

10/10/2003 12:06 2064392420

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PAGE 13

Zarel, ~~George~~ Kuzan
Memorandum

To : John Turner, Chief
 Environmental Services Division

Date : Mar 10, 1994

EXHIBIT CT18

#14

From : Department of Fish and Game

Subject : Comments on Cachuma Project EIR/EIS Fisheries Study Plan

We have reviewed the subject plan and would like to offer the following comments.

As you are aware, IFD is developing a statewide steelhead management plan that will direct the Department's efforts to manage and restore steelhead populations. We have identified recovery of the south coast steelhead populations ("southern steelhead") as the highest priority for steelhead management. Restoration of the Santa Ynez steelhead population, at one time the most abundant of all of the runs of the south coast, is critical to the restoration of southern steelhead.

Essential to this effort is the restoration of habitat conditions that existed prior to water development in the system, to the maximum extent possible. We realize that we will not be able to re-create the run sizes that existed prior to water development, but habitat conditions in the mainstem and tributaries downstream of Bradbury Dam should be restored to pre-water development levels.

Our greatest concern with the study plan is that it appears to be focused on efforts to assess the present condition of the biological resources for purposes of formulating alternatives and mitigation measures. This is succinctly expressed on page 6, paragraph 2, which states "If a viable run of steelhead is identified, this information will be used with the habitat analysis to identify areas (e.g. mainstem or tributary restoration) affected by the alternatives and potential mitigation measures." We believe that the study plan should focus on assessment of habitat conditions necessary to restore and sustain a viable population, not just the remnant population that currently exists. In addition, we have identified, as one of the restoration goals for southern steelhead, increasing populations to levels that will support angler use. There is no doubt that the decline of Santa Ynez River steelhead is due to water development, especially the adverse effects caused by the Cachuma Project. The EIR/EIS needs to make restoration of this population a project purpose.

10/10/2003 12:06 2054392420

NHC

PAGE 14

Mr. John Turner
March 10, 1994
Page Two

Reintroduction of genetically similar stocks to stream systems where steelhead have become extirpated has been identified in the draft statewide steelhead management plan as a management option, and will be implemented, if necessary, in the Santa Ynez River system. For this to be successful, habitat conditions must be restored to a level which will sustain and increase the reintroduced population, therefore it is essential that these conditions be restored at this opportunity.

Page 4, 5.1.2. Data Sources and Assumptions Regarding Their Use.

The deadline given to complete the fieldwork, analysis, and report writing (August, 1994) is unrealistic. We have concerns, that because the fieldwork has not yet begun and the adult steelhead migration season is about one-half over, information on adult migration will not represent the entire year, thus analyses based on this data will be incomplete and inaccurate.

Page 5, 5.1.3.1. Adult Steelhead/Rainbow Trout Spawning.

We have concerns regarding mortality that may result from tagging or marking of adult steelhead. We believe, however, that some form of marking, if done properly and carefully, may be acceptable and would provide much needed population information. We will revisit this issue when the application for a Scientific Collectors Permit is received by IFD. Please be advised that permit conditions will be very conservative so that marking-related mortality will not be another factor in the decline of these fish.

Page 6, 5.1.3.2 Determination of Origin of Trout Stocks

Although it may be important to differentiate steelhead from hatchery rainbow trout that may have spilled from Lake Cachuma, differentiation of anadromous (steelhead) and nonanadromous (resident) native forms in coastal rainbow trout populations is unnecessary and diverts attention from legitimate study efforts. These two forms comprise a single, interbreeding population in stream systems where they coexist and, both forms are important to the persistence of the population.

According to Behnke (1992), the coastal rainbow trout subspecies, *O. m. irideus*, includes both anadromous and resident forms in coastal drainages from California to Alaska. According to Jennifer Nielsen, a Fish Geneticist with the U.S. Forest Service, little or no genetic differentiation has been found between resident and anadromous forms of rainbow trout inhabiting the same drainage. This is also supported by Berg (1987) and Behnke (1992). The reversion to residency of presumably anadromous forms that have become isolated upstream

10/10/2003 12:06 2064392420

NHC

PAGE 15

Mr. John Turner
 March 10, 1994
 Page Three

of dams (e.g. Whale Rock Reservoir and Redwood Creek populations) is a further indication of a possible non-genetic basis for anadromy in rainbow trout. Anadromous and resident rainbow trout apparently did not arise from two distinct evolutionary lines, but rather the two forms gave rise to each other independently (Behnke 1992).

Lack of genetic differences indicates that there is substantial gene flow between anadromous and resident forms inhabiting the same stream system. It is not uncommon in anadromous salmonids for males to mature as parr, then assume a resident life style (Titus and Erman 1994). Mature male parr rainbow trout have been observed spawning with female steelhead in Waddell Creek (Shapovalov and Taft 1954) and in the Big Sur River. This variability in life history patterns probably confers a survival advantage, especially in environments with unstable, variable climatic and hydrographic conditions such as southern California, and may be a very important mechanism that has allowed steelhead to persist in the suboptimal, marginal southern California environment. Busby et. al (1993) state, that for purposes of Endangered Species Act evaluation and implementation, resident rainbow trout and steelhead that share a common gene pool should be considered together as one unit.

If you have any questions, please contact Dennis McEwan
 (916) 653-9442.

COPIES Original Signed
 TIMOTHY C. FARLEY
 Timothy C. Farley
 Chief, Inland Fisheries Division

Attachment

cc: Fred Worthly, RS
 Dick Daniel, ESD
 Cindy Chadwick, ESD

bc: Bill Snider, ESD
 Rob Titus, ESD
 Dwayne Maxwell, RS
 Steve Parmenter, RS
 Maurice Cardenas, RS
 Tim Curtis, IFD
 Terry Jackson, IFD

McEwan:jls
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 Curtis-IFD; McEwan-IFD

