm flows behind the three major dams. This reduces the reproductive success of adults possessing the trait for early run timing and is thereby likely to reduce the frequency of alleles responsible for this trait in the population. This erosion of behavioral and genetic diversity has in turn the potential to limit the ability of the population to cope with future environmental challenges (*i.e.*, its evolutionary potential) (Reiman 1993). Similar erosion of traits are also likely applicable to smolt outmigration, and lagoon rearing as well. In general, increased inbreeding will lead to reductions in average reproductive fitness, and is inevitable in small populations (Frankham et al. 2002).

Threats to the sub-population

The most severe habitat-based threats are flow related passage conditions, and reduction in summer base flows. Flow related passage refers to the ability of adults to successfully migrate the 117 river miles to the Upper Salinas and the ability of smolts to successfully outmigrate. The source of this threat is from the magnitude, frequency, duration, and timing of flow releases from the three major dams on top of a semi-arid river system possessing chronically depleted aquifers.

Reduction in summer base flows has resulted in the loss of up to two thirds of the historic rearing habitat for Upper Salinas steelhead (Nelsen Highland, personal communication, CDFG, 2006). Groundwater pumping and surface water diversions for agriculture and municipal uses have lowered groundwater levels throughout the area. The corresponding dessication of streams has reduced rearing space, contributed to warming of stream waters, and intensified predation and inter/intraspecific competition. All these stressors have reduced the capacity of this area to support a steelhead population.

Additional threats associated with the extremely low population size are also likely to affect the persistence of the Upper Salinas sub-population; these include loss of productivity, known as depensatory density-dependent effects, and loss of behavioral and genetic diversity.

Depensatory processes at low population abundance result in high extinction risks for very small populations because any decline in abundance further reduces a population's average productivity, resulting in a spiraling slide toward extinction (McElhany *et al.* 2000). This process is likely a factor given the extremely low abundance of this sub-population. The loss of genetic diversity in small populations has already been discussed (above).

The primary threats to the Upper Salinas steelhead sub-population are the limited migration opportunities from the existing flow regime in the mainstem channel and the reduced rearing habitat from reduced summer base flows associated with groundwater pumping and surface water diversions. These threats are manifested in deterministic reductions in overall abundance, negative trends in population growth, reduced and fragmented distribution, and erosion of genetic and ecological diversity. The severity of the threats and the poor ratings for all four population viability criteria make the overall extinction risk for the Upper Salinas steelhead sub-population very high.

References

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Personal Communication

Nelsen Highland, CDFG, 2006