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October 7, 2003

BY MESSENGER

Mr. Andrew Fecko
Division of Water Rights
State Water Resources Control Board
1001 I Street, 14th Floor
Sacramento, CA 95814

Re: City of Lompoc's Comments on Draft Environmental Impact Report prepared in Connection with Consideration of Modifications to the U.S. Bureau of Reclamation's Water Right Permits 11308 And 11310 (Applications 11331 and 11332) to Protect Public Trust Values and Downstream Water Rights on the Santa Ynez River Below Bradbury Dam (Cachuma Project)

Dear Mr. Fecko:

The City of Lompoc has long participated in proceedings before the State Water Resources Control Board ("SWRCB") on the Cachuma Project. As a downstream user of water, the City has an obligation to its citizens to protect the quantity and quality of its downstream water rights. To that end, the City of Lompoc submits the following comments on the Draft Environmental Impact Report for the State Water Resources Control Board's Consideration of Modification to the U.S. Bureau of Reclamation's Water Rights Permits for the Cachuma Project. The City of Lompoc's comments are in two parts. The following are comments regarding the alternatives and certain assumptions underlying the alternatives. The City of Lompoc also submits as attachments certain technical comments prepared by its technical consultants, Tim Durbin, Consulting Hydrologists (Attachment A), and Paul Bratovich, Surface Water Resources Inc. (Attachment B).

Section 3.2.2 (pages 3-10 to 3-12)

Alternatives 4A and 4B provide for the delivery of water from the State Water Project ("SWP") to the City of Lompoc. Neither is a feasible alternative from the City of Lompoc's perspective. Alternatives 4A and 4B constitute an impermissible effort to impose a new water supply on Lompoc. Both versions of Alternative 4 would require the City of Lompoc to approve and accept state water as its primary water source despite Lompoc voters having twice rejected the delivery of SWP water.

The Draft EIR states that the implementation of either Alternative 4A or 4B would require cooperation by all involved agencies, completion of the project-specific environmental review and permitting, and securing funding and operational agreements. The City of Lompoc would not be agreeable to participating in the implementation, funding, or an operational agreement for either Alternative 4A or 4B. The City of Lompoc's opposition to these alternatives is noted in the Draft EIR (page 3-11) and in a letter dated June 18, 1999 from Donald B. Mooney to James Canady, which comments are incorporated by reference herein.

Alternatives 4A and 4B, as proposed, also fail to address situations in which SWP water deliveries are not available or are substantially reduced. Under such a scenario, Reclamation continues to be obligated to protect downstream water rights in accordance with its water right permits. Therefore, if the SWRCB pursues either of these alternatives, it must contain a release schedule from Bradbury Dam to maintain downstream water rights, including water quality, to ensure compliance with its legal obligations.

Alternatives 4A and 4B fail to identify which agencies would have to approve the new water supply for the City of Lompoc and other downstream water users. Initially, it appears that the Santa Ynez River Water Conservation District ("SYRWCD"), the Central Coast Water Authority, and the City of Lompoc would have to approve implementation of either Alternative 4A or 4B. The SWRCB, however, does not have any regulatory authority over the City of Lompoc and the SYRWCD with respect to the downstream groundwater rights and, therefore, cannot require their respective approvals.

Section 4.2.2.3 (page 4-22)

The Draft EIR states that the releases for purposes of satisfying downstream water rights under Alternatives 3A, 3B and 3C would be less than under current operations because the releases for fish purposes earlier in the year reduce the need for releases to replenish groundwater basins. The Draft EIR, however, needs to clarify that Reclamation's obligations regarding downstream water rights are not reduced, but that a portion of the obligation is achieved through the fish releases.

The Draft EIR also states that "releases for water rights under Alternatives 4A-B would be less than under current operations because releases from the BNA would not be made from the dam. Instead, SWP would be delivered to Lompoc pursuant to an exchange agreement." Again, the Draft EIR needs to clarify that Reclamation's obligations regarding downstream water rights would not be reduced through implementation of Alternatives 4A-B, but that a portion of the obligation would be achieved through the release of SWP water.

The City of Lompoc incorporates by reference the Significant Comments submitted by the Santa Ynez River Water Conservation District regarding the deficiencies of Alternatives 4A and 4B and Resolution of Downstream Water Quality Issues.

Very truly yours,

Sandra K. Dunn
Attorney

SKD:sb

Encl.

cc: Service List (attached)
Gary Keefe
Jim Beck

ATTACHMENT

A

TIMOTHY J. DURBIN, INC.
CONSULTING HYDROLOGISTS

Date: October 6, 2003

To: Sandra Dunn
Don Mooney

From: Tim Durbin

Subject: Comments on Cachuma Reservoir Operations DEIR

Following are my comments on the Cachuma Reservoir operations DEIR, which was prepared by the State Water Resources Control Board.

Page 4-54, Second full paragraph.

This paragraph starts a discussion of channel loading to the Santa Ynez River reach from the Bradbury Dam to the Narrows. Loading from an unidentified source is represented in the model to reproduce the measured increases in Santa Ynez River streamflow salinity between Bradbury Dam and the Narrows. The channel loading is a function of discharge. For discharges greater than 75 ft^3/s, the loading is 25 tons/d. For discharges less than 75 ft^3/s, the loading is proportional to the discharge. This channel-loading function is an empirical construct that is intended to reproduce the model observation that Santa Ynez River streamflow salinity increases downstream from Bradbury Dam when releases are made.

The underlying natural phenomena that produces the observed salinity increase has not been identified. The DEIR speculates on possible causes (page 4-54), but the actual cause is unknown. The likely cause is the accumulation of salinity within the channel bed during dry periods. Correspondingly, the streamflow salinity increases as the accumulated channel-bed salinity is flushed. However, one would expect that the flushing eventually would deplete the accumulated salinity. The time required to deplete the salinity would depend on the salinity accumulated prior to the Cachuma Reservoir release and the mass-transfer rate from the channel bed to the streamflow.

The channel-loading function does not make much sense with respect to the likely underlying natural phenomena. The loading function as implemented in the model assumes that the salinity loading is a function of only streamflow. The loading is the same for a particular discharge regardless of the length of the dry period preceding a streamflow period. The loading is the same for a particular discharge regardless of the length of the streamflow period. However, we would expect in reality that the loading

would depend on both the length of the preceding dry period and the length of the succeeding streamflow period. Additionally, the channel loading probably depends on the groundwater levels along the Santa Ynez River channel during both the preceding dry period, the succeeding streamflow period, and on the streamflow pattern during the streamflow period.

The channel-loading function does not incorporate these additional factors, and the SYRHM correspondingly cannot predict the impacts of changes in the streamflow regimen on the channel loading. If the model is used to simulate alternative conditions with different patterns of dry periods and streamflow periods, the model will tend to make the alternatives look similar when they in fact are not similar. The alternatives look similar because the model assumes that the underlying natural phenomena are invariant with different patterns of dry periods and streamflow periods. In reality, the underlying natural phenomena are not invariant with different patterns of dry periods and streamflow periods.

The SYRHM most likely is underestimating the salinity differences between the alternatives evaluated for the DEIR. Some additional work is needed to assess the seriousness of this issue.

Page 4-53, Last paragraph.

This paragraph discusses adjustments made to the salinity-discharge relation used in the Santa Ynez River Hydrology Model (SYRYM) to simulate salinity inflows to Cachuma Reservoir. It describes adjustments that were made to the relation to better reproduce the measured salinity within the reservoir.

The relation between salinity and streamflow at sites throughout the Santa Ynez River basin are "noisy." An example of the typical noise is Chart 4-12 in the DEIR. The chart plots streamflow on the horizontal axis and salinity on the vertical axis. The plotted data indicate a general trend of increasing salinity with decreasing streamflow. However, the data are very scattered in regards to the general trend. Some investigators have suggested that the scatter is explained in part by the antecedent conditions for the streamflow on a particular day. The salinity on that day depends not only on the streamflow for the day, but also on the history of streamflow during prior days, months, or even years. Those investigators additionally have suggested that the salinity depends on whether or not streamflow during prior days has been generally increasing or decreasing.

The model uses data such as that shown on Chart 4-12 to specify the salinity loading to Cachuma Reservoir and the Santa Ynez River from tributaries downstream from Bradbury Dam. The model first simulates streamflow, and specified salinity-discharge relations are used to calculate the streamflow salinity. Salinity-discharge relations are specified for the inflows to Cachuma Reservoir, which include the Santa

Ynez River and the direct tributary inflow to the reservoir. Salinity-discharge relations are specified for the tributaries to the Santa Ynez River downstream from Bradbury Dam. All of these relations express salinity as a function of only streamflow.

The salinity-streamflow relations used in the model were developed based on a three-step procedure. Firstly, a straight line was fitted to the salinity and streamflow data for a particular inflow on a log-log graph (such as Chart 4-12). That fitting yielded a slope and intercept for each line representing a separate inflow. Secondly, the fitted lines were input to the model, and the model was used to simulate Cachuma Reservoir and downstream Santa Ynez River salinity for actual historical conditions. Correspondingly, the simulated salinity was compared with the available measured salinity. Thirdly, adjustments were made to the slope or intercept for particular inflows to cause the model to better represent the measured salinity.

The available data and this calibration process produce only a very uncertain estimate of the slope and intercept for the salinity-discharge relations. Furthermore, because of the inadequacies in the channel-loading function (as discussed above), the calibration process most likely leads to adjustments to the salinity-streamflow relations for downstream tributaries such that the salinity-discharge relations are distorted to compensate for the inadequacy of the channel-loading function. The salinity loading to the Santa Ynez River below Bradbury Dam results from reservoir releases, tributary inflows, and channel loading. These three sources must sum to the measured salinity load at the Narrows. If the channel-loading function produces a Santa Ynez River loading that in fact does not exist at a particular time, the tributary salinity must be reduced correspondingly to reproduce the observed load at the Narrows. Because the channel-loading function operates invariantly at low Santa Ynez River streamflows, the model calibration most likely is very distorted with respect to the low-flow salinity loading from the downstream tributaries.

The salinity-streamflow relations can have important consequences with respect to the evaluation of alternative scenarios. The likely impact is to underestimate the salinity differences between the DEIR alternatives. Some additional work is needed to assess the seriousness of this issue.

Page 4-57, Third paragraph.

This paragraph describes the use of the model to compare alternatives. The argument is advanced that, while the SYRHM is only an approximation of the actual system, it is a good estimator of the differences between scenarios. This can be true, if the natural phenomena that will determine the actual differences between alternatives are represented adequately in the model. If they are not represented adequately, the model will not be a good estimator of the differences. The channel-loading function used in the model inadequately represents important natural phenomena, which degrades the usefulness of the model.

ATTACHMENT

B

COMMENTS ON SELECTED ASPECTS OF THE STATE WATER RESOURCES CONTROL BOARD DRAFT ENVIRONMENTAL IMPACT REPORT CONSIDERATION OF MODIFICATIONS TO THE U.S. BUREAU OF RECLAMATION'S WATER RIGHT PERMITS 11308 AND 11310 TO PROTECT PUBLIC TRUST VALUES AND DOWNSTREAM WATER RIGHTS ON THE SANTA YNEZ RIVER BELOW BRADBURY DAM (CACHUMA RESERVOIR)

The following comments pertain to sections in the document titled *"Draft Environmental Impact Report Consideration of Modification to the U.S. Bureau of Reclamation's Water Right Permits 11308 and 11332 (Applications 11331 and 11332) To Protect Public Trust Values and Downstream Water Rights on the Santa Ynez River below Bradbury Dam (Cachuma Reservoir)"* (herein referred to as Draft EIR) regarding potential project impacts on fisheries resources. In general, the methodology provided in the Draft EIR regarding evaluation of potential fisheries-related effects, particularly effects on southern steelhead in the mainstem Santa Ynez River, is not well documented. Accordingly, the following comments focus on the general methodology used to evaluate operational scenarios.

The Draft EIR compares project alternatives by providing a summarization of scores across different resource categories including surface water hydrology, water supply conditions including ground water recharge and surface water quality, southern steelhead and other fish, riparian and lakeshore vegetation, sensitive aquatic and terrestrial wildlife, recreation and cultural resources. However, it appears that the scoring technique utilized in the Draft EIR provides equal weight for each of the independent resource categories in this summarization procedure. For example, the federally endangered southern steelhead appears to be given equal consideration and importance as Santa Ynez River resident stream fish (e.g., largemouth bass). The Draft EIR would benefit from explicitly stating the methods in which the stated resources (e.g., water supply, southern steelhead, etc.) are prioritized or ranked for the purposes of evaluating the project alternatives.

In general, the Draft EIR would greatly benefit from complete disclosure of utilized methodologies and supporting information and rationale for fisheries-related analyses. Complete disclosure of methodology and supporting information is especially critical when performing quantitative comparisons between alternatives, as was done in the Draft EIR.

Project Alternatives

The Draft EIR project alternatives include (page 3-5):

1. *Operations under Order WR 89-19.*
2. *Current Operations under WR 89-18 and WR 94-5 and the Biological Opinion interim flow requirements (no project alternative).*

3A. *Operations under the Biological Opinion assuming Reclamation achieves a 3.0-foot surcharge, except that releases for fish rearing and passage will be provided with current 0.75-foot surcharge.*

3B. *Operations under the Biological Opinion assuming Reclamation achieves a 3.0-foot surcharge, except that releases for fish rearing and passage will be provided with a 1.8-foot surcharge.*

3C. *Operations under the Biological Opinion assuming Reclamation achieves a 3.0-foot surcharge.*

4A. *Operations under the Biological Opinion assuming Reclamation achieves a 3.0-foot surcharge and provision of SWP water directly to the City of Lompoc in exchange for water available for groundwater recharge in the Below Narrows Account established by Order WR 73-37, as amended by Order WR 89-19.*

4B. *Operations under the Biological Opinion assuming Reclamation achieves a 3.0-foot surcharge and discharge of SWP water to the river near Lompoc in exchange for water available for groundwater recharge in the Below Narrows Account established by Order WR 73-37, as amended by Order WR 89-19.*

The Draft EIR would benefit from more explicitly describing the implementability of the NMFS Biological Opinion (2000) long-term juvenile steelhead rearing and adult steelhead passage flow requirements without the 3.0-foot surcharge. The establishment of the long-term flow requirements in the NMFS Biological Opinion (2000) assumed the 3.0-foot surcharge would be implemented. The 1.8-foot and the 3.0-foot surcharge would supply an additional 2,200 and 6,900 acre-feet of reservoir storage, respectively, compared to the current 0.75-foot surcharge. Without this water available for steelhead passage and rearing flows, it unclear how alternatives 3A and 3B would be able to meet the long-term flow requirements outlined in the Biological Opinion (NMFS 2000).

The Draft EIR quotes (page 4-2) CEQA Guidelines Section 15126.6, subdivision (a), which states, *"...An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly (emphasis added) attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives..."* However, in its description of alternatives 4A and 4B, the Draft EIR states that the City of Lompoc notified the SWRCB that alternatives 4A and 4B are (page 3-11 and 3-12), *"...not considered feasible because the residents of the City have twice rejected SWP as a new water supply..."* Given the potential infeasibility of alternatives 4A and 4B, the use of them for comparison purposes is questionable.

The Draft EIR states (page 4-2), *"...The SWRCB has not selected a particular modified operational scheme as a proposed project, opting instead to examine several alternatives that address downstream water rights and public trust needs differently..."* While selecting a preferred alternative is not required by CEQA, it is unconventional and does not permit the reviewer to adequately decipher the scope and effects of the proposed project. The Draft EIR would benefit from clearly defining the proposed project.

4.7.1.1 *Species Accounts, Steelhead/Rainbow Trout* (pages 4-76 to 4-78)

The Draft EIR states (page 4-78), *"...A temperature of 20°C (68°F) for daily average water temperatures has been used in central and southern California by CDFG to evaluate the suitability of stream temperatures for rainbow trout..."* The EIR continues, *"...Data in the literature suggests that temperatures above 21.5°C (71°F) result in no net growth, while maximum daily water temperatures greater than 25°C (77°F) result in potentially lethal conditions..."* The Draft EIR does not cite the references used in reaching the above conclusions regarding the upper thermal tolerances of southern steelhead/rainbow trout. It should be noted that considerable disagreement exists among fisheries biologists regarding the thermal preferences, tolerances and optimal thermal ranges for anadromous salmonids in streams (e.g., Cech and Myrick 1999). Without reference to the literature used to come to the above conclusions regarding water temperature, it is difficult to comment on the validity of the above statements. Moreover, operational scenarios analyzed in the Draft EIR apparently do not include potential changes in water temperature or water temperature regime, or address the issue of thermal stratification in pools during the summer months.

4.7.2.2 *Cachuma Lake—Game Fish* (pages 4-90 to 4-98)

Several statements appear in the Draft EIR regarding the analyses of the potential effects of the proposed project on warmwater gamefish (i.e., largemouth bass and sunfish) spawning and rearing in Cachuma reservoir:

> *"...To assess the effects of different lake levels under the alternatives, Entrix conducted an analysis (2001a), which entailed estimating the amount of critical shallow water habitat for selected lake fish under different lake levels. Entrix then used a scoring system to rate the amount of habitat available under the different alternatives due to different lake level fluctuations..."* (page 4-91).
>
> *"...Entrix assessed the potential for alternatives to affect largemouth bass spawning habitat by analyzing the amount of spawning habitat (i.e., areas between 0.5 and 8.2 feet deep) affected by water surface elevation changes during the months of April and May for each water year for the period of record..."* (page 4-91).
>
> *"...Entrix assessed the potential for each alternative to affect sunfish spawning habitat by analyzing the amount of spawning habitat affected by water surface elevation changes during the months of March through July for each water year for the simulation period..."* (page 4-92).
>
> *"...Entrix defined fry rearing habitat as areas less than 10 feet deep, and designated May 1 the beginning of the rearing season...Entrix developed a scoring system to rate monthly reservoir drawdown...Entrix equated a drawdown of three feet or less with the middle of the scoring range, given the monthly time step which provides some time for growth of aquatic plants in response to declining water surface elevation..."* (page 4-93).

The Draft EIR would substantially benefit from providing the technical basis, rationale, supporting evidence or referenced scientific literature utilized in determining the stated relationships between reservoir gamefish production and changes in reservoir level, and the scoring criteria developed to assess those relationships. For example, how was it determined that largemouth bass spawning habitat only includes water depths between 0.5 and 8.2 feet, and only during the months of April and May? Similarly, what is the technical basis that supports the linear relationship between the decrease in reservoir water surface elevation and decrease in spawning habitat — are largemouth bass nests evenly distributed among depths between 0.5 and 8.2 feet?

4.7.2.3 *Impacts on Southern Steelhead ESU along the River* (pages 4-98 to 4-102)

Scoring Criteria

Table 4-41 (page 4-99) in the Draft EIR summarizes the scoring criteria developed for relating streamflow magnitude and duration effects on steelhead passage, spawning, fry rearing and juvenile rearing. In general, the Draft EIR should provide additional support and justification for the identified highest weighted streamflows and duration of flow (assigned a score of 5) and the scaling between these flows and the lowest weighted flows (i.e., between 5 and 0). The use of subjectively applied scaling values to produce a net "score" by which operational scenarios are compared requires that a clear, well-defined description of the rationale be provided. Recognizing that there is limited available information, a more thorough discussion of the scoring criteria and application, rather than simply referring to other documents, would be beneficial.

The Draft EIR states (page 4-98), *"...The scoring system assigns higher scores to flows that are likely to provide more habitat and lower scores to flows that are likely to provide less habitat...The flow levels used in the scoring system were based on the habitat and passage analyses conducted for SYRTAC (1999a and b) and on the flow levels that NMFS determined would result in no jeopardy to steelhead (NMFS, 2000)..."* The Draft EIR (pages 4-99, 4-100 and 4-101) provides some minimal description of the scoring procedure for spawning and rearing habitat under the various operational scenarios. The Draft EIR would benefit by providing a description of the application of scaling values to specific flows, and an analysis of actual habitat area (defined by specific parameters, e.g., water depths and velocities) associated with various flows. For example, a minimum of 14 days of consecutive streamflow in excess of 25 cfs is required to be given a score of 5, according to the scoring criteria for adult steelhead passage (Draft EIR Table 4-41, page 4-99). How was it then determined that 11 to 14 days, 7 to 10 days, 4 to 6 days, 1 to 3 days and 0 days would be given scores of four, three, two, one and zero for adult steelhead passage, respectively. Similarly, fry rearing flows ≥ 10 cfs are given a score of 5 based on rearing target flow levels established in the NMFS Biological Opinion (2000). How was it then determined that streamflows of ≥ 5 to < 10 cfs, ≥ 2.5 to < 5 cfs, ≥ 1.5 to < 2.5 cfs, > 0 to < 1.5 cfs and 0 cfs would be assigned values of four, three, two, one and zero for fry rearing, respectively? The Draft EIR apparently does not describe the relationship between flow and quantity of habitat available, yet the scoring technique utilized in the Draft EIR implies a categorical, quantitative distinction in habitat availability. Similar concerns are pertinent regarding relationships for the scoring criteria developed for adult spawning and juvenile rearing.

Adult Passage

The Draft EIR goes on to state (page 4-99), *"...A passage analysis was conducted to determine where potential low-flow impediments were located in the lower mainstem of the Santa Ynez River (SYRTAC, 1999b). The results of these analyses indicate that a flow of 25 cfs at the Alisal Road bridge [sic] provides sufficient flow to pass the identified critical riffles between Bradbury Dam and the lagoon 92 percent of the time (SYRTAC 2000a). Therefore, for suitable access to mainstem and tributary spawning habitat, there must be sufficient number of days with flow at the Alisal Road Bridge greater than or equal to 25 cfs..."* The Draft EIR would benefit from elaborating on the passage criteria (i.e., the minimum depth and width of stream channel at critical riffles) utilized to determine whether a potential passage impediment could be passed. For example, what depth and velocity of water at the identified critical riffles does the 25 cfs at the Alisal Road Bridge provide? While the available information may be limited, a logical presentation of the decision-making factors would strengthen the assertions provided in the Draft EIR. Furthermore, how was it determined that a 92 percent exceedance is "sufficient" to provide passage flows?

A score of 5 was given for adult steelhead passage flow of 14 or more consecutive days with flows at or greater than 25 cfs at the Alisal Road Bridge (Draft EIR page 4-99). The above criterion was based on the NMFS Biological Opinion (2000) which concluded, *"...it is NMFS's best professional judgment that 14 days of consecutive migration availability is likely to significantly increase the successful migration by steelhead in the Santa Ynez River..."* It should be noted, however, that very little evidence is available, especially in the Santa Ynez River, which supports the conclusion that 14 or more consecutive days of a sufficient streamflow will adequately provide for the improvement of adult steelhead migration in the Santa Ynez River.

While the Draft EIR analyzes the ability of each alternative to provide the stated required passage flows of greater than 25 cfs in the mainstem Santa Ynez River, it fails to evaluate the potential for higher mainstem streamflows to falsely attract adult steelhead: (1) past their natal streams; or (2) into the mainstem at a time when spawning tributaries do not contain an adequate amount of streamflow to provide passage and spawning opportunities. The Draft EIR would be improved by incorporating mainstem *and* tributary streamflows when analyzing adult steelhead passage.

Adult Spawning

The Draft EIR (page 4-99) apparently utilizes a very simplistic model to determine the amount of spawning habitat available at a given streamflow (SYRTAC 2000, page B-4-6). While the same methodology is used for the baseline and alternatives comparison, its apparent simplistic nature and lack of description renders evaluation of its applicability problematic.

Juvenile Rearing

Similar to the spawning habitat analysis, the fry and juvenile rearing habitat analyses are very simplistic, and the Draft EIR would substantially benefit from describing the analyses and

scoring criteria selection process. Indicative of the simplistic nature of the habitat model and its application, the summer flow scoring criteria (Draft EIR pages 4-102 to 4-104) for resident stream fish and rearing juvenile steelhead (i.e., fish exhibiting different life histories and habitat requirements) is the same.

Furthermore, when developing biologically protective criteria, it has been common practice for government public trust resource agencies to consider the lifestage specific needs of the organism of concern (e.g., NMFS 1993). Contrary to general practice, the Draft EIR does not provide a complete and thorough discussion of all the lifestages that comprise the steelhead life history and how these lifestages were evaluated. For example, juvenile steelhead rearing was only addressed for April through August. Because juvenile steelhead are believed to rear in the Santa Ynez River for at least one year (Draft EIR, page 4-78), the Draft EIR would be substantially improved by providing analyses for juvenile steelhead rearing year-round, not just during the April through August period. The Draft EIR also does not include analyses regarding the potential effects of the alternatives on steelhead egg incubation and emergence, and on steelhead smolt outmigration. Winter and spring scouring flows and low flows, as well as spring pulse flows, affect the success of juvenile salmonid egg incubation and emergence and smolt outmigration, respectively. Furthermore, the Draft EIR does not analyze redd dewatering. Decreases in streamflow throughout the steelhead spawning season could potentially dewater steelhead redds that were created previously at higher flows near the stream margin. The month-to-month sequencing of streamflows can play an important role in identifying beneficial, or unfavorable, streamflow regimes. The Draft EIR would benefit from a well-described evaluation of potential redd dewatering and juvenile stranding associated with the operational scenarios under comparison. The final EIR would be appreciably improved if it were to contain analyses for all steelhead freshwater lifestages.

The Draft EIR would also benefit from providing steelhead lifestage analyses for different water year types. For example, does each of the alternatives perform as well during drought years? Incorporation of a water year type analysis may allow further differentiation of the merits of each of the identified alternatives.

4.7.2.4 *Impacts on Resident Fish along the River* (pages 4-102 to 4-104)

The Draft EIR states (page 4-102), *"...This section evaluates the impacts of the different alternatives on habitat for resident fish (e.g., arroyo chub, largemouth bass, prickly sculpin, catfish) in the mainstem, again using a scoring system...The low-flow period is an important factor in fish population size. Therefore, flows during this time of the year were used to compare the alternatives..."* The Draft EIR should include the technical basis, rationale, supporting evidence or referenced scientific literature utilized in determining that the above stated fish species use similar macro- and microhabitats, which is assumed when grouping and analyzing the species together. Furthermore, supporting documentation regarding the low-flow period limiting populations of these species would strengthen the Draft EIR analyses for resident stream fish. The species analyzed in this section exhibit very different life histories and habitat preferences; thorough justification should be included to support the decision to analyze them as a group.

The Draft EIR later states (page 4-102), *"...The score for the month in each water year with the lowest average flow for rearing is reported..."* Again, the Draft EIR would benefit from including the scientific literature that supports the assertion that the single lowest flow month acts as a production bottleneck for the resident fish species in the Santa Ynez River. Analyzing *each* individual month of the identified period rather than analyzing a single month within that period would strengthen the Draft EIR.

References

Cech, J.J. and C.A. Myrick. 1999. Steelhead and Chinook salmon bioenergetics: temperature, ration, and genetic effects. Technical Completion Report-Project No. UCAL-WRC-W-885. University of California Water Resources Center.

National Marine Fisheries Service (NMFS). 1993. Biological opinion for the operation of the Federal Central Valley Project and the California State Water Project. February 12, 1993.

National Marine Fisheries Service (NMFS). 2000. Biological Opinion, U.S. Bureau of Reclamation Operation and Maintenance of the Cachuma Project on the Santa Ynez River in Santa Barbara County, California. September 11, 2000.

Santa Ynez River Technical Advisory Committee (SYRTAC). 2000. Flow-related fish enhancement in the Santa Ynez River. Appendix B *in* Lower Santa Ynez River Fish Management Plan Volume II-Appendices. August 28, 2000.

Cachuma Project Hearing
Phase-2 Hearing
Final Service List

Updated 09/24/03

(Note: The parties whose E-mail addresses are listed below agreed to accept electronic service, pursuant to the rules specified in the hearing notice.)

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