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October 7, 2003

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Attention: Mr. Andrew Fecko

Re: Comments on SWRCB DEIR on Cachuma Project (August, 2003)

Dear Ladies & Gentlemen:

Thank you for the opportunity to comment on the above-referenced DEIR.

As you know, the Santa Ynez River Water Conservation District (SYRWCD) encompasses most of the Santa Ynez River Watershed downstream of Cachuma Reservoir has as one of its primary functions protecting the water rights of its landowners and residents. Since one of the principal topics of the upcoming hearing and the associated EIR is protection of downstream water rights, this matter is of utmost importance to us. As you are aware, we are responsible for ordering water rights releases in accordance with your Order WR 89-18 and do so in cooperation with the Bureau of Reclamation.

In our judgment, over all the DEIR does a good job of addressing downstream water rights issues. There are a few areas where the DEIR makes incorrect assumptions or doesn't consider certain impacts, which we address following.

We present our comments in two parts -- first Significant Comments, followed by Technical Comments. The second category of comments is important but is more technical in nature and is suggested to assist you in completing a final EIR that is technically correct.

SIGNIFICANT COMMENTS

1. **Deficiencies of Alternatives 4A and 4B** - (Page 3-7 and 3-10 through 3-12 Alternative 4A and 4B) - As indicated on pages 3-10 (Para 4) and 3-11 (Para 3), implementation of either Alternative 4A or 4B would require cooperation by all involved agencies, amendment to Reclamation's permits for the Cachuma Project, completion of project-specific environmental reviews and permitting, operational agreements and funding. As summarized on page 6-3 (Section 6.1.2 Impacts of Proposed Alternatives), Alternatives 4A and 4B would have the most impacts of all the Alternatives and therefore are not environmentally preferred Alternatives. SYRWCD has identified certain impacts that are particularly troubling to downstream interests. These include:
 - 1) Less water rights water would be released from the dam (based on model results, an average annual amount of about 3,900 af under Alternatives 4A and 4B compared to about 5,700 af for Alternatives 3A, B and C and 6,000 af currently, Table 4-7); because exchanged BNA water would be released on the Lompoc Plain. Only ANA releases would be available above the Narrows. Thus, the reach between Bradbury Dam and Lompoc Narrows would experience shorter periods of releases and smaller flows. However, for the purpose of conjunctive operation of downstream water rights releases with fish water releases under the Biological Opinion, both ANA and BNA releases at Bradbury Dam are required. Otherwise, there would be a greater impact on the Cachuma yield and the ANA, which would result in jeopardizing the Settlement Agreement.
 - 2) In the absence of BNA releases at Bradbury Dam under Alternatives 4A and 4B, flows in the lower Santa Ynez River would have, on average, a higher salinity in summer months compared to the current operation. The TDS at the Narrows is estimated to increase from about 875 to 1,200 mg/l (Chart 4-19 and Page 4-61). This is because the exchanged BNA water would be released on the Lompoc Plain and low summer flows at the Narrows have higher concentrations of TDS for recharge. Under Alternative 4A, the forebay itself would also experience poorer water quality, because the exchanged BNA water would be directly delivered to the City of Lompoc. To mitigate these negative effects, the Draft EIR recommends that additional releases be made from the Cachuma Project. This would have a greater impact on Cachuma yield and would also reduce the amount of water available for the ANA depending upon the timing of such releases.
 - 3) The actual amount of below Narrows credits varies from one year to another depending upon hydrologic conditions. Below Narrows credits have to be created first and then the credits are accrued in the BNA. The account is also subject to reductions due to spills at Bradbury Dam and recovery of the Lompoc ground water basin. The SYRHM does not include the Lompoc ground water basin. The model provides an estimate of BNA releases for comparative purposes between alternatives. Under actual operations, below Narrows credits and BNA releases are different than those estimated by the model. For the purpose of exchanging

- 4) the BNA water with the SWP water, it requires an actual accounting of the below Narrows credits on a year-by-year basis. Such a methodology for the accounting has not been contemplated nor have exchange negotiations been initiated among the parties.
- 5) BNA water is dedicated for all water users in the Lompoc basin, not just the City of Lompoc. The City of Lompoc is one of the many water users in the basin. To the extent the below Narrows credit water is exchanged and delivered to the City under Alternative 4A, it deprives the other water users downstream of Lompoc from the benefit of direct recharge of BNA water in the basin and the better quality water delivered from the reservoir mixed with SWP water.
- 6) Under actual operation, BNA water is released when hydrologic conditions are suitable for recharge in the Lompoc Plain. That means in wet years and during periods when there is surface flow and the water table is high, releases of BNA water are not made. To the extent the BNA water is exchanged under Alternative 4B, the delivery of SWP water for recharge may have to be deferred for a period of time (2-3 years). With shortages in SWP, it is not clear whether there would be enough water available for the accumulated delivery when conditions in the Lompoc Plain are suitable for the recharge operation. Similarly, under actual operations, there may not be any credits created for the below Narrows area for a period of 2-3 years, especially during drought periods. It is doubtful if the Cachuma Member Units would deliver SWP water for recharge in the Lompoc Plain while an equal amount of below Narrows credit is not provided to them at the Cachuma Reservoir.
- 7) Technically, the BNA exchange under Alternatives 4A and 4B would make the Settlement Agreement (excepting modified winter operations) inoperable. The BNA exchange would also make it difficult, at best, to calculate the above and below Narrows credits as set forth in WR 89-18.

On the basis of the foregoing, the Board of Directors of the SYRWCD does not support the development or implementation of Alternative 4A or 4B. Moreover, the Parties to the Cachuma Project Settlement Agreement (Member Units, City of Lompoc and SYRWCD) have agreed, in combination with other provisions, to support Deliveries During Releases to resolve issues relating to the effect, if any, of the Cachuma Project on the water quality on the Lompoc Plain, including groundwater used by the City of Lompoc. Although not a party to the Agreement, Reclamation supports the Agreement, inclusive of the Deliveries During Releases provision.

Deliveries During Releases essentially entails the mixing of SWP water in water rights releases, inclusive of the BO restrictions (as described in the SWRCB Draft EIR). This operation can be conducted through existing, permitted facilities and has shown to be workable by actual operation. It is implemented without significant additional costs

because it is based on scheduling considerations. The scheduling essentially provides, with certain limitations, for SWP water to be delivered and commingled in the outlet works whenever water rights releases are made. This maximizes water quality (TDS) benefits. See, for example, Draft EIR, page 4-59 last paragraph last two lines. It also eliminates negative impacts associated with Alternative 4A or 4B.

2. **Resolution of Downstream Water Quality Issues** - (Section 4.2.2.1 (Overview of Hydrologic Modeling for the EIR) especially page 4-15; Section 4.5.2.1 (Development and Calibration of the Salinity Model) especially page 4-57 Para 2 and 3; Section 4.6.2.1 (Overview of Modeling Approach) especially pages 4-66 and 4-67, page 4-71 Para 2 and page 4-72 last Para last 3 lines) – As described on the Sections/pages cited above, the WQTAC agreed that Stetson's Technical Memoranda are appropriate and reasonable for use in the DEIR to compare alternatives. The WQTAC greatly improved the general understanding of the models and hydrologic system. However, they did not necessarily agree that the existing models resolved Lompoc's water quality claim or that Cachuma had an effect on the water quality of the Lompoc Plain. Specifically, water quality questions about the impacts of Cachuma, if any, remain among the affected parties who have collectively decided to "move forward" under the terms of the Settlement Agreement.
3. **Overstatement of ID #1 Drought Supplies** - (Page 4-38 (Table 4-24 line 2) and Page 4-40 Para 3 lines 1 and 2) – During drought periods, lowered water levels (increased dewatered storage) significantly reduce well yields in the above Narrows ground-water basin. The impact on well yields from lowered water levels in Improvement District No. 1's 4 and 6 cfs well fields were determined. The critical drought supply from the river wells was determined based on declines in water levels (increased dewatered storage) using the SYRHM simulation for Alternative 3A. The yield from the 4 and 6 cfs well fields for critical drought (1951) is estimated to be 1,450 acre-feet, not 3,600 acre-feet shown in Table 4-24. (Please refer to Exhibit B attached to comments submitted by CCRB.) The Table and referenced information should be modified consistent with the foregoing comment.
4. **Understatement of Water Required For Fish Releases** - (Page 2-12 last Para lines 3-6 and Table 2-5 (Page 2-13), Section 2.4.2.3 (Mainstream Rearing Releases) Para 2 (last Para on page; Page 3-8 Para 3 lines 9-13; Page 3-9 Para 1 lines 6-10, Para 3 lines 3-6 and Para 6 lines 2-4) - Please see our comments on the cited pages in the "Technical Comments" section of this letter. Releases for interim and long-term rearing target flows required by the Biological Opinion are not derived only from surcharge and yield as described. They are derived from water rights releases under conjunctive operations with fish water releases and leakage as well as project releases.

TECHNICAL COMMENTS

CHAPTER 1.0 INTRODUCTION

(Page 1-2 Para 5 lines 4 and 5) - Change "the downstream alluvial basins between the dam and the Narrows (east of Lompoc) were deliberately maintained in a partially dewatered state," to "the downstream alluvial basins between the dam and the Narrows (east of Lompoc) were allowed to remain in a partially dewatered state,". Maintaining dewatered storage is not a goal of WR 73-32/WR 89-18.

(Page 1-3 first line) - Delete "slightly". As shown on Table 2-3 and discussed on page 2-7, releases under WR 89-18 were substantially higher than under WR 73-37, especially for the below Narrows area.

CHAPTER 2.0 OVERVIEW OF THE CACHUMA PROJECT

(Page 2-1 Para 1 last line) - Insert "current" before "maximum capacity" referring to the outlet works. The outlet works was designed for and has operated at release rates higher than 150 cfs. It is currently limited to 150 cfs by a variable intake which is expected to be removed by USBR in FY 2005. The outlet works is used at rates over 100 cfs depending upon the extent (time and distance) of downstream water rights releases. Therefore, the last sentence ("it is rarely used above 100 cfs") may be inappropriate.

(Page 2-5 (Table 2-2)) - Please reconcile the following discrepancies: 1) inflows minus outflows do not equal changes in storage for practically every water year in the table; and 2) before 1974, spills occurring through the outlet works when reservoir elevations were above 750.0 feet should be accounted as spills rather than as water rights releases.

(Page 2-6 Para 4 lines 7 & 8) - Change "collected to determine which curve reflects the actual differences in percolation with and without the Cachuma Project" to "collected to have the parties agree on a well elevation "trigger" or "triggers" to be used to determine when Curve A (the upper curve) or Curve B (the lower curve) will be used to calculate the impairment of percolation into the Lompoc ground-water basin caused by the Cachuma Project. Consistent with the requirement of Paragraph 2.2.1 of Condition 5 of WR 89-18, the parties have agreed upon the "trigger" as provided in Paragraph 1.4 of the Settlement Agreement.

(Page 2-7 Para 1 lines 3 through 6)

line 3 - Change "These releases" to "Typically, these releases".

line 5 and 6 - Change sentence starting with "At that time, the releases..." as follows. "At that time, the releases are reduced for several weeks to months, typically to rates such as 50 to 70 cfs, depending upon percolation rates."

Though the rates cited are typical, variations are made to accommodate circumstances at the time.

(Page 2-8, Table 2-3) – Water rights releases are started and completed within the same calendar year. Table 2-3 splits those releases into two water years. It is more appropriate to present Table 2-3 in calendar year rather than water year. The following table provides historical releases through calendar year 2002.

HISTORICAL DOWNSTREAM WATER RIGHTS RELEASES

Calendar Year	Releases under WR 73-37		
	Releases (acre-feet per year)		
	ANA	BNA	Total
1974	1,353	0	1,353
1975	1,134	0	1,134
1976	4,237	0	4,237
1977	2,299	0	2,299
1978	62	0	62
1979	1,200	0	1,200
1980	0	0	0
1981	4,175	0	4,175
1982	6,655	755	7,410
1983	0	0	0
1984	3,162	0	3,162
1985	5,686	0	5,686
1986	5,317	1,780	7,097
1987	3,887	0	3,887
1988	5,050	1,283	6,333
Average	2,948	255	3,202
Calendar Year	Releases under WR 89-18		
	ANA	BNA	Total
1989	5,192	0	5,192
1990	4,792	0	4,792
1991	7,745	3,638	11,383
1992	4,930	3,287	8,217
1993	0	0	0
1994	6,727	4,012	10,739
1995	0	0	0
1996	7,319	3,459	10,778
1997	9,572	3,438	13,010
1998	0	0	0
1999	0	0	0
2000	4,360	1,858	6,218
2001	0	0	0
2002	9,054	4,412	13,466
Average	4,264	1,722	5,985

(Page 2-10, Section 2.2.5, first bullet (Precautionary Releases) line 5) – Change “Reclamation may avoid spills, which are uncontrolled and may cause flooding” to “Reclamation may attenuate (along with pre-releases and/or gateholding) the peaks of large flows that may cause flooding”. Modified Storm Operations is exercised only with high flows when large spills and flooding are expected. The purpose of the operation is to reduce peak flows and not to avoid spills as suggested.

Page 2-12 last Para lines 3-6 and Table 2-5 (page 2-13) –Table 2-5 shows allocations of surcharge water when the reservoir spills but it is not clear as to the amounts and sources of water providing for the interim and long-term rearing target flows. Fish water releases for rearing are not limited by the amount of water developed by surcharging. These releases are established by the flow requirements provided in Tables 2-7 and 2-8. These facts should be incorporated into Table 2-5 and the text cited above.

Page 2-13, Section 2.4.2.2 Ramping Water Rights Releases – To accurately reflect what occurred, delete the existing paragraph and replace as follows:

“In the Biological Opinion, NMFS authorized a ramping schedule for the rampdown of releases made to satisfy downstream water rights to prevent stranding of steelhead in the mainstem. These ramping rates, which are a refinement of rates recommended by the SYRTAC and used since 1994, are detailed in Table 2-6. These have been used since 2000.”

Page 2-13, Section 2.4.2.3 (Mainstem Rearing Releases), Para 1 last sentence – Change “In very wet years and the year following a very wet year,” to “In years with spills exceeding 20,000 af and the year following such spill year,” to better reflect the criteria as described in Tables 2-7 and 2-8.

Page 2-13, Section 2.4.2.3 (Mainstem Rearing Releases), Para 2 (last Para on page) – This paragraph, which extends to the top of page 2-14, should be modified as follows to better describe what has occurred:

“Reclamation, in cooperation with the SYRWD, has operated water rights releases conjunctively with fish water releases since 1994, and proposes to continue this operation in the future. That is, when releases are being made for water rights, the water from this source will be used to continue to meet the mainstem target flows as well as the habitat flow requirement in Hilton Creek. Currently, water rights releases are made from the outlet works and the Hilton Creek watering system (described below). That system . . . ” Also, remove word “only” from last sentence in paragraph.

(Page 2-15, Section 2.4.2.4 Para 2 Line 1) - Based on the information in the foregoing comment, we recommend deletion of the phrase “As with interim and long-term target flows, ”That phrase is not applicable.

See also related comments for pages 3-8 and 3-9 below.

CHAPTER 3.0 PROPOSED PROJECT (ALTERNATIVES)

Page 3-1, Section 3.1.2 Downstream Water Rights – We note that some of the descriptions are not complete or out of date. We also note that the list is not a complete list of all downstream water right holders - presumably it is a listing of those who have filed documentation with the State Board, which generally would not include riparian right holders.

Page 3-8 Para 3 lines 9-13 - Releases for interim rearing target flows pursuant to the BO are not derived only from surcharge and yield as described. They are derived from water rights releases under conjunctive operations with fish water releases and leakage as well as project releases. Conjunctive operation of water rights and fish releases is incorporated in the Cachuma Project Settlement Agreement (Paragraph 1.2). Also, the requirement to meet the BO interim target rearing flows is considerably more than 1,300 af.

Based on the work of Stetson Engineers, we recommend the following revision:

“Under this alternative, releases for interim rearing target flows pursuant to the Biological Opinion are derived from project releases, water rights releases, and leakage from the Dam. The average annual amount to meet the Biological Opinion interim releases to meet flow targets in the Highway 154 reach is estimated to be 2,500 af. This average annual figure for the model period 1918 through 1993 (76 years) includes the contributions from WR 89-18 water rights releases and leakage from the Dam. The breakdown of releases for meeting the interim target at the 154 Bridge is as follows:

	Acre-Feet/Year
Project Releases	1,400
Water Rights Releases	700
Leakage from the Dam	400
Total	2,500

To the extent the leakage from the spillway gates is minimized through repairs, then an additional amount is released for the purpose of meeting the interim targets in the Highway 154 reach.”

Page 3-9 Para 1 lines 6-10, Para 3, lines 3-6, and Para 6 lines 2-4 - The cited lines contain erroneous information analogous to the situation described for interim rearing releases on Page 3-8. Based upon the Santa Ynez River Hydrology Model (SYRHM), the total annual water (not including spills and natural flows) needed from Cachuma Reservoir to meet Alternative 3A long-

term rearing target flows in the BO is 3,900 acre-feet on average for the model period 1918 through 1993 (76 years). This amount does not include any releases from the 3,200 acre-feet Passage Account or 500 acre-feet Adaptive Management account. This annual average figure does include the contributions from WR 89-18 water rights releases and leakage from the dam in the amounts of 1,220 and 500 acre-feet per year, respectively, to meet rearing habitat target flows. The conjunctive use of WR 89-18 water rights releases to meet target habitat flows has been incorporated into the Settlement Agreement. The breakdown of average releases that meet the rearing target flows is as follows:

	Acre-Feet/Year
Project Releases	2,185
Water Right Releases	1,220
Leakage from the Dam	500
Total	3,905

The leakage quantities as used in the model represent the historical rate of leakage from the spillway gates. To the extent the spillway gates are repaired to minimize the leakage, then an additional amount would be released for the purpose of fish habitat maintenance. But the total amount of water needed from Cachuma Reservoir for the final BO habitat target flows would still be about 3,900 acre-feet per year on average, according to the SYRHM.

We recommend that revisions analogous to those on Page 3-8 be incorporated on Page 3-9.

Page 3-10 Para 3 lines 1 and 2 - Please revise the average annual BNA delivery and range of delivery amounts on those lines to "1,722" and "0 to 4412" based on revised Table 2-3.

CHAPTER 4.0 ENVIRONMENTAL ANALYSIS OF ALTERNATIVES (FLOW RELATED ACTIONS)

(Pages 4-7 Para 1 last sentence) - Change "The Narrows flow includes effects of Cachuma Lake winter spills averaging about 34,800 afa and summer river releases of about 7,000 afa" to "The Narrows flow includes effects of Cachuma Lake winter spills averaging about 37,500 afa and summer river releases of about 4,500 afa." See comment pertaining to Table 2-2. Over-statement of summer river releases relates to over-stating water rights releases prior to 1974 by the inclusion of spill water released through the outlet works when reservoir elevations were above 750.0 feet.

(Page 4-10 and 4-11, Modified Storm Operations (bottom and top Paras, respectively)) - Based on information in Section 2.2.5 (as amended by comments above), the following modifications are suggested:

line 1 – Change “in 1993” to “in 1998”.

line 2 – Delete “frequency and”.

line 3 (page 4-11) – after “flood” add, “as well as gateholding which holds back the increase in inflows.”

(Page 4-11, Section 4.2.2.1 Para 1 lines 6 and 7) – Change “experts from Reclamation and the Member Units” to experts from Reclamation, the Member Units, the County Water Agency, SYRWCD and the City of Lompoc.”

(Page 4-45, 6th Para), To be complete, suggest first sentence be revised: “Groundwater levels in the Above Narrows Alluvial Groundwater Basin fluctuate in response to groundwater pumping, runoff from tributaries below Cachuma Reservoir, spills, and releases from Bradbury Dam.”

(Page 4-46 last Para) - Relating to “Groundwater Management Plans and Programs” should be updated, as suggested below.

“In cooperation with water purveyors in the District, SYRWCD prepared a report outlining various water resources management alternatives (Stetson, 1992). Working with the City of Buellton, SYRWCD completed an AB 3030 Plan for the Buellton Uplands Basin in 1995. A similar effort for the Santa Ynez Uplands Basin was terminated because out-of-District landowners, who represented most of the Basin area, opposed the Plan.”

“Groundwater management efforts were initiated by SYRWCD and local purveyors in the Lompoc Basin in 1985. Through cooperative funding efforts with the USGS, the Basin water resources were evaluated, a comprehensive monitoring program was developed and implemented, and a groundwater model was prepared (Bright et al; 1992, 1997). In cooperation with the City of Lompoc, SYRWCD initiated an AB3030 Plan for the Lompoc Plain in 1999.”

(u) - Change “These charts also show that there is no significant difference in the year-to-year variation in dewatered storage in the aquifer” to “in general,...., except during droughts.” See, for example, the periods in the early 1950’s and 1990’s.

(Page 4-53 (Table 4-30) line 7) - The sources column for Narrows data should also include the USGS.

(Page 4-59 Para 4 line 4) – SWP water is not commingled with fish water releases, either for passage or rearing flows. The BO does not permit such mixing with passage flows and one pump cannot be run slow enough to make the 50/50 mix constraint during fish water releases

for rearing flows. SWP water is mixed with water rights releases when used conjunctively with fish water releases, however. Therefore, statements to the effect that SWP water and fish releases, per se, are mixed in the outlet works are not correct. This issue occurs in several places in the document, as described below:

line 4, from above – Change “water rights or fish releases are made, and only when SWP water” to “water rights are made and SWP water”.

Page 4-60 Para 1 line 6 – Delete material starting with “In contrast”.

Page 4-60 Para 4 line 1 – Delete “and fish rearing” and “for both purposes” on lines 1 and 2.

Page 4-60 Para 4 line 4 through 6 – Delete material starting with “For example”.

Page 61 Para 1 line 2 – Delete “or for fishery purposes”.

Page 69 Para 4 line 5 – Delete “and fish”.

Page 4-72, last Para. lines 3 and 8 through 10 –

line 3 – Delete “and additional releases for fish.”

line 8 through 10 – Delete “as well as higher and longer flows in the summer with this high quality water due to releases for rearing flows.” Note: Rearing flows do not contain SWP water and would not reach Narrows to the extent suggested.

Page 4-63 last Para line 3 – Change “VAFB” to “VAFB and/or the Federal Penitentiary”. VAFB's wells have been transferred to and are now used by the prison farm.

Page 4-64 Para 1 – No water level gradients or groundwater flow is shown on Figure 4-3, just zones.

Page 4-65 Para 2 last sentence – This is potentially misleading. The seawater is in water bearing materials originally deposited in a marine environment and the sentence could be interpreted to mean seawater intrusion. Sentence is not necessary and should be deleted.

Page 4-70 Para 2 line 3 – Chart 2-29 should be Chart 4-19. It is referred to as Chart 4-29 in Para 4 and 5 but the material discussed is on Chart 4-19.

Page 4-70 Para 3 last line – Change “Lompoc Basin” to “City of Lompoc”.

CHAPTER 10.0 REFERENCES

Page 10-1 Reference #5, Bright et al – The date is 1997.

Thank you for considering our comments and suggestions. Should you have any questions or require clarification regarding any of our comments or suggestions, please contact us.

Sincerely,

SANTA YNEZ RIVER WATER
CONSERVATION DISTRICT



Bruce A. Wales
General Manager

BW\EAC:meh

- cc: USBR
- CCRB
- SYRWCD, ID #1
- City of Solvang
- City of Buellton
- City of Lompoc
- SYRWCD, Board of Directors
- Stetson Engineers
- Ernest A. Conant, District Counsel